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UNCLASSIFIED

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

EGYPT

COST RECOVERY PROGRAM FOR HEALTH

263-0170

PROJECT PAPER AMENDMENT

DATED SIGNED: 08/21/93

UNCLASSIFIED

UNITED STATES AGENCY for INTERNATIONAL DEVELOPMENT

USAID

CAIRO, EGYPT

ACTION MEMORANDUM TO THE DIRECTOR

DATE: August 4, 1993

FROM: (A)OD/PDS/PS, Barb Cypser

THRU: (A)AD/PDS, Jeffery Malick

SUBJ: Approval of the Health Cost Recovery Programs for Health Project Paper Supplement (263-0170)

PROBLEM: Your signature is required approving the Project Paper Supplement for the Health Cost Recovery Programs for Health Project (263-0170) for $78.5 million.

DISCUSSION: An Executive Committee review of the subject document was held on May 12, 1993 and chaired by the Mission Director. The following summarizes the decisions reached and identifies the actions taken to implement those decisions.

Decision - The number of HMOs is to be reduced to two-three as the target, in order to provide a model that may be replicated under another project.
Action - The PP Supplement was revised to identify two innovative health financing and delivery schemes (see p. 38). The LogFrame was also revised to indicate 2 new HMO-like systems.

Decision - HRDC/H and PDS/PS will undertake a sensitivity analysis to determine the impact of reducing the Project funding level to $75 million. This will be presented to the Director at a subsequent meeting.
Action - HRDC/H and PDS/PS presented a prioritized list of possible reductions at a meeting with the Director on May 23, 1993. As a result of this meeting, it was decided that the Project would be reduced from the proposed level of $82 million to $78.5 million through reductions in contingency, long-term technical assistance under Components One and Three, and a reduction in the Data for Decision Making Buy-in.

Decision - In line with AID procedures, the authorization will be reduced.
Action - The First Amendment to the Authorization is included in the PP Supplement package.

Decision - It was determined that the renovation cost estimates were acceptable.
Action - No additional action required.

Decision - In response to an indication by the Social Insurance Organization that it was opposed to sharing insurance user data with the HIO without HIO payment for access to the data, HRDC/H is to draft a PIL urging HIO to push harder to resolve this issue. Although there will be no formal condition precedent in the Project Agreement, HIO should be informed that we are not prepared to utilize resources to finance procurement of equipment until this issue is resolved.
Action - A PIL to HIO was drafted and HIO was so informed.

Decision - The preferable contracting procedures would be Host Country contracting or FARs for construction/ renovation work and AID Direct Contracts for non-construction work. HRDC/H, FM, LEG, DIR/CS, DR/ENG should meet and develop recommendations regarding the host country contracting assessment that was undertaken for the Project Directorate. Arbitration from the DDIR should be sought only if agreement can't be reached on whether contracting should be Direct or Host Country.
Action - HRDC/H, FM, LEG, DIR/CS, DR/ENG, and PDS/PS met on May 18, 1993 and a consensus was reached that the Project should move forward in seeking approval of the host country assessment. An action memorandum to the Director recommending approval has been drafted and is circulating for clearance. Concurrently, Modified FAR PILs for the first three facilities have also been drafted and are being circulated for clearance.

Decision - Although the Project's Host Country Contribution has in the past consisted of, in part, budgetary support via the Special Account, all reference to Special Account should be deleted from the PP Supplement. If budget support is agreed to, it will be in the context of the Mission's MOU which programs local currency.
Action - All reference to the Special Account has been deleted from both the tables and the text of the PP Supplement.

Decision - The Project assumes that as the GOE is able to save on funds previously allotted to curative care, these will be shifted into preventive care. This has been identified as a strategic objective, and though not an outcome of this project, the Mission should track potential budgetary shifts.
Action - The Project Directorate, with assistance from the technical assistance contractor, will be responsible for development and implementation of a monitoring system which, *inter alia*, will track the multiple indicators in the Logical Framework (p. 52), including those verifiable indicators at the Project Goal level.

Decision - Move forward with the authorization of the Project

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Paper Supplement, but EAS will revise the Economic Analysis, making it shorter and more useful. FM/FA will revise the Financial Analysis.

Action - The Financial and Economic Analyses have been revised as Annex D, now entitled "Financial and Economic Analysis". The conclusions of this Analysis are summarized in Section VII.C "Summary of Financial and Economic Analysis" (pp. 60-61).

RECOMMENDATION: That you sign the subject Project Paper Supplement facesheet and Project Authorization Amendment.

Clearance:
(A)OD/HRDC/H, M.Tanamly
(A)AD/HRDC, T.McKee
(A)AD/FM, N.Wijesooriya
AD/LEG, T.Carter
OD/DIR/CS, J.Dunlap
DDIR, C.Crowley

(Drafted:PDS/PS:B.Cypser:C:\H\CRPPSACT:8/1/93)

UNITED STATES GOVERNMENT

memorandum

DATE: August 4, 1993

FROM: (A)OD/PDS/PS, B.Cypser

SUBJ: Cost Recovery Programs for Health (263-0170) Project Paper Supplement

TO: (A)AD/PDS, Jeffery Malick

The Financial and Economic Analysis included in the subject Project Paper Supplement has been jointly prepared by FM/FA, EAP, HRDC/H, and PDS/PS. The following individuals have reviewed the document and agree with the format, analysis and presentation.

Name	ClearanceDate
(A)AD/EAP, P.Mulligan	P Mulligan
OD/FM/FA, A.Levenson	A Levenson
(A)OD/HRDC/H, M.Tanamly	M Tanamly 8/5/93

UNITED STATES GOVERNMENT

memorandum

DATE: May 4, 1993

FROM: OD/HRDC/H, Joy Riggs-Perla
HRDC/H, Mellen Tanamly

SUBJ: Cost Recovery Programs for Health (263-0170) Project Paper Supplement

TO: (A)OD/PDS/PS, Beth Cypser

The attached project document has been prepared by HRDC/H and PDS/PS for review by the Executive Committee. The Project Committee approved the subject document in a review meeting on April 15, 1993. The Project Committee and Officers named below have reviewed the document and agree with the format, analysis and presentation.

The Project Committee believes that the following unresolved issues need discussion or resolution: (1) the level of funding projected by the PPS is higher than that suggested during review of the concept paper; (2) formal reduction of the authorized level of funding could produce negative political repercussions and be perceived as a loss of face by both the MOH and the Project Directorate; (3) projected renovation costs for some of the facilities are based on Mission/Project Directorate estimates rather than A&E reviews; (4) HRDC/H staffing levels, given the management intensity of the Project; and (5) opposition shown by SIO for sharing insurance user data with HIO.

Project Committee	Clearance	Date
PDS/P, R.Handler		5/6/93
LEG, T.Carter		5/6
EAS, J.Goode		5/6/93
DIR/CS, B.Enroth		5/5/93
HRDC/ET, F.Naguib		5/6/93
DR/ENG, R.Imam	RIM	5/4/93
FM/FA, H.Shawky		5/4/93
TI/FI, M.Khalil		5/6/93
Mission Environmental Officer, G.Rutanen-Whaley		5/6/93
AD/HRDC, D.Miller		5/6/93

An Executive Committee meeting could be scheduled after May 11, 1993.

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AMENDMENT TO THE
PROJECT AUTHORIZATION

Name of Country: Arab Republic of Egypt

Name of Project: Cost Recovery Programs for Health

Number of Project: 263-0170

1. Pursuant to Section 531 of the Foreign Assistance Act of 1961, as amended, the Cost Recovery Programs for Health Project was authorized on October 20, 1988. The authorization is hereby amended as follows:

a. Paragraph 1 is amended by deleting "Ninety Five Million United States Dollars ($95,000,000)" and replacing it with "Seventy-Eight Million Five Hundred Thousand United States Dollars ($78,500,000)."

b. Paragraph 1 is further amended by: (1) deleting the phrase "six years" from the fifth sentence and replacing it with the phrase "eight years"; and (2) deleting the phrase "eight years" from the last sentence and replacing it with the phrase "nine years."

2. The authorization cited above remains in force except as hereby amended.

Henry H. Bassford
Director

8/21/93
Date

Clearances:

(A)AD/HRDC, TMcKee
(A)AD/PDS, JMalick
PDS/PS, BCypser
(A)OD/HRDC/H, MTanamly
(A)AD/FM, NWijesooriya
AD/LEG, TCarter
D/DIR, CCrowley

DRAFTED:LEG:TCarter:ss:(08/19/93):1PATH170

COST RECOVERY PROGRAMS FOR HEALTH PROJECT
FIRST PROJECT PAPER SUPPLEMENT

August 5, 1993

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE: C (A = Add, C = Change, D = Delete)

Amendment Number

DOCUMENT CODE: 3

2. COUNTRY/ENTITY: Egypt

3. PROJECT NUMBER: 263-0170

4. BUREAU/OFFICE: Near East — 03

5. PROJECT TITLE (maximum 40 characters): Cost Recovery Program for Health

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM 09 DD 30 YY 97

7. ESTIMATED DATE OF OBLIGATION (Under 'B.' below, enter 1, 2, 3, or 4)

A. Initial FY 88 B. Quarter 4 C. Final FY 96

8. COSTS ($000 OR EQUIVALENT $1 =)

A. FUNDING SOURCE	FIRST FY B. FX	C. L/C	D. Total	LIFE OF PROJECT E. FX	F. L/C	G. Total
AID Appropriated Total	10,000	–	10,000	73,229	5,271	78,500
(Grant)	(10,000)	(–)	(10,000)	(73,229)	(5,271)	(78,500)
(Loan)	(–)	(–)	(–)	(–)	(–)	(–)
Other U.S. 1.						
Other U.S. 2.						
Host Country				–	35,240	35,242
Other Donor(s)						
TOTALS	10,000		10,000	73,229	40,513	113,742

9. SCHEDULE OF AID FUNDING ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE 1. Grant	2. Loan	D. OBLIGATIONS TO DATE 1. Grant	2. Loan	E. AMOUNT APPROVED THIS ACTION 1. Grant	2. Loan	F. LIFE OF PROJECT 1. Grant	2. Loan
ESF	583	530		30,000	–	–	–	78,500	–
TOTALS				30,000	–	–	–	78,500	–

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each): 920 910

11. SECONDARY PURPOSE CO

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code: DEL

B. Amount:

13. PROJECT PURPOSE (maximum 480 characters)

To enhance the quality, sustainability, accessibility, and affordability of health services for the Egyptian people.

14. SCHEDULED EVALUATIONS: Interim MM 05 YY 92; Final MM 11 YY 96

15. SOURCE/ORIGIN OF GOODS AND SERVICES: [X] 000 [ ] 941 [ ] Local [X] Other (Specify) Egypt

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a ____ page PP Amendment.)

This amendment clarifies the overall rationale and strategic objective of the Project and defines a sub-purpose for each component; clarifies the specific objectives and scope of activities for Component One; and recosts the project inputs.

Concurrence: Douglas Franklin, AD/FM

17. APPROVED BY

Signature

Title: Henry Bassford, Mission Director

Date Signed: MM 08 DD 21 YY 93

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION: MM DD YY

ACRONYMS

AED	Academy for Educational Development
BU	Boston University
CGC	Credit Guarantee Corporation
CCO	Curative Care Organization
CRHP	Cost Recovery Programs for Health Project
DDM	Data for Decision Making Project
FP	Family Planning
HBCU	Historically Black Colleges and Universities
HEALTHCOM	Health Communications Project
HFSP	Health Financing and Sustainability Project
HIO	Health Insurance Organization
HMO	Health Maintenance Organization
IDC	Integrated Development Consultants
IFB	Invitation for Bids
IRR	Internal Rate of Return
MCH	Maternal and Child Health
MOH	Ministry of Health
NPV	Net Present Value
PACD	Project Activity Completion Date
PHC	Primary Health Care
PPRGS	Policies, Procedures, Regulations, and Guidelines
PSA	Procurement Services Agent
PY	Person years
QA	Quality Assurance Project
SIO	Social Insurance Organization
WHO	World Health Organization

Bab	Chapter of the GOE Budget

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I. EXECUTIVE SUMMARY

A. Overall Rationale and Strategic Objective for the Project

1. Background and Rationale

Although the Egyptian government has for years stated that the provision of health services to the public is a high priority, only 1.8 percent of the total government budget is spent on health care provided through Ministry of Health (MOH) supported facilities. The MOH operates an extensive health care system which provides almost free health care to all as mandated by the constitution. By attempting to provide health care to all Egyptians from tax-based sources, the needs of the lowest income and highest risk populations are not addressed. If the objective is to subsidize health care for those who cannot pay, then the mode of subsidy chosen is very inefficient. It has resulted in high costs, low quality of care and low utilization of services. Moreover, this policy has spread the resources of the MOH so thin that it is unable to fund the preventive services the population requires. Most of the government health finances are spent on curative care, leaving little for the areas where government money would have the biggest payoff: namely, public health programs, preventive care and medical services to the poor (especially the rural poor).

The sources and mechanisms used to fund health services, i.e., national budgets, beneficiary payments, insurance, and donor funds, are currently limited. As a consequence of the fiscal deficit and economic reforms, the GOE is under pressure to reduce the budget for social sector programs, including health. The combination of rapid population growth and contracting government budgetary resources has made it increasingly difficult for the GOE to sustain the present level of services.

On the positive side, preliminary data from household and inpatient surveys conducted by the Cost Recovery Programs for Health Project (CRHP) reveal Egyptians are willing to pay and do pay for services. In addition, some recent policy changes are promising to yield results in improving the efficiency of public spending in the health sector. A series of decrees were issued recently by the GOE, beginning in 1988, which relate to cost recovery. These include important steps in decentralizing management of hospitals and especially price setting. The GOE Five Year Plan for 1992-1997 enunciates some new policies and strategies that reveal a shift in MOH orientation away from free care to a social policy that seeks equity while recognizing the need for new sources of financing for health services. While GOE decrees for cost recovery indicate commitment to the concept of charging fees-for-service, much remains to be done in the policy area to assure that Project efforts would have a good chance of success.

2. Revised Project Goal, Purpose, and Component Sub-Purposes

The revised goal of the CRHP is to enhance the quality, sustainability, accessibility, and affordability of health services for the Egyptian people. The revised purpose of the Project is to broaden and diversify approaches for financing personal health services in Egypt. A sub-purpose for each of the Components has been identified, which will feed into and support the attainment of the overall Project Purpose identified above: Component One will seek to develop and test cost recovery systems in MOH facilities as a model for country wide application; Component Two will seek to improve the efficiency, utilization, and management of existing cost recovery organizations; and Component Three will seek to expand private sector financing of individual, group and pre-paid care practices.

3. Project Strategy

In order to attain the Project goal and purpose set out above, the Project needs to demonstrate the effectiveness of selected mechanisms for establishing a more rational financial basis for the Egyptian health care system. Although interdependent and supportive of each other, each of the components adopts a strategy which can be viewed as focussing on a particular approach to financing personal health services in Egypt. Component One focuses on mechanisms that will support recovery of the greatest percentage of costs from MOH curative services as possible from those who can afford to pay by allowing public hospitals to function more autonomously and efficiently. As hospitals begin to pay for themselves, MOH resources can be reallocated from curative care for the general public to preventive programs, such as endemic disease control, expanded immunization programs, maternal and child health care, research, etc., and to target scarce MOH resources on the poorest segments of the population. Component Two focuses on mechanisms that will support management improvements of existing cost recovery organizations in order to control costs, provide incentives for preventing illness, and offering services affordable to the clients. As part of this effort, it will examine ways to expand membership and increase the efficiency of existing health insurance systems. Component Three focuses on mechanisms that will facilitate the expansion of private sector service delivery mechanisms and health insurance schemes in order to reduce MOH's burden for direct financing of care for the general public.

To increase the cohesion of the three components and to guide the process of achieving policy objectives, Component One of the Project will also seek to strengthen the MOH capacity to analyze health financing issues and policy options.

4. Planned Project Outputs

Component One

- Demonstration of successful cost recovery operations in a minimum of four MOH hospitals and one MOH polyclinic.
- Technical and management capability in place within the MOH to replicate cost recovery model to other health facilities.
- A system established in the MOH Planning Directorate to track public sector curative and preventive health expenditures.

Component Two

- MISs installed and being utilized at Health Insurance Organization (HIO) and Curative Care Organization (CCO) for improved management, administration, financial planning and control, and marketing.
- Expanded coverage by both HIO and CCO.

Component Three

- Ten commercial banks actively participating in an improved commercial banking system to provide financial services to health care providers.
- Five thousand loans to new or expanding private sector health care providers, particularly in rural areas and secondary cities.
- Viability of new or expanded practices indicated by a default rate of no more than 10%.
- Two new private managed health care systems (i.e., HMO-like schemes).

An extension of the PACD for the Project for an additional year of implementation is projected to provide adequate time to accomplish the revised outputs and sub-purposes of the Project.

B. Specific Objectives and Scope of Activities for Component One

Component One will include five Phase A and five Phase B pilot facilities. For the Phase A facilities, USAID will fund a complete package of technical assistance, training, renovations, and equipment. If the success criteria defined in this paper (see Section VI.C.2) are met on a timely basis, then the intention is to

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expand the provision of Project funded technical assistance and training to five additional hospitals and polyclinics. For these five Phase B facilities, USAID will fund technical assistance and training, while alternate sources of funding will be used for the cost of any renovation and equipment improvement that might be required to upgrade these facilities to basic cost recovery standards. Sources of such funding would consist of revenue generated from the facilities own cost recovery, commercial loans, or possibly other donors. The eventual long range objective would be for the MOH to diffuse the approach nation-wide using the mechanism of the CRHP Directorate, whose capabilities and capacity to undertake cost recovery would have been strengthened under the Project. However, this nation-wide program is beyond the scope of this Project.

The five Phase A facilities selected are: Embaba Hospital in Giza; 15th of May Hospital in Helwan; Shark El Medina Hospital in Alexandria; El Kantara Gharb in Ismailia; and Kafr El-Dawar in Beheira. Component One has developed, or is in the process of developing, conversion plans (or commissioning plans in the case of new facilities), business plans, marketing strategies, and policies and procedures for each of the target facilities. The Component is also providing management training, practical hospital operations training, commodities, equipment, and limited renovations to meet basic safety and sanitation standards at each facility. A Quality Assurance program will be introduced to complement the other inputs and ensure improvements in the quality of care offered. The Component will assist the facilities with start-up expenses in order to ensure that adequate quality services can be offered to encourage people to use the facility and be willing to pay more for their care. The Component will also continue to conduct preliminary assessments of the five additional Phase B facilities for consideration by the Project. First preference will be given to facilities that are currently in good condition and could benefit immediately from better management and improved systems.

The Project will also strengthen the capability of the CRHP Directorate in planning, public relations, marketing, analysis, and monitoring. It will enhance health planning and policy options through analyses and improved data availability, as well as promote social financing and insurance plans through conferences, development of prototypes, and contracts with HIO.

C. Project Costs

The total A.I.D. contribution to the Project is estimated to be $78.5 million. This will be used to finance: technical assistance and training for both Phase A and Phase B facilities, commodities (including biomedical equipment) and renovations for Phase A facilities, facility start up costs, and local costs for the MOH under Component One; technical assistance, commodities, renovations, training, and local costs for both HIO and CCO under

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Component Two; and technical assistance for promotion of the private sector medical market under Component Three; as well as audit and evaluation.

The total GOE contribution of the Project is estimated to be $35.2 million (£E equivalent), i.e., £E126.1 million including £E69.2 million from the USAID FT-800 Account. Planned GOE Project inputs include: staff salaries, premium pay, office space, utilities, furniture, research, and operating expenses for the CRHP Directorate; salaries, operating expenses, furniture, equipment, and pharmaceuticals for all CRHP facilities. In addition, the GOE is expected to finance any renovations and biomedical equipment for the Phase B facilities.

The estimated Project costs are indicated in the following table:

SUMMARY TABLE
Estimated Project Costs
($000)

	TOTAL
COMPONENT ONE	36,713
COMPONENT TWO	34,908
COMPONENT THREE	5,111
AUDIT/EVALUATION	821
CONTINGENCY	947
TOTAL	78,500

D. PROJECT AMENDMENT NEGOTIATION STATUS

1. HIO/SIO Data Sharing - SIO has computerized files of all employers and employees who pay into SIO; SIO collects HIO premiums on a subset of these, and gives HIO the 4% of total collections set aside for HIO premiums. HIO has been trying unsuccessfully to obtain data files from SIO containing lists of employees eligible for HIO benefits. Currently, HIO constructs its registry of eligible beneficiaries from lists obtained individually from each company. HIO employees spend thousands of hours manually checking these lists and updating them through visits to employers. We cannot build an MIS with such an antiquated method of data collection. USAID and the GOE are devoting considerable resources to help make HIO a more efficient and better managed organization. It is USAID's position and the technical view of the contractor that there is no other alternative for HIO than to obtain from SIO the necessary data on eligible beneficiaries for whom SIO has collected premiums. These data files should be made available to HIO on magnetic tapes on a regular basis, as needed by HIO, at no cost to HIO. HIO already pays SIO for the collection of the

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premiums and the USAID Prime Contractor and HIO MIS staff can prepare the software program for SIO. The need to resolve this data sharing issue was communicated to HIO with a PIL.

2. GOE Contribution - The GOE cash contribution to this project has been growing steadily each year. However, in the next few years the project costs to the components will be higher. For example, as HIO starts running its new automated information system, the operating expenses will increase. It is expected that the system will more than pay for itself in the future through more efficient management and cost containment, but for the next few years additional cash will be needed.

3. Project Funding Level - The revised overall project budget is significantly different from the 1987-1988 estimates. Because of the substantial under-budgeting of the MIS work for HIO, and to some extent CCO, Component Two will be allocated $34.9 million rather than $10 million. The number of MOH facilities to be assisted directly by the project has been reduced from 50 to 5-10. Although Component One has been enriched by addition of the proposed strengthening of the Planning Directorate and new dimensions of Quality Assurance and Marketing assistance for the pilot facilities, the total budgeted for this component has been reduced from $45 million to $36.7 million. Even though it has been decided to use LC for most of the Component Three funding, and some of the dollars have been reallocated to Component Two, the net result is a reduced dollar investment in the project, i.e. from $95.0 million to $78.5 million. The MIC and MOH need to both agree to the revisions in funding.

II. PURPOSE OF THE PROJECT PAPER SUPPLEMENT

The purpose of this Project Paper Supplement is threefold:

- To clarify the overall rationale and strategic objective for the Project, including the relationship among the components, and to define a sub-purpose for each component;

- To clarify the specific objectives and the scope of activities for Component One. This includes additional technical analyses, as well as refining and recosting the Component inputs; and

- To recost the inputs for Component Two and Component Three, based on experience to date.

III. PROJECT RATIONALE, GOAL, PURPOSE, AND STRATEGY

A. Project Background and Rationale

1. Description of the Health Care Sector

The health care system of Egypt is a vast network of public and private facilities that covers the entire country and extends access to care to nearly 100 percent of the population. Although the Egyptian government has for years stated that the provision of health services to the public is a high priority, only 1.8 percent of the total government budget is spent on health care provided through MOH supported facilities. An estimated 1.1% of GNP is spent on health care with private and public resources. (The US spends approximately 12% of GDP on health care.)

The number of hospitals has grown significantly over the past few decades. Today, they are 107,229 hospital beds available in both public and private facilities according to the Ministry of Health (MOH). Of these beds, 80% belong to the MOH, university and teaching organizations, providing almost free care to the majority of Egypt's 56 million people. The Health Insurance Organization (HIO) and the Curative Care Organization (CCO), both independent bodies in the public sector, receiving MOH subsidies, are responsible for 9%. Voluntary organizations are responsible for 1%; while the private sector claims a growing 10% of available beds. Eighty percent of the MOH budget currently goes to pay the costs of curative care in the public facilities. Most of the funds are used to pay salaries of personnel; very little is left for operating expenses and maintenance.

There are now more than 3,500 primary health care facilities: Rural Health Clinics, Urban Health Clinics, and Maternal and Child Health Clinics. These facilities provide most of the preventive health services and some curative care, especially in rural areas. In addition, there are indigenous health workers, especially dayas (who assist in 80% of births), still serving the population.

Unfortunately, the Egyptian public is dissatisfied with much of the quality of care in these facilities. Consequently, government facilities are underutilized. For example, while bed occupancy may range between 80 percent and 100 percent in some large city hospitals, MOH statistics for 1990 indicate a nationwide bed occupancy of only 48.5 percent in general and district hospitals. Very low occupancy in most regional and district hospitals is responsible for the low national average. Also, Egyptians made only 1.5 visits per person to MOH outpatient facilities in 1990. These utilization rates compare unfavorably with countries where the population has equal or more restricted access to health services. Low utilization rates, combined with the rising cost of

providing almost free health care to all Egyptians, has resulted in declining cost effectiveness.

2. Utilization of Resources

The physician dominance of the health sector combined with the almost exclusive curative nature of medical education has led to a predominance of high-technology, curative approaches to health care rather than the low-technology, more cost-effective measures recommended by the WHO and many donors. Most of the government health finances are spent on curative care, leaving little for the areas where government money would have the biggest payoff: namely, public health programs, preventive care and medical services to the poor (especially the rural poor). The MOH operates an extensive health care system which provides almost free health care to all as mandated by the constitution. By attempting to provide health care to all Egyptians from tax-based sources, the needs of the lowest income and highest risk populations are not addressed. If the objective is to subsidize health care for those who cannot pay, then the mode of subsidy chosen is very inefficient. It has resulted in high costs, low quality of care and low utilization of services. Moreover, this policy has spread the resources of the MOH so thin that it is unable to fund the preventive services the population requires. An additional factor is the GOE policy to employ all medical school graduates, nurses, etc., which contributes to over staffing in most urban facilities.

The combination of rapid population growth and contracting government budgetary resources has made it increasingly difficult for the GOE to sustain the present level of services. The health sector has struggled unsuccessfully to keep up with the rapidly expanding recurrent cost requirements of operating its facilities, resulting in shortages of essential supplies. In addition, there has also been a steady deterioration of the physical infrastructure due to a lack of funding for maintenance and repairs.

The government is not allocating its limited health resources in the most cost-effective manner. Public sector administrators and technical staff have not been trained to manage resources efficiently. There have been few incentives to efficiency improvements and decision making has been centralized. Since most indicators used in public health program monitoring and in planning are divorced from the financial information systems, there are few sources of management information that allow managers to evaluate efficiency of their activities. The HIO, for example, estimates that more than 50% of their total costs are for pharmaceuticals for which they do not have a good system for monitoring utilization.

The sources and mechanisms used to fund health services, i.e., national budgets, beneficiary payments, insurance, and donor funds, are currently limited. As a consequence of the fiscal deficit and economic reforms, the GOE is under pressure to reduce the budget

for social sector programs, including health. The MOH still has in place a policy to provide free or almost free care to all of its citizens which prevents generating significant revenues to finance recurrent costs. Private health care services are a relatively small proportion of the total health system, but the GOE now welcomes the expansion of the private sector in health. As in most countries, private health care practitioners are heavily concentrated in metropolitan areas. Currently there are no private health maintenance organizations, and only one newly established prepaid health care system.

A recent survey shows that Egyptians are willing to pay and do pay for services. Preliminary data from household and inpatient surveys conducted by the Cost Recovery Programs for Health Project (CRHP) reveal that residents in a lower income area of Cairo now pay between £E 54 and £E 640 per inpatient visit for services at the MOH Embaba Hospital. This includes even the "free patients". The facilities now identified as cost recovery sites need to establish fees in line with their overall costs, improve the quality of care to attract more clients who are willing to pay or whose employer is willing to pay for their care, contain their costs, and increase their revenue.

3. Policy Environment

Decrees - Some recent policy changes are promising to yield results in improving the efficiency of public spending in the health sector. A series of decrees were issued recently by the GOE, beginning in 1988, which relate to cost recovery. These include important steps in decentralizing management of hospitals and especially price setting. Cost recovery hospitals are now authorized to retain approximately 95% of the fees collected for use as incentive payments to medical staff and to pay recurrent costs. These are important first steps because experience in other countries has shown that where planning, budgeting, and monitoring are decentralized and authority to manage resources granted to local decision makers, quality of care can be improved and recurrent costs covered.

The decrees relating to cost recovery are as follows:

- Ministerial Decree No. 2 H/1988, regarding the Regulatory/Financial By-Law for local governmental hospitals and curative care units.

- Ministerial Decree No. 248/1991, delegated to governors the authority to set prices for curative care services in their governorates, and to modify, as necessary, previous price lists for economic (for fee) curative health services. This decree was significant in that it authorized hospitals to raise the number of fee-paying beds (referred to by the MOH as economic beds) from 10%

to a higher level to be justified in a plan submitted to the MOH.

- Ministerial Decree No. 248 also authorized the Hospital Board of Directors to be the governing body for local governmental hospitals and curative care units, and ensured the autonomy and institutional identity of hospitals as units granted enhanced management authority and freedom in policy-making decisions.

- All governorates are preparing plans to initiate fee-for-service for a percentage (which they will establish) of the beds. To date, some five governorates (Ismailia, Cairo, Giza, Sharkeya, and Alexandria) have finalized these plans, identifying the number of beds they will designate as fee-paying. In March 1992, these governorates began charging fees for a higher percentage of beds in all public hospitals. Two other governorates, Port-Said and Kafr El Sheikh, also have instituted fees.

- The MOH presently plans to reduce government support to hospitals within two years of institution of fee-for-service to 50% of the hospital patients.

Cost recovery hospitals are now authorized to retain about 95% of the fees: 40% is paid out to the medical staff as incentive pay; the remaining 45% can be reinvested in the hospital to continue to upgrade its services and to cover operating costs. What is not reinvested must be returned to the governorate.

While GOE decrees for cost recovery indicate commitment to the concept of charging fees-for-service, much remains to be done in the policy area to assure that Project efforts would have a good chance of success. Most important is GOE establishment of a legal and regulatory basis for cost recovery hospitals within the MOH, that clearly delegates personnel and budget management decisions to the hospital level.

Cost recovery hospitals must be able to reward and penalize staff for performance, transfer unsatisfactory staff to other hospitals, hire contract staff, and set terms and conditions for their employment. These hospitals must be able to set up their own management and administrative systems. They must have the authority and flexibility to use retained funds to defray operational costs, to set up building and equipment maintenance schedules, to obtain services and supplies needed for maintenance, and to market their services.

While an overall decree giving hospitals the authorities outlined above does not yet exist, considerable leeway has been accorded to governorates in this domain. For example, the progressive Ismailia governorate has accorded to its designated cost recovery hospital

the authority to choose its own physicians, and also to limit the number of doctors it will have on its staff. It will also have the authority to release or transfer staff that do not perform. The 1964 presidential decree (amended in 1967) which established CCO is potentially appropriate for cost recovery hospitals. This will be further studied as part of Project implementation.

The GOE must also think through its future plans on subsidies to cost recovery hospitals. Phasing out subsidies, if implemented too early, could jeopardize the success of cost recovery hospitals by removing a needed source of funding. It could actually serve as a disincentive. Total phasing out of subsidies to curative care may not be desirable, depending on the number of free beds facilities will need to have. Policies in these areas will need to be carefully determined in conjunction with findings of the Project.

Planning - The GOE Five Year Plan for 1992-1997 enunciates some new policies and strategies that reveal a shift in MOH orientation away from free care to a social policy that seeks equity while recognizing the need for new sources of financing for health services. The Plan lays out the following parameters for its activities:

- Social justice in the provision of primary health care within a social solidarity framework to all citizens with an emphasis on improved medical care appropriate to the individual's level of income.

- Increased community involvement in financing, administration and implementation of health services.

- Expand HIO beneficiaries and introduce other types of insurance schemes that are suitable for businesses and workers and their different economic and geographic situations, and decentralize the organization and affiliate agencies offering insurance services to better serve their beneficiaries.

- Utilize the health card system as a tool to strengthen the referral system for specialized health services and the horizontal integration of the different services offered by the system.

- Emphasize the priority importance of MCH, family planning and community health in all health development programs and the direct impact they have on health status.

- Make all Health Services Units, at all levels, potential resources for training, learning and medical research in coordination with other related ministries, centers and academic institutions.

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- Increase the emphasis on studies related to health economics to assist in the development of the budgets of governmental health care systems.

- The selection criteria for new health projects and programs will be:

  - Primary health care, particularly MCH and FP.
  - Focus on underserved groups and areas.
  - Focus on preventive and emergency services.
  - Focus on the implementation of on-going investment projects.

- Emphasize the continual upgrading of the health information system and its use to develop health plans and policies as well in evaluating services.

- Continually review and modify health legislation to fit the social changes and to serve the citizens.

B. Project Goal and Purpose

1. Original Project Goal, Purpose, and Components

The original Project design was undertaken between 1986 and 1988 and was documented in the original Project Paper, entitled, "Egypt: Cost Recovery Programs for Health Project" (CRHP). The original Project Paper stated that the Project goal was to improve the health of the Egyptian people by enhancing the quality, availability, sustainability, and accessibility of health services, while the Project purpose was to establish a sound financial basis for the health sector through cost recovery systems. It has three main components: (1) implementation of policy changes to convert selected hospitals and clinics to fee-for-service facilities; (2) promotion of improved management practices in two leading health care systems currently using cost recovery systems; and (3) expansion of the private health care sector by providing credit to private practitioners, the development of prepaid group practices, and improved practice management for private physicians.

However, it became clear during Project implementation that the original Project design did not adequately elaborate the individual objectives (or sub-purposes) for each component. In addition, the magnitude of Project inputs was not explicitly defined, particularly with respect to the renovations and equipment to be purchased under Component One. Therefore, the budget for Component One was not accurately estimated. The budget for Component Two was also seriously underestimated. As these aspects have become clearer during implementation of the Project, it was determined

that a better definition of a cost recovery facility was needed and the steps required to get there should be described in more detail.

Further, it has become clear during the early years of this Project that considerable policy dialogue with the GOE is required in order to agree upon the target definition of cost recovery and the many and complex systems changes that will be required to get there. The Mission has begun discussions with the MOH regarding the long range objective of the Project, i. e. to reduce the quantity of general government subsidies to personal care and free up resources for public health activities and care of the truly indigent. This discussion has been hampered by a shortage of information at the MOH on total costs of health care and a lack of capability of Planning Directorate staff to do appropriate analysis of funding trends and priorities, or participate in true planning and policy formulation.

Therefore, it was decided that a supplement to the Project Paper would be necessary to document changes in the budget and clarify the extent of change required for cost recovery both within the hospitals and polyclinics and within the institutional framework. An extension of the PACD for the Project for an additional year of implementation is projected to provide adequate time to accomplish the revised outputs and sub-purposes of the Project.

2. Revised Project Goal, Purpose, and Component Sub-Purposes

Project Goal - The revised goal of the CRHP is to enhance the quality, sustainability, accessibility, and affordability of health services for the Egyptian people.

Project Purpose - The revised purpose of the Project is to broaden and diversify approaches for financing personal health services in Egypt.

Component Sub-purposes - A sub-purpose for each of the Components has been identified, which will feed into and support the attainment of the overall Project Purpose identified above:

COMPONENT ONE	COMPONENT TWO	COMPONENT THREE
To develop and test cost recovery systems in MOH facilities as a model for country wide application.	To improve the efficiency, utilization, and management of existing cost recovery organizations.	To expand private sector financing of individual, group and pre-paid care practices.

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3. Project Strategy

In order to attain the Project goal and purpose set out above, the Project needs to demonstrate the effectiveness of selected mechanisms for establishing a more rational financial basis for the Egyptian health care system. From a broad perspective, the mechanisms have been selected on the basis of their potential ability to contribute in the longer term to the following:

- A shift of allocative priorities so that GOE funds are used (1) for the highest priority preventive health programs which cannot be financed privately and (2) for the poorest segment of the population who cannot afford to pay for their own medical care. The objective is to make the GOE the provider of "last resort", the regulator of quality and equity, and the protector of the poor.

- A new generation of resources and alternatives in the provision of health care created through the expansion of the role of private sector providers in the care of those who can afford to pay, and in the expansion of health insurance schemes, as well as fee-for-service payments for personal care at MOH facilities. The objective is to allow the maximum level of cost recovery feasible for MOH facilities in order to reduce the burden on the GOE budget and to allow for the reallocation of these funds to preventive health care over time.

- The design of a health system which subsidizes the poor population groups directly rather than subsidizing service providers. The objective is to reduce inefficiency and maximize opportunities for cost recovery.

Although interdependent and supportive of each other, each of the components adopts a strategy which can be viewed as focussing on a particular approach to financing personal health services in Egypt. Component One focuses on mechanisms that will support recovery of the greatest percentage of costs from MOH curative services as possible from those who can afford to pay by allowing public hospitals to function more autonomously and efficiently. As hospitals begin to pay for themselves, MOH resources can be reallocated from curative care for the general public to preventive programs, such as endemic disease control, expanded immunization programs, maternal and child health care, research, etc., and to target scarce MOH resources on the poorest segments of the population. Component Two focuses on mechanisms that will support management improvements of existing cost recovery organizations in order to control costs, provide incentives for preventing illness, and offering services affordable to the clients. As part of this effort, it will examine ways to expand membership and increase the efficiency of existing health insurance systems. Component Three

focuses on mechanisms that will facilitate the expansion of private sector service delivery mechanisms and health insurance schemes in order to reduce MOH's burden for direct financing of care for the general public.

To increase the cohesion of the three components and to guide the process of achieving policy objectives, Component One of the Project will also seek to strengthen the MOH capacity to analyze health financing issues and policy options. This will require an operations research approach to identify what is feasible in Egypt and how to proceed. A great deal of information needs to be collected and analyzed about health service utilization, the effects of pricing changes on the demand for care, how perception of quality affects demand, what kinds of health insurance systems work best, how to cross-subsidize across income groups, and whether there are hidden subsidies in the system. A pressing need is to assist the GOE in developing a mechanism to provide subsidized care targeted only to the truly indigent, rather than the current practice of providing a general subsidy to all public hospitals.

C. Component Approaches

1. Component One

To achieve its sub-purpose (i.e., to develop and test cost recovery systems in MOH facilities as a model for country wide application) and contribute to the overall goal and purpose, the Component includes a comprehensive approach. The Component will assist the Government of Egypt in implementing policy changes, and management and quality of care improvements in selected MOH hospitals and polyclinics to pilot test and demonstrate the use of a rational economic basis for the provision and financing of medical services based on cost recovery. In view of the lack of experience of the GOE and AID in implementing this type of experimental transformation, it was decided to focus on five facilities as pilot sites to test the approach and determine whether this approach can be successful in the Egyptian context. For these "Phase A" facilities, USAID will fund a complete package of technical assistance, training, renovations, and equipment. If the success criteria defined in this paper (see Section VI.C.2) are met on a timely basis, then the intention is to expand the provision of Project funded technical assistance and training to five additional hospitals and polyclinics. For these five "Phase B" facilities, USAID will fund technical assistance and training, while alternate sources of funding will be used for the cost of any renovation and equipment improvement that might be required to upgrade these facilities to basic cost recovery standards. Sources of such funding would consist of revenue generated from the facilities own cost recovery, commercial loans, or possibly other donors. If the approach outlined in the paper is not successful based on the experience with five pilots, then alternate strategies may be

considered to achieve the Project goal. Assuming that the approach is successful, the eventual long range objective would be for the MOH to diffuse the approach nation-wide using the mechanism of the CRHP Directorate, whose capabilities and capacity to undertake cost recovery would have been strengthened under the Project. However, this nation-wide program is beyond the scope of this Project.

Component One will include five Phase A and five Phase B pilot facilities. The five Phase A facilities selected are: Embaba Hospital in Giza; 15th of May Hospital in Helwan; Shark El Medina Hospital in Alexandria; El Kantara Gharb in Ismailia; and Kafr El-Dawwar in Beheira. Component One has developed, or is in the process of developing, conversion plans (or commissioning plans in the case of new facilities), business plans, marketing strategies, and policies and procedures for each of the target facilities. The Component is also providing management training, practical hospital operations training, commodities, equipment, and limited renovations to meet basic safety and sanitation standards at each facility. A Quality Assurance program will be introduced to complement the other inputs and ensure improvements in the quality of care offered. The Component will assist the facilities with start-up expenses in order to ensure that adequate quality services can be offered to encourage people to use the facility and be willing to pay more for their care. As part of the GOE contribution to the Project, the MOH will capitalize a revolving fund for essential drugs. The Component will also continue to conduct preliminary assessments of the five additional Phase B facilities for consideration by the Project. First preference will be given to facilities that are currently in good condition and could benefit immediately from better management and improved systems.

A Technical Advisory Group (TAG) for Component One will be formed, to provide the Project with an easily accessible source of Egyptian expert technical advice and program review on a regular basis. This innovative mechanism provides an independent, objective source of advice and information about technical issues, strategies, and the "state of the art" in relation to health care financing issues. It will meet at least quarterly and will consist of resident health economists, health planners, hospital administrators, and other technical experts as required. Each of the Phase A pilot facilities will be individually assessed by TAG members according to a defined set of success criteria, which are outlined in Section VI.C.2. The individual assessment approach is necessary due to the staggered schedule for renovation, equipment purchase, and system conversion to cost recovery proposed for each of the five Phase A pilot facilities.

Information derived from the TAG assessments will be channeled into a formal mid-term evaluation conducted by an independent external group. This evaluation will be conducted when sufficient implementation experience in cost recovery has been obtained, and

will take place no later than the fourth quarter of FY 1995 at which time all five pilot facilities will have been in operation as cost recovery facilities for at least eighteen months.

The decision whether to proceed with intensive involvement of Phase B hospitals will be based on documented progress of Phase A facilities towards meeting all benchmarks. However, from time to time, management or technical staff of Phase B candidates may be invited to participate in courses, conferences, or other training opportunities.

Dialogue has been initiated with the World Bank concerning possible collaboration in the Health Care Financing area. (Similar efforts are ongoing with the World Bank and AID, as well as other donors, in several other countries. These include useful ways to combine limited resources and effect policy changes through both project and non-project assistance.)

Principles of Cost Recovery - The principles used to develop a rational basis for the provision and financing of hospital services are:

- Achieve greater efficiency through:

  - Public money allocated to pay for programs which affect the health and well-being of the public, and private funds to personal curative services.

  - MOH facilities would market their services and recover costs, allowing the MOH to reallocate funds to support the costs of child survival and preventive health care programs.

  - Improve interpersonal equity by targeting a limited amount of government funds for curative services for the truly medically indigent.

- Relieve macroeconomic strains by reducing the burden on government spending by substitutional private payment for hospital services by those able to pay.

- Improve quality both to improve clinical outcomes and as a necessary condition to generate user payment.

- Increase efficiency through improved management/incentives and reduce unit costs, given a menu of primary and secondary hospital services of accepted quality.

A cost recovery hospital offers general, community services for inpatients, outpatients and emergency/casualty care to the local community on a fee-for-service basis. Its costs are recovered from

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a variety of sources, including patients, social insurance, business contracts, and the Government. The primary markets of a Cost recovery hospital are the middle and low income segments of the population. The funds collected are utilized to operate a quality hospital and provide for regular replacement and maintenance of equipment and facilities. Specialized services are offered only when they are medically necessary and can be supported from the revenues collected. The physical facilities and environment are appropriate and pleasant to patients and visitors, the equipment serves the needs of the community and the medical staff, and the management philosophy is one of service and commitment to patients. Patient satisfaction and a team-oriented working environment for physicians and staff are key commitments. A cost recovery hospital, after an initial transition, is largely self-sufficient and serves as a valuable and responsible health care provider within the local medical care community.

2. Component Two

There are two health care systems currently operating in Egypt on a fee-for-service basis and recovering most of their costs. They are the Health Insurance Organization (HIO) and the Curative Care Organization (CCO). The HIO and CCO clearly demonstrate that health care systems can operate on a cost recovery basis in Egypt. They provide a paradigm for the level of service, organization, and operation of financially viable health care facilities.

HIO has been providing health care to insured public and private sector workers throughout Egypt since 1964. Services are provided to covered workers through clinics and hospitals located throughout the country. Organizationally, the HIO is divided into six branches, containing various numbers or hospitals, clinics and polyclinics. Approximately million beneficiaries are currently registered through their employers, including public sector agencies and firms. Funding for the program is provided by the GOE plus worker and employer contributions. Under Law 79, health insurance premiums are collected by the Insurance and Pensions National Organizations and the Social Insurance Organization (SAO) and transferred to HIO. Under Law 32, HIO collects health insurance premiums directly from the government agency employers.

In 1992 the People's Assembly passed a law called the School Children's Medical Program transferring the care of all of the nation's school children, kindergarten through technical schools, to HIO. It is estimated the 14.5 million students will be eligible for coverage by 1995 when the program is completely phased in. This means that by 1995 HIO will be the insurer of 40% of the Egyptian population.

HIO has begun contracting for provision of services in some areas where their own facilities are limited, especially for the school children's program. This is viewed as a very positive step as it

has been shown throughout the world that it is more cost effective for government agencies to contract for services than to provide them. HIO has contracts with CCO hospitals, MOH hospitals, and private sector facilities. The success of this new policy will be dependent on adequate financial management both within HIO and its contractual partners.

CCO was established by Presidential decree in 1964 and currently operates in 4 Governorates. Each CCO has its headquarters in the capital city of that Governorate. Component Two of CRHP is working with CCO in Cairo. The Cairo CCO consists of 12 hospitals, 3 of which are very new, modern facilities. The number of hospital days in 1990 were 670,000 of which 8.3% were "free patients" and 862,000 outpatient visits were recorded. The GOE gives CCO an annual allocation for the 10% of its beds reserved for "free care". CCO Headquarters is responsible for policy setting, quality monitoring and insuring compliance with CCO regulations.

Although the HIO and CCO are currently operating on a sound financial basis, they can be significantly improved. The HIO and CCO have both outgrown their rudimentary management procedures as they expanded from single care institutions to larger systems of facilities. Both organizations use outdated management practices, and could expand their utilization rates by using modern management systems to improve their efficiency and contain their costs. Component Two will provide effective programs to modernize the HIO and CCO management systems; investigate and apply other management ideas through operations research; and introduce these innovative systems to other health care programs. This component will also provide limited assistance to both HIO and CCO in the form of marketing advice and feasibility studies in order to improve the marketing of their organizations and to expand the utilization of their services.

HIO - The HIO already has a computerized MIS for beneficiary registration and drug usage at its Alexandria branch, developed under an earlier USAID project. Under the current project to date, design studies have been completed for the development of an organization-wide MIS to encompass cost accounting, patient records, and quality assessment modules, in addition to registration and drug usage. The Project will provide the necessary technical assistance, training, and computer equipment initially for the development and implementation of the MIS for the HIO headquarters and branches in three branches. If the mid-term evaluation confirms that this program has been successfully implemented, the expansion of the MIS to an additional two branches will be considered. The procurement process for the MIS TA and software and hardware was completed early in FY 93 and mobilization of the contractor team is targeted for May 1993.

CCO - The CCO has had relatively little experience in MIS design and installation. Design studies have been completed for the

development of an MIS, and a US technical assistance contractor will be contracted to develop and provide support for implementation of the system. Initial activities will focus on developing a comprehensive system to encompass the current CCO manual practices for financial and accounting systems and inventory control. Once the manual procedures have been developed and integrated into a system, computerization of financial an patient care systems will be undertaken.

Spread Effects - The original Project Paper suggested that support also be provided to somewhat smaller initiatives for improvement of management practices in university health care facilities and professional health organizations. This was to have been in the form of two manual or computerized MISs for university health care providers, and the development of a model computerized MIS for group and individual health practices. However, given the refinement and refocusing of Project inputs resulting from this current exercise, this activity will be considerably reduced under Component Two and will be limited to promoting the systems developed under HIO and CCO as models for other health care providers. Any work with the university system will be undertaken under Component 3 as part of management improvement of existing managed health care.

3. Component Three

Expansion of the private health sector must be part of any comprehensive strategy for improving Egyptian health services. This component takes a three pronged approach to encouraging this expansion: credit, management improvement, and development of new health care systems. The major activities proposed under this component are: augmenting the institutional capacity and financial motivation of private sector commercial lending institutions to provide loans to private health care practitioners, while improving the technical capability of commercial banks for financial analysis and services; and improving the capacity of private health care providers to develop cost effective private, group, and prepaid health care practices.

Credit - Private health care practitioners comprise a small proportion of the total in Egypt, and are highly concentrated in metropolitan areas. The original PP identified inadequate access to commercial credit for start up and expansion of private practices as a critical constraint to the expansion of private sector health care outside the major metropolitan centers. In particular, it was found that many doctors who worked at MOH facilities and moonlighted after hours would have preferred to leave government service and set up full time private practice if they could have secured credit for the considerable investment required. Thus credit availability would not only stimulate expansion of the private sector in underserved areas and thereby diminish the burden of the MOH system, but would also absorb

surplus skilled labor which may be displaced by the conversion of MOH facilities to cost recovery operation.

The major emphasis of this component is the expansion of credit accessibility for individual and group practitioners by capitalizing a credit guarantee fund for loans to private health practitioners, with high priority given to new or expanded practices in non-metropolitan or other underserved areas. Loans by participating banks have repayment of principal guaranteed up to 80 percent by the program initially. This percentage depends on the size of the loan, with the smaller loans receiving a higher percentage of guarantee. It is also expected that CGC will leverage the funds provided for the guarantee facility to exceed the ratio of one to one. Twenty-nine of Egypt's thirty-six banks are participating in the credit guarantee program of the CGC, although the health window is still considered to be in its pilot stage. To date, the Project has engaged in some promotional activities; however, it has contracted all the banks and explained the program to them and encouraged the bank managers to explain the program to their local health providers. CGC has met with private and public health providers in almost all governorates to explain the program and generate participation.

Local technical assistance has assisted the CGC in establishing an accreditation and rating system for participating banks. Ceilings for loans under the guarantee program have been established for each bank, and criteria for loans have been specified. Any loan within the guarantee ceiling and meeting CGC criteria is virtually automatic. The criteria for selection under the CGC guarantee program are as follows:

- The medical practitioner should be registered by the Medical Syndicate, the MOH, be a practitioner for a period of at least three years, and the CGC sees that he/she is competent to generate an income that would meet his/her commitments towards the lending bank and CGC.

- The medical practitioner could be a solo or a group practitioner.

- Priority is given to medical practitioners and small medical establishments which operate in underserved regions, towns, urban areas of Egypt, and provide their medical services to low and middle income groups.

- Encouragement is given to female practitioners, social medical centers, and basic health services to apply for these loans.

- The medical practitioner should enjoy a good professional and ethical reputation.

Good practical experience is extremely necessary in case of obtaining a bank loan for the purchase of any necessary medical equipment. The CGC and the lending bank possess their full rights to inquire and collect credit information about the client from different sources as necessary.

Technical assistance and training are also being provided to develop a support capability within the CGC to assist participating banks in improving their efficiency for servicing loans to private practitioners. This will include financial analysis, loan evaluation, access to and exchange of credit information, insurance claims settlement and guarantee recovery, and marketing of credit to the health community. These techniques will decrease loan origination and processing costs and increase collections, making loan activity to the private health sector more attractive. To date, loans have been guaranteed by CGC in 23 governorates.

Management Improvement - Another basic constraint to development of the private medical market is a relative lack of modern management capabilities. Individual, group and prepaid health care practices use rudimentary systems for monitoring and controlling personnel and physical resources, and for managing costs and billing clients. This component will provide technical assistance and training to enhance the managerial capabilities of these private practices, improving the quality of health care and facilitating greater efficiency and profitability. This should encourage expansion of private health care practices and diminish the burden of government facilities.

No training of private health care providers has yet been held, although it is recognized that the credit for doctors must be accompanied by training in the concepts of private health provision and financial management. The creditors should receive orientation in the concepts of health insurance, social marketing, and other prepayment methods, so that they share the perceptions and overall understandings and vision of the Project in various methods of spreading the risks for health coverage through sharing costs with industry, prepayment schemes, social insurance, etc.

One early opportunity for supporting a model Health Maintenance Organization (HMO) in Egypt, is presented by the Suez Canal Medical School, located in Ismailia. This school, started with AID assistance to build a program with emphasis on community and family medicine, has a thriving group practice, a network of rural primary care centers and a new tertiary care hospital. The leadership of the faculty is desirous of melding the elements of the system into an HMO, and has asked USAID to assist. USAID resources will finance a feasibility study for the HMO and, assuming a favorable analysis, a detailed business plan. A grant to the University is contemplated to allow the leadership to secure its own technical assistance and arrange for training its staff. This will be the first HMO in Egypt

and can serve as a model, not only for the private sector, but also for other University medical schools.

New Health Care Systems - Expansion of the private health sector can also be fostered by supporting the development of group practices, which are inherently more efficient in the utilization of skilled manpower. Prepaid systems are also an attractive alternative to fee-for service private health care, because they focus on preventive health measures and motivate physicians to control health care costs. Private health care practitioners in Egypt have had limited experience with designing and implementing prepaid health care systems. Component Three will devote a major portion of its technical assistance to developing new prepaid health systems, such as Health Management Organizations (HMOs). The prime technical assistance contractor will develop a model encompassing the complex empirical variables and estimates which must be considered in the design of a prepaid system. It will also develop a model management information system for monitoring and control of the resource inputs, financial operations, and service outputs characteristic of prepaid health care systems. These models will be adapted to the particular objectives and circumstances of each prepaid group health care system to facilitate the design process. The component will also encourage credit accessibility for developing group and prepaid health care systems under the CGC credit guarantee program. This approach will stimulate an expansion of the private health sector and diminish the burden on government facilities.

D. Planned Project Outputs

1. Component One

- Demonstration of successful cost recovery operations in a minimum of four MOH hospitals and one MOH polyclinic.
- Technical and management capability in place within the MOH to replicate cost recovery model to other health facilities.
- A system established in the MOH Planning Directorate to track public sector curative and preventive health expenditures.

2. Component Two

- MISs installed and being utilized at HIO and CCO for improved management, administration, financial planning and control, and marketing.
- Expanded coverage by both HIO and CCO.

3. Component Three

- Ten commercial banks actively participating in an improved commercial banking system to provide financial services to health care providers.

- Five thousand loans to new or expanding private sector health care providers, particularly in rural areas and secondary cities.

- Viability of new or expanded practices indicated by a default rate of no more than 10%.

- Two new private managed health care systems (i.e., HMO-like schemes).

E. Planned Project Inputs

Planned USAID Project inputs include: technical assistance and training for both Phase A and Phase B facilities, commodities (including biomedical equipment) and renovations for Phase A facilities, facility start up costs, and local costs for the MOH under Component One; technical assistance, commodities, renovations, training, and local costs for both HIO and CCO under Component Two; and technical assistance for CGC and the private sector medical market under Component Three; as well as audit and evaluation.

Planned GOE Project inputs include: staff salaries, premium pay, office space, utilities, furniture, research, and operating expenses for the CRHP Directorate; salaries, operating expenses, furniture, equipment, and pharmaceuticals for all CRHP facilities; as well as renovations and biomedical equipment for any Phase B facilities that may require them. GOE FT-800 funds will be used to finance Project participant trainee travel and the Credit Guarantee Fund.

IV. DESCRIPTION OF PROJECT ACTIVITIES UNDER COMPONENT ONE

This section focuses on Component One in order to clarify and redefine Project activities to be undertaken under that component. It will first describe the activities undertaken to date and will then describe the plan of action for the remainder of the Project. For the most part, detailed activity descriptions are not provided for the other two components, as the scope of activities to be undertaken under the other two components has not been substantially modified from that detailed in the original Project Paper. The exception to this is with respect to the technical assistance to be provided under Component Three, which will be contracted for as part of the overall Project prime contract. This

section therefore also amplifies the description of this technical assistance in light of the evolution of the Project during implementation.

A. Current Implementation Status

1. Background

Since the Project Agreement was signed in September, 1988, a CRHP Directorate has been authorized by the MOH, and has been delegated authority to manage and implement the Project, and to let and manage host country contracts for technical assistance, facility renovation, commodity procurement and training. (An assessment of the CRHP Directorate is in process to determine whether its host country contracting procedures are up to standard and whether the CRHP Directorate should receive host country contracting certification.) The assistance over the past two years has prepared the CRHP Directorate for the full-scale implementation of renovation and revitalization. The CRHP Directorate has basic systems and staff in place to carry out its functions to guide and oversee implementation: an organizational structure has been established, job descriptions have been developed, operational and management policies and procedures have been created, a financial and accounting system has been established, and the CRHP staff's capacity and proficiency in the selection and assessment process for candidate facilities for cost recovery has been developed.

The planning action is now complete. The CRHP Directorate has developed conversion plans, or commissioning plans in the case of new facilities, business plans, marketing strategies, and policies and procedures for each of the facilities. It is now time to begin implementation.

The MOH initially saw Component One primarily as renovation rather than the economic and management system defined by AID. During the past three and a half years, both USAID and the short-term technical assistance through a buy-in to HFSP (an AID/W project) have spent considerable time doing work that could be characterized as a more in-depth design effort which accomplished not only the task of providing necessary background information and think pieces on the many complex issues involved in transforming public hospitals into cost recovery facilities, but also served to expand MOH understanding of the concept of cost recovery and what was necessary to accomplish it.

In July-August, 1991, there was an exchange of letters between USAID/Cairo and the MOH regarding Ministry commitment to an understanding of the CRHP. The letter sent from the Minister of Health detailed his commitment to cost recovery as a system which includes, not only equipment and renovation, but also organizational and policy changes. This letter was significant in that it established written MOH commitment to the full cost

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recovery concept and was intended to settle the question of a lack of shared understandings of the purpose and objectives of the Project.

2. Development of Policies, Procedures, Regulations, Guidelines and Standards (PPRGS)

When the Project was designed, an assumption was made that models for instituting cost recovery practices existed at the CCO and the HIO, and that these could be easily applied to the Project. The CRHP Directorate was expected to produce conversion plans for a group of health facilities that included:

- Assessments of baseline institutional, physical and financial conditions;
- Specifications of scope and quality of planned services and anticipated patient load;
- Detailed plans, cost estimates and schedules for cost effective rehabilitation and conversion of facilities to support improved services;
- Specifications, cost estimates and rationale for new equipment;
- Plans for staff training and development;
- Plans for design and installation of management systems, including information systems, maintenance and inventory controls, and financial management systems;
- Integrated system plan and schedule for completing conversion of the facility;
- Specifications of fee structure and projection of revenue and expenses, demonstrating financial feasibility of conversion to cost recovery.

The first of these plans was to be completed by Month 8 of year two (around April, 1990). However, when implementation began, Project personnel found that no systems for these two institutions existed on paper, and that the Project would need to develop these itself. Although the CCO system was not fully documented in written policies, rules, operating procedures, or guidelines, there was still considerable information available about CCO management and organization. It therefore continued to be used as a model, to the extent possible, while progressively introducing appropriate advancements to the existing MOH service delivery and management systems. To facilitate the interchange of information and capabilities, the CCO system has agreed to serve as a training site and provide CCO personnel, as appropriate, to assist in the

conversion of MOH facilities and the training of MOH staff in cost recovery facilities.

The CRHP Directorate (working with the HFSP) has now developed the following instruments:

- The Criteria for Selection of Facilities developed by the HFSP stress the ability of catchment area to pay; general perceived commitment of hospital staff to the idea of cost recovery; location of hospitals in governorates with commitment to cost recovery; and, low estimates costs and time needed to make technical and management changes needed at the facility.

- A Facility Assessment Instrument to use in undertaking a rapid assessment of the equipment, technical assistance and physical needs of hospitals being considered for the Project.

- Facility Standards

- A Socio-Economic Study which consists of inpatient surveys, household surveys, a costing survey, and alternative provider surveys to describe catchment areas for the Embaba Hospital. The CRHP Directorate has conducted the inpatient survey and has completed preliminary analysis of these data. The Household and Alternative Provider survey has recently started and data should be available for analysis by the end of April. The Costing Survey was initiated in early October, 1991.

- Business Plans for all five Phase A facilities which identify their technical strengths, assess other hospitals in their catchment areas and discuss competitiveness under cost recovery plans, and suggest user fees that could be charged in the pilot phase.

- A time-phased Conversion Plan of Embaba Hospital, Shark El Medina Hospital, 15th May Hospital, and Kafr El Dawar Polyclinic; a time-phased commissioning plan for El Kantara Gharb Hospital. The model Conversion Plan, which was applied to the Phase A facilities, contains generic guidelines and provides details in the form of a Business Plan, an Architectural and Engineering Plan Equipment Plan, Training Plan, and a Technical Assistance Plan

- Hospital Financial Systems including formats and accounting records which comply to the GOE system, presented in a Uniform Financial Accounting Practices Handbook; this is now being implemented in Embaba Hospital.

- HFSP papers on Economic Analysis, Standards and Assessment, and Quality Assurance, and Business Planning. Each paper discusses CRHP activities, products, and lessons learned.

- Project Operations and Management Handbook for the CRHP Directorate

- Management Training Modules on the following subjects: Principles of Management, Decision Making, Personnel Management, Hospital Organization, Basic Accounting and Budgeting, Business Planning, Conducting Management Meetings, Leadership and Team Building, and Productivity and Performance.

The CRHP Directorate initially tested this package of instruments at Embaba Hospital. The Facility assessment has now been carried out at all facilities. The screening and quality assessment instruments allowed Directorate personnel to evaluate a facility's needed improvements to meet the CRHP quality standards. The CRHP Directorate then prepared a business plan that integrated cost, pricing, and marketing information on each facility. The business plan provides information that will permit facility managers to manage the facility and ensure financial success under cost recovery. Systems are in place for planning facility conversions and needs assessment in architecture and engineering, equipment, technical assistance, and training. These are being utilized by facility staff with guidance from the CRHP Directorate personnel. Model accounting systems, administrative procedures, and business plans have been developed to assist in the implementation of management systems as cost recovery begins.

3. CRHP Directorate Institutional Strengthening

The CRHP Directorate has started work on designing administrative and management systems, as well as on cost recovery hospital information systems. Training needs assessments of Embaba, El Kantara Gharb and 15th of May hospitals have been undertaken, and a training plan was submitted to USAID for implementation in FY 92. The Project intends to work with the training facility at Nasr Institute. Modules for Management training are being developed, while those for clinical training are complete and clinical training for nurses from Embaba, El Kantara Gharb and 15th of May hospitals is now underway at CCO.

The CRHP Directorate, in collaboration with a central project called HEALTHCOM, has established a marketing unit and hired a consultant to develop marketing plans for each of the cost recovery facilities. The marketing plans will include information on pricing of services, strategies for informing the public about available services, and the development of prepaid, managed health care packages suitable for marketing to large firms and businesses.

4. Health Facilities

Relative to the original Project Paper, there are two basic concerns about the renovation component: there might not be enough money to do all 50 hospitals; how could the amounts for renovation be better limited or defined?

The Project Paper called for renovation of up to 50 hospitals or other health facilities. After Project implementation began, an initial estimate for renovation of Embaba Hospital for $2 million, led to question on whether the $21 million programmed for this activity would be sufficient to renovate all these facilities. Within the first two years, it also became clear that assistance and commodities for other parts of the Project were undercosted in the original design.

The HFSP team provided several short-term consultants to assist the CRHP Directorate to refine the parameters to be used in determining the amount of renovation to be undertaken. While the criteria is still necessarily somewhat subjective, HFSP members recommended that hospitals chosen for participation in the Project should have relatively modest needs for renovation and equipment; that it be possible for renovation to be done in phases; that the overall time needed would not be excessive; and that physical renovation be limited to changes needed to assure sanitation, and physical safety and stop physical deterioration. In other words, the improvements made to the facilities will focus on the minimum amount of renovation necessary to transform the facilities into functioning cost recovery facilities.

Although the Project Paper and original plans called for a maximum of 50 health facilities to be renovated, there appears to be general agreement between the CRHP Directorate and USAID that, at this point, a much smaller number should be selected to be used as models and to generate some lessons.

Five facilities have been selected for the initial Phase A of the Project: the CRHP Directorate has selected a hospital in four of the governorates that have now finalized plans for cost recovery (Embaba Hospital in Giza, 15th of May in Helwan, Shark El-Madina in Alexandria, and El Kantara Gharb in Ismailia); plus one polyclinic (Kafr EL-Dawwar in Beheira Governorate), as candidates for initial renovation. Equipment lists have been prepared for these five facilities. These have been reviewed by USAID and the HFSP and finalized by CCC, the interim technical assistance contractor on board since early FY93. The CRHP Directorate engineer has drawn up plans for all facilities and bids and have been solicited from local A&E firms to finalize plans and prepare cost estimates for Embaba Hospital, 15th of May Hospital, and Kafr El-Dawwar polyclinic. An A&E firm was selected in July, 1991, for Embaba Hospital, but this component has been delayed because of a

grievance filed by another firm which did not receive the award (as discussed above). A&E firms have been selected for 15th of May Hospital in Helwan and Kafr El Dawar Polyclinic, and contracts have been submitted to AID for approval.

B. Detailed Description of Modified Activities to Be Undertaken Under Component One

The TA contractors (both interim and prime) will develop policies, procedures, systems, and programs that will provide the CRHP Directorate economic methods to manage the CRHP Facilities. By LOP, the cost recovery facilities will have the management skills and necessary information for decision making. The following activities will be undertaken by the CRHP Directorate and the technical assistance contractors during the time remaining under the Project.

1. Appropriate Policies, Procedures, Rules, Regulations, Guidelines and Standards (PPRGS)

- Revision of Existing PPRGSs - General administrative procedures for managing the Project and functional procedures for operating each facility will continue to be developed to assist the CRHP Directorate. These PPRGS are being outlined in Handbooks which will be kept current by the TA contractors, under the supervision of the CRHP Directorate, to guide planning, administration, implementation, monitoring and evaluation of the Project. They will be used to ensure achievement of acceptable cost recovery standards, both at the CRHP Directorate and at the selected participating facilities. For those manuals that have been completed to date, the technical assistance contractors will utilize the initial versions in order to develop further editions with modifications incorporating the guidance and approval of USAID and the CRHP Directorate.

  Development of Additional PPRGSs - Additional manuals to be completed include:

  A facility personnel management and procedures manual will be developed. The system will include an organization structure, staffing levels/patterns, job descriptions, and a performance review system. The performance review system will incorporate the policies and procedures developed for the Directorate.

  A health care facility operations management policy and procedures manual will be developed for health care facility operations management. This will include physical plant maintenance, logistics, procurement and

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materials inventory management, hotelry services, and infection control. The development of draft sample contracts for food service, housekeeping, laundry, and physical plant maintenance will facilitate the possible contracting of these services with the private sector.

Bio-medical equipment maintenance and repair policies and procedures will be developed for use in the facilities.

2. Cost Recovery Facilities

- Plan Development - For each of the five Phase A cost recovery facilities, plans and detailed work scopes will be developed in accordance with procedures outlined in the PPRGS by the CRHP Directorate staff in collaboration with the facility staff, and with support from the technical assistance contractors. The TA contractors will complete and/or review and update the Conversion Plan for each Phase A facility developed by the CRHP Directorate and HFSP with the CRHP Directorate and facility management and update as needed.

  A similar process will be undertaken on a phased in basis for the five facilities identified for Phase B, pending the decision to proceed with Phase B cost recovery conversions.

- Facility Training, Staff Development and Improvement - A training needs assessment was performed by the CRHP Directorate and HFSP for the purpose of determining the training to be provided over the LOP. This assessment has been reviewed and updated to finalize the details of training for the Phase A facilities. It will later be updated to also include the training needs of the Phase B facilities.

  On-the-job training will be provided in the areas of health care facility management, administration, and operation. The training will re-enforce the policies and procedures which are implemented.

  Specialized training will be provided in the form of observational tours abroad and/or internship programs. Such training will directly enhance the participants' skills in the areas of hospital and nursing management administration. This training is dependent on the outcome of the needs assessment, and its timing would be scheduled in consideration of other tasks and availability of personnel.

The interim technical assistance contractor (and later the Prime Contractor) will be responsible, under the direction of the CRHP Directorate, for providing appropriate conferences, workshops, classroom, observational, and on-the-job training of facility staff to achieve cost recovery operational systems in the selected facilities. In line with the needs of each individual facility, the contractor will provide a concentrated, coordinated and timely training program which , at a minimum, will include: administrative and financial management; patient satisfaction/hotelry; maintenance and logistics/ and improved cost-effective diagnostic and therapeutics for nursing and medical cars. Maximum utilization of the CCO facilities should be made in the provision of training and observational travel and in-country technical assistance expertise.

Quality Assurance and Marketing - Technical assistant consultants will assist the facilities in developing and supporting quality services through specific activities that focus on developing the capacity of the facility staff to improve the overall quality of services, individual patient satisfaction, facility utilization, and the marketing of facility services to the general population, industry, government, private sector, and health professionals. These will include recommendations for improvements in the areas of: client/patient reception, registration, and check-out; provision of quality hotel services, (e.g. dietetic and food services; functional rooms, treatment areas and visitor waiting areas; housekeeping services; bedside/room service for all practical personal and diagnostic/therapeutic services; bedside/room communication services and transport services); provision of quality care services (e.g., enhanced patient care services and patient care records; patient surveys and comment systems; staff development; staffing patterns and clinical privileges; problem identification and correction; patient care monitoring, appropriate financial charges, and utilization review systems; patient privacy and rights; patient discharge plans and family notification.

The technical assistance consultants will advise the facilities on means to maximize utilization of hospital services and thereby increase revenues through: examination of catchment area population demand; insurance organizations, prepaid systems or other third party payers; local industry, including private companies and public sector parastatals; local commercial activities and shop owners; public sector employees; clients of local health professionals and others.

Systems Implementation - Implementation Plans will be developed for each of the PPRGSs. Training programs will be implemented to introduce operational management, administrative and personnel systems for each facility by adapting and applying the general procedures systems outlined in the PPRGS Handbooks, the facility plans, and CCO.

Management Information Systems - Drawing from the experience of CCO, design and implement an appropriate MIS capability for each cost recovery facility to facilitate the management of appropriate cost recovery activities. Application areas include financial, management, administration, and patient care. Develop a plan identifying the application areas which are the best candidates for computer automation. Implementation of basic MIS training programs to develop skills in areas identified by each individual facility. The implementation strategy will be to install the applications in one pilot facility and test the performance (both functional and technical) before expanding the installation in other pilot facilities.

3. CRHP Directorate Institutional Strengthening

- Planning Capability - The TA contractors will develop an analytic and planning capability within the CRHP Directorate to identify, study, analyze and evaluate appropriate goals, strategies and activities for introducing cost recovery systems and technologies into the GOE health system. Planning for Phase A and Phase B facilities will be undertaken with assistance from the TA contractors. Planning for Phase C is outside of the scope of this Project and will be undertaken solo by the CRHP Directorate. By LOP, the CRHP Directorate should be capable of undertaking the following types of planning activities for each facility: assessment of baseline institutional, physical and financial conditions to include client utilization of services and financial/economic indicators; assessment of baseline community, industry and agricultural economic capacity to support cost recovery; specification of scop and quality of planned services and specific activities to improve patient satisfaction, facility utilization, and marketing of hospital services; detailed plans, cost estimates and schedules of cost effective rehabilitation and conversion of facilities to support improved services; detailed plans for staff training development; detailed plans for design and installation of management systems, including management information systems, maintenance and inventory controls and financial management systems; detailed computerization and integrated systems plans, schedules

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and timelines for completing conversion of the facility; specification of the fee structures, projection of revenues and expenses, to include GOE budgetary component for non-paying patients, in order to demonstrate financial feasibility of conversion models for cost recovery; documentation of written procedures for facility conversion, planning and publication of those procedures in Project PPRGS handbooks.

CRHP Directorate Management Training and Staff Development - The CRHP Directorate training plan will identify specific training to be provided to the CRHP Directorate personnel that will assist them in the implementation process. Training will be targeted to management personnel in support of project objectives in the areas of hospital operations, financial management, and nursing administration.

The Long Term TA Prime Contractor will be responsible for the training of CRHP Directorate and appropriate MOH management staff at central and regional levels in order to enable them to manage cost recovery activities, to implement cost recovery programs within the MOH and to carry on the conversion and training of all Phase C cost recovery facilities after the completion of the technical assistance resources of the Project funded technical assistance.

The CRHP Directorate will be assisted in developing a human resource planning/appraisal system to assist the Directorate in planning manpower schedules and measuring personnel performance. The system will provide personal work plans (tied to the objectives of the Directorate), measure actual performance against the work plan, and plan for the career growth of each staff member. To promote a sense of unity, a team building workshop for Directorate personnel will be conducted.

Project monitoring and Management Information Systems (M&MIS) - A project monitoring system for the CRHP Directorate will be developed to facilitate the tracking and reporting of Project activities to the MOH and USAID. Project monitoring criteria will be determine and develop, resulting in a Project reporting system and an appropriate modern computerized MIS for the CRHP Directorate. This should include: report for program monitoring and management; implementation plans; financial plans, budgets; training plans, training participants, purchase/commodity plans; Project status. The applications will be PC-based and utilize standard software packages (i.e., spreadsheets, database management, graphics, etc.). It is expected that

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additional software will be procured to complement those already installed at the CRHP Directorate.

Public Relations and Marketing Capability - A public relation and marketing function in the CRHP Directorate will be developed to market the quality, accessibility and availability of services.

The CRHP Directorate will undertake the production of a newsletter for the CRHP Directorate which will outline Project progress, new cost recovery technologies, new private sector management principles, key personnel changes and other Project notices. The audience of this low cost quarterly newsletter in English and Arabic will be the staffs of the pilot facilities, Directorate and other MOH personnel, HIO, CCO, governorate, and community leaders.

To facilitate the development and dissemination of information, appropriate seminars will be developed and conducted by the CRHP Directorate. The Project will conduct at least two seminars/workshops per year to review the development and implementation of Project activities.

The Project will also examine the feasibility of producing low cost but appropriate and electronic media-based information materials to assist in marketing the cost recovery services of the public health system.

Analysis Capability - Provide TA in the AnalYsis of the Egyptian Health Sector review CCC documentation and continue to assist CRHP pilot hospitals in collecting various data, analyzing macroeconomic data, performing rapid assessment, and providing research and economic analysis activities.

4. Social Financing

- Baseline Data Collection - The following social insurance baseline data from cost recovery pilot facilities will be collected: patients covered fully or partly by employer contracts, HIO insurance or other social insurance, and information on socio-economic status (family size, educational attainment, employment history, etc.)

- Conference on Social Financing - A conference on social financing of health care will be organized and coordinated as a forum for CRHP Directorate personnel and other key GOE officials to present findings and the experiences of other countries in social financing of

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health care, and to discuss options for social financing in Egypt.

- Review of Social Financing and Insurance Plans in Egypt - An understanding of the current state of social financing of health care in Egypt will be ascertained. A review of social financing mechanisms and obtaining material on health insurance plans offered and operating in Egypt will be undertaken. Objectives will be to determine organization structure for social insurance, designing products to be offered and estimating price of products, developing promotional material for organizations, insurance groups, and facilities, develop training material for CRHP Directorate and facility personnel, and develop monitoring system and success criteria.

- Prototype Insurance Plan - A prototype prepaid insurance plan for the CRHP pilot facilities will be designed by the interim technical assistance contractor for use in negotiating packages with employers in the catchment area. The Prime Contractor will be charged with the design and implementation of a social insurance mechanism appropriate for Egypt that will target resources to the poor and provide an alternative to out-of-pocket payments for middle and working class patients.

- Contracts with HIO - The CRHP Directorate will assist the pilot facilities to negotiate contracts with HIO to provide services to beneficiaries, particularly in areas served by CRHP facilities where HIO has no facilities.

5. Health Planning and Policy Options

- National Health Accounts - The Project will enhance the ability of the MOH Directorate of Planning to develop recent estimates for national health accounts and parallel estimates at the governorate level. This will be undertaken through gathering and analyzing existing data, and will result in a study that provides an informational baseline for future evaluation efforts.

- Budget Tracking System - The Project will support the on-going analyses of trends in the composition and role of public health care finance through the development of a computer-based budget tracking system. In addition to the provision of essential equipment, Directorate of Planning personnel will be trained to operate the system, gather and input new data, analyze data, and present the results of their findings. This will result in the permanent establishment of a database system.

- National Household Health and Provider Surveys - Little data is available in Egypt today that reflects changing patterns in morbidity and mortality in different sub-groups of the population,the use by different groups of public and private health care services, and the financial impact of changing fees and other health care related costs on families. The Project will support a national survey in this area, by first developing protocols, gathering data, and then developing a data base. Technical assistance, in collaboration with Egyptian researchers, carry out the analysis.

- Mapping of the Decision Making Process - Mapping out the decision making process in connection with one or more recent, important policy issues will serve to identify other institutional counterparts who may play a significant role, or serve as collaborators, or be in a position to use data developed under the Project.

- Cost-Effectiveness Analysis for Priority Setting -The Project will use the technique of analyzing actual costs and outcomes of preventive and curative programs in order to compare the cost effectiveness of various interventions and to thereby assist in developing health system priorities. This training activity will be applied at the sub-national, i.e. service, level of the health system.

C. Amplified Description of Technical Assistance to be Provided Under Component Three

- Private Sector Administrative and Management Guidelines - The Project will develop general guidelines for the improvement of the management, administration and quality care systems for private practices, group practices, and prepaid health care systems within Egypt. These Principles should be revised on a regular basis to maintain state-of-the-art administrative, management and quality care techniques which are appropriate to Egypt. Key areas for initial concentration will be financial management, including insurance billing.

- Workshops and Seminars - Appropriate workshops and seminars (e.g. in financial management, MIS for private practices, etc.), and conferences (on topics such as HMOs, private sector cost containment, prepaid practices, advantages of group practice, etc.) will be implemented to upgrade private sector management, administrative and quality care skills to operate successful private sector health practices. The private sector, group practices, and prepaid system professionals will be identified by

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the contractor with assistance from the CGC, the Medical Syndicate, and other organizations.

- Models - Development of one Health Maintenance Organization (HMO) model will be supported. Technical assistance and training, as well as MIS support, will be provided to the Suez Canal Medical School to assist them in organizing their Primary health Care Units, Referral Hospital, and Group Practice into a cohesive HMO serving the population of Ismailia Governorate.

  The Project will assist the Medical Syndicate to expand their existing not-for-profit health insurance plan to other syndicates in Egypt. An assessment of this plan carried out in early 1993 documents the high quality of the plan and lays out several feasible options for expansion. The Project will provide technical assistance and training, as well as MIS support, to assist in expansion of health insurance in several other professional syndicates.

  These two activities will serve as models of innovative financing and delivery schemes for the private profit and nonprofit sector.

V. SUMMARY ILLUSTRATIVE FINANCIAL PLAN

The financial plan presented in the body of the Project Paper Supplement represents the funding required for the entire Project, as revised. The detailed assumptions supporting the planned funding for the revised Component One can be found in the Cost Analysis, Annex C. The funding levels for Component Two are based on either actual contracted amounts or projected amounts developed for inclusion in procurement solicitation documents.

A. USAID Contribution

The total A.I.D. contribution to the Project is estimated to be $78.5 million. This will be used to finance: technical assistance and training for both Phase A and Phase B facilities, commodities (including biomedical equipment) and renovations for Phase A facilities, facility start up costs, and local costs for the MOH under Component One; technical assistance, commodities, renovations, training, and local costs for both HIO and CCO under Component Two; and technical assistance for promotion of the private sector medical market under Component Three; as well as audit and evaluation.

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B. Host Country Contribution

The total GOE contribution of the Project is estimated to be $35.2 million (£E equivalent), i.e., £E126.1 million including £E69.2 million from the USAID FT-800 Account. Planned GOE Project inputs include: staff salaries, premium pay, office space, utilities, furniture, research, and operating expenses for the CRHP Directorate; salaries, operating expenses, furniture, equipment, and pharmaceuticals for all CRHP facilities. In addition, the GOE is expected to finance any renovations and biomedical equipment for the Phase B facilities.

The GOE contribution will be both cash and in-kind, and represents approximately 31.0% of the total Project cost. Table III, below, shows the expected contribution by GOE fiscal year. The method of verifying the GOE in-kind contribution will be by observation. The USAID Project Officer will be working closely with staff of the CRHP Directorate in order to establish a system for monitoring, verifying, and reporting on the GOE in-kind counterpart contribution. The GOE cash contribution will be monitored through review of GOE budgetary documentation, when applicable.

C. Project Costs

The estimated Project costs by fiscal year over the life of the Project are shown in Table I. The estimated allocation of Project costs by Foreign Exchange and Local Currency is shown in Table II. Additional detail on the make up of the costs to be incurred under Component One over each year of the Project is presented in the Cost Analysis, Annex C.

D. Methods of Implementation and Financing

Table IV, below, illustrates the methods of implementation and financing of Project elements. The methods of implementation and financing are all in accordance with the Agency's payment and verification guidelines. The implementation methods proposed for this Project are PIO/Ts, direct contracts, PIO/Cs, and Host Country Contracts. Each is standard, and has been used successfully in the Egyptian context under the Project.

TABLE I
Cost Estimates by Fiscal Year
($000)

	THRU FY92	FY93	FY94	FY95	FY96	FY97	TOTAL
COMPONENT ONE							
Technical Assistance	1,156	4,087	4,564	3,936	3,502	3,802	21,047
Commodities	117	3,800	3,247	0	0	0	7,164
Renovations	20	543	2,447	978	0	0	3,988
Training	20	307	374	472	409	427	2,008
Local Facility Start Up	0	134	186	69	600	400	1,389
Local Operating Costs	317	191	137	155	157	159	1,117
COMPONENT SUBTOTAL	1,630	9,062	10,956	5,610	4,668	4,788	36,713
COMPONENT TWO - HIO							
Interim TA Contract *	1,671	800	400	0	0	0	2,871
MIS TA Contract *	0	3,151	7,377	5,958	3,343	3,255	23,084
Local Costs	100	135	142	149	156	164	846
COMPONENT TWO - HIO SUBTOTAL	1,771	4,086	7,919	6,107	3,499	3,419	26,801
COMPONENT TWO - CCO							
Interim TA Contract	572	577	500	425	0	0	2,074
Prime TA (Marketing)	0	0	16	17	18	19	71
MIS TA Contract *	0	0	750	2,000	1,500	750	5,000
Local Costs	216	135	142	149	156	164	962
COMPONENT TWO - CCO SUBTOTAL	788	712	1,408	2,591	1,674	933	8,107
COMPONENT THREE							
Interim TA & Grants	102	114	300	300	200	100	1,116
Prime TA	0	0	792	841	754	223	2,609
Training/Workshops	0	0	203	226	251	279	958
Local Costs	28	0	100	100	100	100	428
COMPONENT THREE SUBTOTAL	130	114	1,394	1,467	1,304	701	5,111
AUDIT/EVALUATION	23	63	66	269	73	327	821
CONTINGENCY	0	182	281	208	145	132	947
A.I.D. CONTRIBUTION	4,342	14,218	22,025	16,251	11,364	10,299	78,500
USAID FT-800	10,000	0	10,022	22	21	21	20,087
OTHER GOE CONTRIBUTION	1,819	3,980	3,056	2,334	2,046	1,919	15,155
PROJECT TOTAL	16,161	18,198	35,103	18,607	13,432	12,240	113,742

* These technical assistance contracts also include training and the purchase of commodities.

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TABLE II
Cost Estimate and Financial Plan
($000)

	FX	LC	TOTAL
COMPONENT ONE	34,113	2,600	36,713
COMPONENT TWO	33,100	1,808	34,908
COMPONENT THREE	4,683	428	5,111
AUDIT/EVALUATION	450	371	821
CONTINGENCY	884	64	947
TOTAL	73,229	5,271	78,500

Table III
GOE Contribution Summary Table
(£E 000)

	THRU FY91/92	FY92/93	FY93/94	FY94/95	FY95/96	FY96/97	First Q FY97/98	TOTAL
GOE CONTRIBUTION SUMMARY (£E 000)								
	THRU FY91/92	FY92/93	FY93/94	FY94/95	FY95/96	FY96/97	FY97/98	TOTAL
In-Kind Contribution	225	5,827	6,789	6,823	6,884	6,951	1,688	35,187
Cash Contribution	2,300	8,300	4,924	2,459	1,640	1,629	444	21,697
GOE CONTRIBUTION (£E000)	2,525	14,127	11,714	9,282	8,524	8,580	2,132	56,884
GOE CONTRIBUTION ($000 Eq.)	765	4,217	3,268	2,420	2,077	1,954	454	15,155
USAID FT-800 Account (£E000)	33,000	0	35,925	84	88	93	0	69,190
USAID FT-800 Account ($000 Eq.)	10,000	0	10,022	22	21	21	0	20,087
TOTAL GOE ($000 Eq.)	10,765	4,217	13,290	2,442	2,099	1,975	454	35,242

TABLE IV
Methods of Implementation and Financing
($000)

Element	Method of Implementation	Method of Financing	Amount
COMPONENT ONE			
Technical Assistance	Direct Contract	Direct Payment	21,047
Commodities	HC Contract	Bank L/COM	7,164
Renovations	HC Contract	Direct Payment	3,988
Participant Training	Direct Contract	Direct Payment	914
Local Training	PIL	Reimbursement	1,094
Local Start Up Costs	PIL	Reimbursement	1,389
Local Operating Costs	PIL	Reimbursement	1,117
COMPONENT TWO			
Technical Assistance	Direct Contract	Direct Payment	31,026
Technical Assistance	HC Contract	Direct Payment	2,074
Local Operating Costs	PIL	Reimbursement	1,808
COMPONENT THREE			
Technical Assistance	Direct Contract	Direct Payment	2,725
Training	Direct Contract	Direct Payment	958
TA & Training	Grant	Advance/Reimb	1,000
Local Operating Costs	PIL	Reimbursement	428
AUDIT/EVALUATION	Direct Contract	Direct Payment	821
CONTINGENCY			947
			78,500

E. Audit Concerns

During the life of this Project, non-federal/recipient audits will be performed to determine whether the recipients have properly accounted for and used A.I.D. funds for the purposes intended in accordance with applicable laws and regulations. USAID will ensure that all commitments over $25,000 under this Project are in the Mission's audit universe. The Mission will schedule audits for those commitments over $25,000 and ensure funds are available for audits (see budget line item in Table II) in accordance with AID/W guidance dated 3/31/92 on Audit Management and Resolution Program. Not all of the planned commitments over $25,000 under this Project will require non-federal/recipient audits because of the nature of the activity (i.e., PSCs, NFAs).

The Regional Inspector General for Audit will perform quality and compliance reviews of non-federal/recipient audits under this Project and provide or arrange for additional audit coverage requested by USAID, if deemed necessary.

VI. IMPLEMENTATION PLAN

The MOH is the lead GOE implementing agency for Component One of this Project. The HIO and the CCO are the lead agencies for the implementation of Component Two. The Ministry of International Cooperation (MIC) is the lead GOE implementing agency for Component Three, although actual implementation is being undertaken by CGC. In line with the focus of the rest of this Project Paper Supplement, this Section will focus on Component One, with references to the other two components where applicable.

A. Project Management

The Cost Recovery for Health CRHP Directorate was established as a semi-autonomous unit within the MOH to assist in the implementation and coordination of Project activities. The key organizational elements are the Project Steering Committee and the CRHP Directorate. These are outlined below, with more detail provided in the Administrative Analysis, Annex F.

1. Project Steering Committee

The Steering Committee is the Project's main policy-making body with responsibility for reviewing and revising the policies, procedures, and guidelines to ensure that the activities address the Project's goal, strategies and purposes. The Steering Committee was established by Ministerial Decree and is chaired by the Minister of Health.

2. CRHP Directorate

The CRHP Directorate is staffed with MOH personnel, local employed personnel, local contract professionals, and USAID/Cairo personal services contractors. From June 1990 through October 1992 the CRHP Directorate was assisted by the Health Financing and Sustainability Project (HFSP). During this period procedures and systems for planning and overseeing renovation and revitalization activities were developed. Directorate and HFSP developed Directorate personnel job descriptions, reporting and control systems for management of individual facility conversions, and management information systems requirements.

In support of the Component One activities described in Section IV.B, above, both the interim short term and the prime technical assistance contractors will develop detailed Action Plans on an annual basis. The action plans will detail the work to be performed and will correspond with the CRHP Directorate's implementation plan. The CRHP Directorate, with assistance from the interim short term technical assistance contractor, will use a computer application to track actual performance against the

Implementation Plan which will serve as the baseline for project monitoring.

In addition to annual implementation plans, both the short term technical assistance contractor and the prime contractor will provide management assistance to the CRHP Directorate when it comes to the development of procurement plans, TA plans, training plans, financial plans; compliance with GOE and USAID regulations; and preparation of documentation pertaining to contracting actions.

3. USAID Project Management and Monitoring

The USAID Office of Health is responsible for coordinating and monitoring the Project activities, including the management of the Direct AID contracts. Assuming requested staffing reclassifications and allocations are implemented, the Office will be staffed with a direct hire Office Director, three direct hire Project Officers, three FSN Project Management Specialists, one US PSC, one FSN secretary, and one AID Development Clerk. The PSC's role will be as Project Implementation Coordinator, and is expected to be in place in the third quarter of FY93.

The USAID Project Officer maintains contact with the CRHP Directorate's staff, has access to all Project-associated documentation, and serves as an *ex officio* member of the Steering Committee. The Project Officer makes on-site inspections and reviews Project progress.

The Cost Recovery Programs for Health Project Committee will continue to also monitor the implementation of the Project. In addition to members of HRDC/H staff, the Committee is composed of representatives from the Program Office, the Office of Project Support, the Legal Office, the Financial Management Office, the Contracts Office, the Commodities Management Office, and the Economic Affairs Staff.

The Office Director of the USAID Office of Health and the Associate Director of the Human Resources Development and Cooperation Directorate also represent USAID in key policy dialogue issues. Further involvement of USAID senior officers will be required on occasion to place health issues more prominently on the "development agenda."

An important function of the short term interim technical assistance contractor is to design and develop a Management Information System to track activities by the CRHP Directorate. (See Section VI.C.1.) The contractor will implement the systems in order to gather, analyze, and evaluate data regarding the activities and impact of the program, as well as ensure the timely submission and analysis of necessary reports (e.g., revenue reports; quarterly service performance statistics; vehicle and

commodity reports; participant training follow-up). Information generated by this system will be readily available to USAID.

B. Procurement Plan

1. Technical Assistance

The original Project Paper called for one long-term technical assistance team to manage all three Project components, with interim short-term technical assistance to assist the Project in implementation while the long term technical assistance team was recruited. The original Project Paper also calls for two contracts to provide management information systems assistance to the HIO and the CCO.

The original implementation plan envisioned that an interim technical assistance contractor would provide assistance until long-term technical assistance arrived in month twelve (about September 1990) of the second year of implementation. This has not been the case. To date, intermittent short-term technical assistance has been provided under a buy-in to the centrally funded Health Financing and Sustainability Project (HFSP), rather than the interim technical assistance anticipated by the original Project Paper. This assistance, provided by a consortium headed by Abt Associates, has made periodic visits to Cairo since July, 1990. During this time, they have assisted the Project to help set up the CRHP Directorate, initiated the development of standards and systems, developed skills within the CRHP Directorate staff, and assisted in selection of facilities for conversion to cost recovery.

On November 1, 1992, Cambridge Consulting Corporation (CCC) began a fifteen month technical assistance project to the CRHP Directorate and the five pilot facilities. This contract will provide on-site assistance to strengthen the CRHP Directorate and to assist in the initial implementation of the five pilot facilities. The CCC will provide management training, practical hospital operations training, commodities and equipment procurement, and develop financial management systems for the pilot facilities.

The arrival of the long-term technical assistance Prime Contractor team is critical to successful implementation of the Project, as it is expected to provide a wide range of complex and specialized expertise as well as the necessary coordination for all Project activities. The RFP for the long term TA is expected to be issued shortly after this Project Paper Supplement is approved. The Prime Contractor will be responsible for assisting the CRHP Directorate to plan, program, and provide: (1) appropriate technical assistance, training, and commodity purchase; (2) detailed A&E design and administration/supervison of the actual major renovation

of the five pilot hospitals by general construction contractors; (3) monitoring requirements; and (4) other services to assist in the implementation of the individual facility plans.

The Prime Contractor will be contracted during the first quarter of fiscal year 1994. As many of the prime contractor tasks are to be a continuation of the CCC technical assistance tasks, CCC will undertake the coordination of the efforts to bring on the prime contractor and will fully brief the new technical assistance team concerning Project activities and accomplishments.

For both HIO and CCO, interim short-term technical assistance has been provided in order to define MIS needS, undertake strategic planning exercises, both in terms of the organizational goals, as well as the managements uses of the MIS, its potential for added efficiency, costs containment, etc. For HIO, a contract has been recently negotiated for long term MIS technical assistance for procurement of computer equipment, training, and the installation of a new management information system to upgrade and substantially expand what it now has. The bidding process has not yet started for the CCO system, although a draft RFP has been prepared and is being refined. In addition to the technical assistance outline above, the long-term technical assistance Prime Contract will include limited support to Component Two organizations, particularly in the area of marketing and product promotion.

Since Component Three began, technical assistance has been provided to CGC by a local banking consultant. The contractor has prepared a manual for application forms, a guarantee policy, and follow-up forms to be used by the banks to follow-up on the use of the loans by the doctors receiving credit. It is not anticipated that additional technical assistance of this kind will be required in the future under Component Three. The long-term technical assistance Prime Contractor will include technical assistance to support other Component Three activities, i.e. management improvement for private sector health care practices and the development of new health care systems.

The table below outlines the anticipated Level of Effort to be provided under the Prime Contract, along with the expected categories of skills. In addition to the categories listed below, it is also anticipated that the contract will include short term Egyptian consultants in the same general skill areas identified for the long term Egyptian consultants.

Buy-ins to AID/W Research and Development/Office of Health (R&D/H) projects will be used primarily to obtain specialized technical assistance requirements which go beyond the scope of the prime contract. If a determination is made that the required expertise is not available through a buy-in, competitive selection will be used to enter into either a Cooperative Agreement or Contract, as

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appropriate. In addition to specific policy and research needs, these will include external consultants to provide both mid-term

Type of Technical Assistance Under Prime Contractor	Illustrative Person Months
COMPONENT ONE	
US Long Term TA (PM)	
Hospital Administration Advisor (COP)	45
Hospital Financial Management Advisor	45
Health Insurance Specialist	45
Training Advisor	45
Marketing Advisor	45
Nursing Advisor	45
US Short Term TA (PM)	
Health Economist	12
Hospital Maintenance Advisor	18
Inventory Control Advisor	12
Management Information System Advisor	18
US Home Office (PM)	
Project Manager	45
Program Assistant	23
Egyptian Long Term TA (PM)	
Planning Consultant	45
Hospital Management Consultant	45
Infection Control Consultant	45
Hospital Finance Consultant	45
Hospital Costing Consultant	45
Health Economist	45
System Analyst	45
Medical Records Consultant	45
Training Consultant	45
Maintenance Consultant	45
Hospital Engineering Standards Consultant / A&E Consultant for Renovation Program	45
COMPONENT TWO	
US Short Term TA (PM)	
Marketing Advisor	4
COMPONENT THREE	
US Long Term TA (PM)	
Business Development Advisor	24
Group & Prepaid Practice Mgmt Advisor	36
US Short Term TA (PM)	
Insurance Advisor	12
Marketing Advisor	12
Private Practice MIS Advisor	12

and final evaluations. At this point, the following have been identified:

- Quality Assurance Project, implemented by University Research Corporation/ Center for Human Services, will introduce a program that will complement other technical assistance activities and ensure improvements in the quality of care offered at the pilot facilities. The QA Project will be working with Quality Councils in each

pilot facility to assess quality of care problems and develop solutions. It is expected that by improving quality of services available to the public, clients will be more willing to pay for their care.

- Data for Decision Making Project, implemented by Harvard School of Public Health, will undertake a series of activities to strengthen the institutional capacity of the MOH Directorate of Planning through the creation of an Information Unit. The Information Unit will serve as the base for a series of data gathering and analysis activities which Harvard will undertake on behalf of the MOH. Those activities will enhance current MOH efforts to strengthen the health sector reform process currently underway via the CRHP by providing essential information to key policy makers for the allocation of scarce resources. With assistance from the Directorate of Planning, the Harvard Consortium will, over a three year period, create: data bases for national health accounts for the public and private sectors; design, equip and make operational through training, a budget tracking system for public sector expenditures; design and implement national household health care use and health care provider surveys and provide detailed analysis of findings; examine and analyze decision making processes in the health sector; and provide or arrange for training, both in-country and external, in analytic techniques such as cost-effectiveness analysis for priority setting and other areas critical to informed decision making.

- HealthComm, implemented by AED and Porter Novelli, is assisting the CRHP Directorate to train marketing staff of the pilot facilities as well as to upgrade its own marketing expertise. After initial training in marketing basics, technical assistance will be provided to the marketing staffs to develop communications strategies, conduct limited market research, and implement marketing plans.

A Project funded Personal Services Contractor (PSC) will be identified through competitive procedures to help USAID fulfill its responsibilities in terms of implementing and monitoring Project implementation. The PSC will be housed in HRDC/H and serve as a liaison between the Prime Contractor, the CRHP Directorate, and HRDC/H. A Project funded Foreign Service National (FSN PSC) with MIS experience and expertise will also be contracted to help USAID implement and monitor all aspects of computerization and MIS under the Project.

2. Training

The training strategy of the Project emphasizes in-country training, supported as required by opportunities for observational trips and/or international seminars/conferences. This recognizes the following: participant training is relatively costly and therefore can support only limited numbers of individuals; participant training is likely to be constrained by English language capability of trainees, despite pre-departure language training; and technical assistance under the Project will be of limited duration, thereby making it imperative that a sound training capability be institutionalized within the CRHP Directorate to address their long term needs.

HFSP has developed a methodology to assess the training needs of each staff section within the CRHP Directorate and the facilities to determine the type, quality and quantity of Project training to be programmed. CCC, and subsequently the Prime Contractor, will use this methodology to design and manage a training program for CRHP Directorate personnel which primarily utilized in-country and on-the-job training activities. Based upon the technical capabilities of the CRHP Directorate staff and the staff of each cost recovery facility, the contractor will adapt the standard training programs to the needs of the MOH/GOE personnel and facilities to achieve an acceptable level of operation and training for personnel of cost recovery facilities. By the PACD, the staff of the CRHP Directorate should be capable of implementing all Project activities and operating the in-country training program designed by the contractors for cost recovery facility conversion with minimal follow-on assistance from the contractor. A draft training assessment was completed in April 1993. When finalized, this will be used to develop a Training Plan for USAID approval, in line with Handbook 10 and USAID Mission Order 10-1.

<u>Local Training</u> - Local training will be provided under the Project through the mechanism of the technical assistance contract, which will include both long and short-term advisors to carry out the required training. The planned Level of Effort for these advisors is summarized in the preceding section. Updating of the training plans, appropriate selection methods, backstopping, and coordination will also be included in the scope of work under the Prime Contractor technical assistance contract. The local costs of implementing these workshops and training seminars (e.g., per diem, transportation, etc.) will be the responsibility of the CRHP Directorate and included in the Local Training Costs PIL. The system for monitoring local training is the responsibility of the Training and Human Resource Development Department of the Project Directorate. Technical assistance provided by the Prime Contractor will be used to strengthen the capability of the staff in this department.

Based on the preliminary results of the Training Needs Assessment recently conducted for Component One, training in management and financial management will continue to be given high priority.

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Recognizing the important role nurses play in the health care system, particularly for quality improvements, nurses training will be given a high priority. The content of the training will be primarily based on the new cost recovery systems (and their policies, procedures, guidelines, and standards) and will focus on practical applications. Adult learning principles and participatory training methods will be utilized for all training programs.

Participant Training - The Prime Contractor will be responsible for augmenting this in-country and on-the-job training with appropriate observational travel and overseas short-term training for selected CRHP Directorate and facility personnel in the US and other countries with relevant cost recovery systems. This training is expected to focus on management, nursing, quality assurance, marketing, financial management, and equipment/ building maintenance, as well as the training to be provided through the Data for Decision Making program. The Prime Contractor will be responsible for arranging and monitoring the relevant participant training program and contracting with appropriate institutions. Consideration should be given to use Historically Black Colleges and Universities (HBCUs) where such training may be relevant and feasible.

It is expected that the contract will fund at least 40 person months of short-term training and at least 40 person months of intense observational travel and technical work experiences.

3. Commodities

The procurement of commodities, consisting primarily of biomedical equipment, has been included under the relevant technical assistance contracts. Each contractor will be responsible for the timely off-shore procurement of the relevant commodities using their own staff or through a USAID approved sub-contracted PSA. The contractor will also assist the facilities to establish systems to monitor the installation, use, and disposition of the equipment.

In preparation for the launching of cost recovery at the various Phase A facilities, CCC will procure and provide assistance in installing biomedical equipment. Equipment and estimated cost lists were developed by the CRHP Directorate and HFSP for the five Phase A pilot facilities. These equipment specifications were then carefully reviewed by CCC, and are summarized in the technical analysis to this document (Annex B). Appropriate procurement-related actions to be undertaken by the CCC will include advertising, issuing invitations for bids, evaluating bids, preparing contracts, shipping, clearing equipment from customs, accepting shipments, and overseeing the delivery and installation. All work performed will conform with A.I.D. procurement regulations (i.e., Handbook 14) and the FAR. Equipment vendors will be paid

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through a bank letter of commitment issued by USAID/Cairo Controller's Office.

For the purchase of equipment under Local Start Up Costs of Component One, the Prime Contractor will be responsible for providing specifications and draft IFBs, with procurement undertaken by the CRHP Directorate.

4. Construction/Renovation

Assuming a positive finding results from the assessment of the CRHP Directorate's host country contracting capability, the CRHP Directorate will be responsible for entering into local contracts to implement construction activities and other support activities for cost recovery facilities. The interim technical assistance contractor will assist the CRHP Directorate in the preparation of work scopes, budgets, and workplans in order to facilitate contract preparation, bidding, and evaluation. The interim technical assistance contractor (and later the Prime Contractor) will advise the CRHP Directorate in contract management for renovations and provide the advisory services of a full-time, senior level Egyptian engineer with USAID construction administration and management experience for the full duration of the renovation program.

5. Local Costs

Local Costs are expected to be comprised of operating costs (e.g., non-GOE project personnel, consultants, office renovations, office supplies, office equipment, furniture, maintenance, CRHP Directorate training, travel, per diem, and telecommunications); facility training costs (e.g., furniture/equipment for facility training centers, honoraria, travel, per diem, training materials, conference space rental); and facility start up costs (e.g., medical supplies).

6. Buy America Considerations

As the Project funds were originally authorized in 1988, they are not subject to the current Buy America requirements which came into effect in December of 1990. However, the procurements, as outlined above, are in compliance with the requirements.

All of the technical assistance contracts, which include commodities and training, will be undertaken with U.S. firms. Although it is anticipated that a portion of the funds financing the US TA contracts will be spent locally by the contractors on residential rent, utilities, temporary lodging allowance, education allowance, local per diem, and salaries of local staff, as these are composed of commodities and services that are available only locally, local procurement of these items is eligible in accordance with A.I.D. Handbook 1B, Chapter 18A1c(6).

Local professional services contracts for CRHP Directorate personnel and consultants are not expected to exceed $250,000, therefore local procurement is eligible in accordance with HB 1B Chapter 18A1c(4). Local construction services contracts are not expected to exceed $5,000,000, therefore local procurement is eligible in accordance with HB 1B Chapter 18A1c(5). Certain Local Costs, funded under PILs, consist of commodities and services that are available only locally (e.g., office renovations, maintenance, CRHP Directorate training, telecommunications, honoraria, travel, per diem, training materials, and conference space rental), therefore local procurement of these items is eligible in accordance with HB 1B Chapter 18A1c(6). Other Local Operating Costs (e.g., office supplies, office equipment, furniture) Local Training Costs e.g., furniture/equipment for facility training centers) and Facility Start-up Costs (e.g., medical supplies) are available from the U.S., however since no single transaction is expected to exceed $5,000, local procurement of these items is eligible in accordance with HB 1B Chapter 18A1c(3).

Audit services will be obtained locally, but as these will be professional services contracts estimated not to exceed $250,000, they are exceptions in line with HB 1B Chapter 18A1c(4).

C. Project Evaluation

Project monitoring will provide basic indicators of Project implementation and become the basis for in-depth evaluation. Summative evaluations will assess Project impact. Formative evaluations will provide guidance for modifications and amendments to Project structure, staffing, and financing. Individualized studies from various components will be tailored to address specific management concerns or research issues.

1. Monitoring and Information Plan

The CRHP Directorate, with assistance from CCC, will be responsible for the development and implementation of a monitoring system which will provide timely information on the cost recovery progress and status of each Project facility to achieve operational cost recovery systems. It will provide a computerized data base at the central CRHP Directorate level, which relies on input from manual systems in the pilot facilities. This information system should cover progress of planning, training, A&E activities, commodity purchases, equipment, operational status, budgetary expenditures/balances, and host country contribution, as well as track the multiple indicators in the logical framework. It will also be used to prepare monthly status reports, Project annual workplans, and as needed, timely public relations information. Thus, the monitoring system will provide systematic information for Project management as well as important references for the Project's interim and final evaluation.

2. Assessments and Criteria for Success of a Cost Recovery Hospital or Clinic

The TAG will be requested by the CRHP Directorate to undertake assessments of each cost recovery facility 12 months after the conversion process has been formally initiated in order to measure progress. The following outlines the criteria that will be used to determine whether or not a given cost recovery facility has successfully attained cost recovery status.

- Facility revenues will increase annually compared to a baseline level of 1990-1991 total revenue (revenues earned from fees plus GOE allocations). Percentage levels will be used to compare this baseline to future periods at the ends of Years 1, 2, and 3.

- Within three years, the facility will recover a set percentage of Operating costs, equipment depreciation, and building depreciation from user-fees. Operating costs are defined as GOE *Bab* 2 allotments. Annual benchmarks will be the following:

  - Operating expenses recovered: First year (50%), Second year (60%), and Third year (100%);

  - Equipment depreciation recovered: First year (40%), Second year (60%), and Third year (80%).

  - Building depreciation recovered: First year (10%), Second year (20%), and Third year (30%).

- The proportion of patients whose care is paid for through social financing mechanisms [e.g., HIO, private insurance, alternative insurance (i.e. managed care, etc.), and others (i.e. companies, social groups, etc.)], will be higher than the level existing currently.

- Quality of care will be improved. This will be indicated by the following:

  - Increased utilization rates of in-patient and out-patient services.

  - Three months or more of basic medical supplies in stock.

  - One month or more of essential drugs listed in the hospital formulary in stock.

  - Top management personnel will have completed the nine (9) Cost Recovery for Health Management Training Modules,

and others will have completed training in selected modules. Top management and CRHP will designate training modules for other personnel. These programs will be completed by mid-1994.

- One-hundred percent of nursing personnel will have completed the Cost Recovery for Health Nursing & Skills Training Program.

- A Quality Assurance program will be in place as indicated by the following: The hospital has a QA plan, which is being implemented; there are hospital (or departmental) standards which specify the services, staffing and equipment that should be present at the facility; indicators have been developed for monitoring quality; there is an effective process in place to identify and solve quality problems; and there have been five significant improvements in patient care or support services in the last year as the result of the QA activities.

- There is a process for determining client satisfaction on a regular basis.

- A management structure will be implemented which defines authority and responsibility, and delegates authority to appropriate personnel and positions.

♦ Facility and equipment maintenance programs will be instituted and funding provided for these programs. The facility will have a contract with a maintenance company or an internally funded program within documented staff and budgetary allocations.

♦ Financial and management information systems will be established which provide data for decision-making and fee setting (based on operational and market changes).

♦ A Board of Directors, composed of mixed public and private representation, will be created with written responsibilities, authorities and legal status and will be approved within the Governorate.

♦ Creation of a database to monitor the free-patient target in the facility with respect to numbers served, types of services utilized, and total costs incurred to ensure adequate GOE reimbursement for free care.

3. Evaluation Plan

Baseline data is being developed by the Project Directorate and the technical assistance team as part of the intensive effort that goes into preparing each facility conversion or commissioning plan. Information derived from the TAG assessments will be channeled into a formal mid-term evaluation conducted by an independent external group. This evaluation will be conducted when sufficient implementation experience in cost recovery has been obtained, and will take place no later than the fourth quarter of FY 1995 at which time all five pilot facilities will have been in operation as cost recovery facilities for at least eighteen months. Assuming the mid-term evaluation indicates the pilots have been successful, the decision will be made as to initiate the cost recovery process for the additional five hospitals and polyclinics identified for assistance under the Phase B program.

The final evaluation will focus on the critical points of: quality of care, cost effectiveness, institutionalization, and sustainability and replicability. It will focus on documenting lessons learned over the life of Project and establish priorities for any follow-on program for funding by the GOE or other donors.

D. Project Implementation Schedule

The Implementation Schedule, which follows, has been developed as an illustrative guide to the sequencing of activities with an understanding that, while the Project purpose must be clearly stated and adhered to, there needs to be sufficient flexibility to allow the Project to adapt to changing needs.

ACTIVITY	RESPONSIBILITY	FY93 FY94 FY95 FY96 FY97 ---- QUARTER ---- 1234 1234 1234 1234 1234
GENERAL		
Project Paper Supplement Signed	USAID	..•
Amended Budget Approved	USAID/MIC	..•
Long-term TA		
- RFP issued	USAID	..•
- Proposals evaluated	USAID	...•
- Contract negotiated and signed	USAID, PC	.... .•
Develop Annual Implementation Plans	PD, CCC/PC	•... •... •... •... •
Develop Computerized Project Monitoring System	CCC	•••
Interim Evaluation		
- Buy-in executed	USAID	.... •
- Evaluation completed	Contractor	....•
Final Evaluation		
- Buy-in executed	USAID	....•
- Evaluation completed	Contractor	.... •
PACD	USAID	....•

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ACTIVITY	RESPONSIBILITY	FY93 FY94 FY95 FY96 FY97 ---- Q U A R T E R ---- 1234 1234 1234 1234 1234
POLICIES, PROCEDURES, RULES, REGULATIONS, GUIDELINES, STANDARDS		
Implement PPRGs for the facilities manual financial management system	Facilities, CCC/PC	..•• ••□□ □□□□ □□□□ □□□□
Develop and implement PPRGs for facilities personnel	Facilities, CCC	..•
Develop and implement PPRGs for facilities operations	Facilities, CCC/PC	...•
Develop and implement PPRGs for facilities maintenance and repair	Facilities, CCC/PC	...• ••□□
Update PD Policies and Procedures Handbook	CCC	.•
COST RECOVERY FACILITIES		
Review and update facility conversion plans	CCC	•••• ••
Develop Information Systems Plan	PD, CCC	...•
Implement Computer Applications	CCC/PC	...• •••• •••• •••• ••••
Revise Information Systems Plan	PD, PC	.... .•.. .•.. .•.. .□..
Facility Renovations for Embaba Hospital		
- A&E Drawings Approved	USAID,PD	..•
- Sign Contract for Construction	PD	...•
- Renovations Begin	Constr.Contractor	...•
- Renovations End	Constr.Contractor	.... ..•
- Medical Equipment Delivered and Installed	CCC	.... ..•
Facility Renovations for Shark El Medina Hospital		
- A&E Drawings Approved	USAID,PD	..•
- Sign Contract for Construction	PD	...•
- Renovations Begin	Constr.Contractor	...•
- Renovations End	Constr.Contractor	.... ..•
- Medical Equipment Delivered and Installed	CCC	.... ..•
El Kantara Gharb Hospital		
- Renovations End	Constr.Contractor	.... ..•
- Medical Equipment Delivered and Installed	CCC	.... ..•
Facility Renovations for 15th of May Hospital		
- A&E Drawings Approved	USAID,PD	..•
- Sign Contract for Construction	PD	...•
- Renovations Begin	Constr.Contractor	...•
- Renovations End	Constr.Contractor	.... ..•
- Medical Equipment Delivered and Installed	CCC	.... ..•
Facility Renovations for Kafr El Dawar Polyclinic		
- A&E Drawings Approved	USAID,PD	..•
- Sign Contract for Construction	PD	...•
- Renovations Begin	Constr.Contractor	...•
- Renovations End	Constr.Contractor	.... ..•
- Medical Equipment Delivered and Installed	CCC	.... ..•
Conduct Training Activities:		
- Conduct Needs Assessment	PD, CCC	.•
- Develop Project Training Plan	PD, CCC	..•
- On-the-Job Training in Hospital Management, Administration and Operation	CCC/PC	.••• •□□□ □□□□ □□□□ □□□□
- Observational Tours and/or Internship Programs	CCC/PC	.••• ••□□ □□□□ □□□□ □□□□
Provide Equipment Support:		
- Review/Revise Equipment Lists	AID,Facilities,CCC	•... ....
- Review/Revise Equipment Specifications	CCC	•... ....
- Approve Equipment Eligibility	AID	.•.. ....
- Prepare PIO/Cs	AID	.•.. ....
- Advertising/Issuing IFB	CCC	.•.. ....
- Evaluate Bids/Contract for Equipment	CCC	.••• •... ....
Initiate Marketing Strategy		
- Marketing training for staff and hospital management	AED,PD,Facilities	.••• ••□□ □□□□ □□□□ □□□□
- Marketing strategy designed for each facility	AED,PD,Facilities	..•• ••
- Communications plan for each facilities	AED,PD,Facilities	..•• ••
- Client centered training	AED,PD,Facilities	.••• ••□□ □□□□ □□□□ □□□□

ACTIVITY	RESPONSIBILITY	FY93 FY94 FY95 FY96 FY97 ---- Q U A R T E R ---- 1234 1234 1234 1234 1234
Cost Recovery launch planned and executed		
- Embaba Hospital	AED,PD,Facility	.... ..•
- Shark El Medina Hospital	AED,PD,Facility	.... .•
- El Kantara Gharb Hospital	AED,PD,Facility	..•
- 15th of May Hospital	AED,PD,Facility	.... ..•
- Kafr El Dawar Polyclinic	AED,PD,Facility	.... ..•
Systems introduced		
- Embaba Hospital	CCC/PC,PD	.••• ••□□ □□□□ □□□□ □□□□
- Shark El Medina Hospital	CCC/PC,PD	.••• ••□□ □□□□ □□□□ □□□□
- El Kantara Gharb Hospital	CCC/PC,PD	.••• ••□□ □□□□ □□□□ □□□□
- 15th of May Hospital	CCC/PC,PD	.••• ••□□ □□□□ □□□□ □□□□
- Kafr El Dawar Polyclinic	CCC/PC,PD	.••• ••□□ □□□□ □□□□ □□□□
Quality Assurance activities initiated		
- Facility QA coordinator appointed		...• •••• •
- Facility QA plans prepared	PD,QA	..•• ••••
	PD,QA	
Quality Assurance seminars		
- Embaba Hospital	PD,QA	.... ..•
- Shark El Medina Hospital	PD,QA	.... ..•
- El Kantara Gharb Hospital	PD,QA	...•
- 15th of May Hospital	PD,QA	..•
- Kafr El Dawar Polyclinic	PD,QA	.... .•
- National awareness seminar for MOH and other components	PD,QA	.... .•
QA program instituted		
- Embaba Hospital	PD,QA	.... ..•
- Shark El Medina Hospital	PD,QA	.... ..•
- El Kantara Gharb Hospital	PD,QA	...•
- 15th of May Hospital	PD,QA	..•
- Kafr El Dawar Polyclinic	PD,QA	.... .•
Identify Phase B cost recovery facilities	USAID, PD, PC	....•
CRHP Directorate INSTITUTIONAL STRENGTHENING		
Assist in Developing Human Resource System	CCC,PC	.••• •□□□
Develop Project Monitoring System	CCC	.•
Develop Information Systems Plan	PD, CCC	.•
Implementation of Computer Applications	CCC/PC	...• •••• •••• •••• ••••
Revise Information System Plans	PD, PC	.... .•.. .•.. .•.. .□..
SOCIAL FINANCING		
Review social financing and insurance plans in Egypt	CCC	.•
Conduct conference on social financing of health care	CCC	..•
Design prototype insurance plan	CCC	..•
Collect baseline data from cost recovery facilities	CCC	.•
Refine/design insurance plans	PC	.... .□.. .□.. .□.. .□
HEALTH PLANNING AND POLICY OPTIONS		
Analysis of Egyptian health sector	CCC	•••• •□□□ □□□□ □□□□ □□□□
Mapping the decision making process	DDM,MOH Plan.Dir.	..••
Analysis of national health accounts	DDM,MOH Plan.Dir.	...• ••
Budget tracking database	DDM,MOH Plan.Dir.	.... .•••
Cost effectiveness analysis	DDM,MOH Plan.Dir.	.... ••••
Health household survey	DDM,MOH Plan.Dir.	.... •••• •••• •
Analysis of health services demand	DDM,MOH Plan.Dir.	....•• ••
Provider analysis	DDM,MOH Plan.Dir.	....•• ••
Project Workshops	DDM,MOH Plan.Dir.	.... •... ...•
Harvard/BU/MPH training	DDM,MOH Plan.Dir.	..•• •••• •••

VII. SUMMARY ANALYSES

A. Summary of Technical Analysis

This summarizes the Technical Analysis of Component One, which is presented fully in Annex B to this paper. The CRHP intends to impact four hospitals and one polyclinic in three basic areas: institutional development, including management systems, information systems, maintenance systems and management and technical training; financial systems development, including accounting, budgeting, and financial planning; and the improvement of facilities and technology, including renovations and equipment purchases. The resulting institutions will thus be able to provide services at a higher level of quality as a result of the additional revenues which will be obtained from the charging of appropriate fees for the services being rendered.

The budgets of these hospital are presently at the point where the funding is so inadequate that facilities have not been able to provide a reasonable standard of care, and the reputation of these facilities has become extremely poor. As the list of alternative providers is long, the CRHP hospitals and polyclinics must define and work toward a particular niche, or market orientation, within the range of options and possibilities. This analysis assumes that the appropriate market orientation (or placement) for the CRHP facility is with the middle and lower income segments of the Egyptian population. In addition, as noted above, we believe the service approach should be direct and community-oriented, with few specialty or high technology services. The CRHP pilot facilities must focus on offering the basic services of a general, community hospital and not try to provide specialized or high technology services.

The analysis concludes the following:

- As part of the partnership between the CRHP facility and its community, the facility should utilize a Board of Directors or Trustees.

- The facilities and their directors/managers should adopt a restructuring which will allow patient service to be a key goal and priority.

- The facilities and their directors/managers should develop a "management team" structure.

- The Board of Directors should grant to the Hospital/Polyclinic Director is the responsibility for the financial management of the operations and capital of the facility.

- Other key management team roles should be acknowledged and promoted by the Hospital/Polyclinic Director.

- The need for a new and equitable incentive program for employee pay should be recognized.

- Freedom or special exemptions from the personnel regulations of the Ministries of Health and Manpower should be sought, as has been achieved by the Health Insurance Organization (HIO) and the Curative Care Organization (CCO).

- The use of the management team, the practice of delegation, the upgraded role for the financial manager, the oversight of an active Board of Directors, and increased flexibility and responsibility toward personnel management should be promoted.

- Key personnel issues for the cost recovery facilities should be dealt with, including: hospital/polyclinic control over the selection and assignment of personnel; hospital/polyclinic control over discipline and firing; evaluating and rewarding good performance; clarity regarding job responsibilities; overall pay levels for employees and physicians; the "physical" working environment; pay for hours worked; hospital/polyclinic control of staffing levels; management training for middle and upper level managers; personnel management

- A new set of standards for their operations and financial management should be implemented, a set of standards which ensures a quality environment and provides clarity regarding expectations for performance.

- Internal policies for patient care should be developed, including: the appropriate allocation of 1st, 2nd, 3rd, and free class beds; the reasonable minimum standard for free care in the inpatient, outpatient, and casualty areas; the methodology for determining ability-to-pay levels and the selection of free care patients; the fair and equitable delivery of medical care to all patients; and procedures for the admission and discharge of patients which ensure proper financial and records management.

Finally, emphasis needs to be placed on the development of social financing mechanisms, whether through insurance, government, or business. Second, research needs to determine what Egyptians expect from their local facilities and what they will pay to obtain these results. Finally, each CRHP facility should implement a practical approach for determining a patient's ability to pay for

services and should be consistent and fair in the use of this system.

B. Summary of Cost Analysis

This summarizes the Cost Analysis of Component One, which is presented fully in Annex C to this paper. The Cost Analysis provides a detailed illustrative budget for Component One, including standard unit costs.

C. Summary of Financial and Economic Analysis

This summarizes the Financial and Economic Analysis of Component One, which is presented fully in Annex D to this paper. This analysis consists of three parts: (1) an analysis of the cost recovery and self-sufficiency considerations from the perspective of the individual Phase A facilities under Component One; (2) an analysis of the overall financial feasibility of the activities proposed under Component One; and (3) an analysis of the Component One activities from an economic perspective.

The aim of the cost recovery and self-sufficiency section of this analysis is to show that the proposed project is "financially viable" from the perspective of a cost recovery facility, i.e., the expected stream of revenues to the facilities exceeds the costs when suitably discounted and totaled. This analysis attempts to identify and describe the anticipated value of a CRHP pilot facility before and after renovation and revitalization and examines patient revenue and related expenses based on inpatient beds; inpatient, outpatient, and casualty productive services; and outpatient and casualty visits. This section concludes that the stream of income generated by the pilot facilities points to a potentially viable investment in the CRHP pilot facilities, from the facilities' perspective, through fiscal year 1995/96.

The aim of the financial analysis section of this analysis is to examine the direct financial benefits to be obtained as a result of the Project. The five pilot facilities identified for conversion to cost recovery operations are intended to serve as a demonstration of the effectiveness of the cost recovery system. Given the low rate of return projected for the Phase A demonstration units, this section concludes that conversion of a minimum of 21 additional Phase B and C facilities by the GOE will be required to achieve an internal rate of return (IRR) over 10%. This minimum number of additional conversions is based on a very favorable set of assumptions. Changes in critical assumptions could have a dramatic effect on the results of the analysis. However given the large population of hospitals, there is the potential for conversion of a substantially larger number of facilities. The larger number of conversions would generate a

higher rate of return, or off set the expected lower return if key assumptions do not hold. The large population also presents the opportunity to select facilities for conversion carefully, which increases the possibility of favorable results.

This section concludes that although this is a high risk endeavor from a financial standpoint, there is a reasonable chance of success. Even if a favorable financial rate of return is not achieved, significant improvements in Egypt's health care delivery system could be achieved.

Building on the financial analysis section, the economic analysis section analyzes the impact of the Project on government expenditures. Hospitals consume the major share of the government budget for health. Consequently, the hospital sector is the most likely source for finding additional funding for primary health care and public health measures. It is the expectation of this Project that significant cost recovery by government hospitals will facilitate the diversion of some public funding that otherwise would have gone to the hospital sector to the primary health care sector, especially to public health services. An assumption of the Project is that the conversion to cost recovery facilities will reduce the needs of these hospitals for budget allocations under *Babs* 1,2 and 3. These budget reductions or savings also are a benefit of the Project and should be added to the other benefits, i.e. net patient revenues, in order to complete the analysis. To the extent that these savings are used for primary health care (public health measures) as the Project assumes, the benefits will be larger than the budget savings.

There may also be certain indirect benefits that can occur due to the Project. At the macro level, the Project is expected to enhance efficiency in the Egyptian health system by extracting resources from the more expensive but less cost-effective curative health settings, or limiting their growth, and using these resources to fund less-expensive, more cost-effective, and wider-impact interventions in public health. At the micro level, the Project may lead to greater operational efficiency in each of the individual cost recovery hospitals. Aside from its beneficial supply-side effects, the cost recovery program in hospitals may help rationalize demand for and utilization of hospital services. Cost recovery programs in MOH hospitals can play a complementary role in the development of third-party payment systems. At the same time, health insurance schemes can increase the probability of hospitals being paid for their services.

This section concludes that the savings from *Babs* 1,2 and 3, when combined with the benefit-cost analysis of the operations of cost recovery facilities, qualify the Project as one that can be justified marginally on economic grounds.

D. Summary of Beneficiary Analysis

This summarizes the Beneficiary Analysis of Component One, which is presented fully in Annex E to this paper. This analysis provides a profile of each of the communities in the catchment areas of the five facilities (15 May Hospital/ Cairo Governorate, El Kantara Gharb Hospital/Ismailia Governorate, Kafr El Dawar Polyclinic/El Bahira Governorate, and Shark El Medina Hospital/Alexandria Governorate, and Embaba Hospital/Giza Governorate), that are to be included as CRHP pilots. In addition, information is provided about the services offered by each facility and about other facilities in the area of each which may compete for patients.

The analysis concludes by recommending the following:

- The management of the facilities should be given autonomy in pharmaceutical and supplies procurement since availability of supplies and medicines is a determining factor in attracting patients.

- The level of user charges should be competitive with other health providers.

- The user charges should be implemented only after the facility establishes itself as a "quality" health care facility.

- Approximately 40-65 percent of the population in catchment areas if each CRHP facility may require some form of subsidy to be able to meet the charges of treatment in the CRHP facilities.

- The groups that should be targeted for subsidy are households headed by unskilled workers, farm workers, small traders, and low-level clerical and administrative staff.

- The system of exemption from payment for treatment should be clearly outlined and should not be left solely to the discretion of the social workers.

- More efforts should be made to attract insured patients, particularly workers.

- The system of health insurance offered by employers should be expanded to include employees dependents.

E. Summary of Administrative Analysis

This summarizes the Administrative Analysis of Component One, which is presented fully in Annex F to this paper. The Ministry of

Health (MOH) is the lead GOE agency for implementing this Project. The Ministry of International Cooperation (MIC) is the signatory on behalf of the Government of Egypt to the Project Agreement and any subsequent amendments to that Agreement. In 1987, the Minister of Health, in collaboration with the Minister of International Cooperation, issued a Decree establishing the Cost Recovery for Health Project Executive Steering Committee and the Component One Cost Recovery for Health Project Directorate (CRHP Directorate) as semi-autonomous units under the Ministry of Health. The Executive Steering Committee of the Cost Recovery Programs for Health is expected to provide policy, advisory, and coordinating assistance for overall Project Implementation. Informal Project Coordination Madonnas will also be head to coordinate activities of the three components, share experiences and resources, and discuss current topics of mutual interest. The technical advisory Group (TAG) for Component One will advise the Project Directorate, USAID, and the Steering Committee on progress towards full cost recovery of the pilot facilities and be available for other technical support.

The Project Directorate is the lead agency for planning, implementing, and evaluating the activities of this Component. The MOH is responsible for delegating authority to the Directorate, the individual facilities and their respective Governorate for project implementation for implementation of the CRHP activities, host country contracts for technical assistance, facility renovation, commodity procurement, and training.

The Project Directorate is managed by a Project Director reporting to the MOH Undersecretary overseeing the project activities. The Project Directorate is organized in the following functional departments: Hospital Operations and Management, Training & Human Resource Development, Architecture & Engineering, Biomedical Equipment, Directorate Administration and Supportive Services, and Market and Public Relations.

A. LOGICAL FRAMEWORK

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
PROJECT GOAL To enhance the quality, sustainability, accessibility, and affordability of health services for the Egyptian people.	MEASURES OF ACHIEVEMENT ♦Progressive increase in life expectancy. ♦Decrease in infant and under-five mortality. ♦Increase in percentage of GOE Health Sector budget allocated for preventive public health care activities.	♦GOE statistics.	♦Disease specific technologies remain effective. ♦Cost recovery remains a top GOE strategy. ♦MOH will shift priorities to preventive public health activities. ♦Current economic growth and income distribution maintained. ♦Role of the private sector in the Egyptian economy will continue to expand. ♦Population programs will receive top level support. ♦National political and health sector stability maintained.
PROJECT PURPOSE To broaden and diversify approaches for financing personal health services in Egypt.	END OF PROJECT STATUS ♦Increased proportion of total health care expenditures financed by private sector payments.	♦Project reports. ♦GOE statistics.	♦Egyptians will continue to utilize cost recovery GOE facilities for quality curative/health care. ♦Private sector health care providers can not fully meet health care needs. ♦Egyptians will progressively use private health sector as source of quality care. ♦Reasonable profit possibilities, including managed health care schemes, exist for private health care providers within the economy.
COMPONENT ONE SUB-PURPOSE: To develop and test cost recovery systems in MOH facilities as a model for country wide application.	♦Facilities will be covering 100% of non-personnel operating costs, 80% of equipment depreciation, and 30% of building depreciation from private sector payments.	♦GOE financial records. ♦Cost Recovery facility reports.	
COMPONENT TWO SUB-PURPOSE: To improve the management, efficiency, and utilization of existing cost recovery organizations.	♦Improved, cost-effective services being provided to 20 million people through HIO and CCO facilities.	♦HIO and CCO financial records ♦HIO and CCO MIS reports.	
COMPONENT THREE SUB-PURPOSE: To expand private sector financing of individual, group, and pre-paid care practices.	♦100,000 additional people using private sector prepaid health care services.	♦CGC reports. ♦Project reports. ♦Project evaluation.	

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
OUTPUTS	MAGNITUDE OF OUTPUTS		
COMPONENT ONE:		♦GOE records. ♦Site visit reports. ♦Project evaluation.	
♦Demonstration of successful cost recovery operations.	♦A minimum of 4 MOH hospitals and 1 MOH polyclinic converted to cost recovery operations.		♦GOE issues necessary decrees to support cost recovery.
♦Technical and management capability in place within the MOH to replicate cost recovery model to other health facilities.	♦CRHP Directorate staffed with MOH personnel experienced in cost recovery.		♦CRHP Directorate records. ♦Project evaluation.
♦A system established in the MOH Planning Directorate to track public sector curative and preventive health expenditures.	♦Information available to MOH decision makers.		
COMPONENT TWO:		♦HIO & CCO records. ♦Site visit reports. ♦Project evaluation.	
♦MISs installed and being utilized at HIO and CCO for improved management, administrative, financial, and marketing.	♦MISs installed, reports being generated and utilized for decision making.		♦HIO and CCO can retain trained personnel.
♦Cost containment and system efficiency leading to expanded coverage by both HIO and CCO.	♦25 % increase in utilization of HIO and CCO facilities.		
COMPONENT THREE:		♦CGC records. ♦Site visit reports. ♦Project evaluation. ♦Organization records.	
♦An improved commercial banking system to provide financial services to health care providers.	♦10 commercial banks actively participating.		♦Commercial banking sector continues to serve health care providers.
♦Increased number of new or expanding private sector health care providers, particularly in rural areas and secondary cities.	♦5,000 loans to new or expanding private sector health care providers		
♦Viability of new or expanded practices.	♦Indicated by a default rate of no more than 10%.		♦Private physicians continue to be good credit risks.
♦New private managed health care systems (i.e., HMO-like schemes).	♦2 new systems.		♦GOE continues support of private sector.

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
INPUT	($000)	•Financial disbursement records.	•GOE continues to support public and private health sector development. •Technical assistance, training, equipment, and resource levels can improve effectiveness of the health sector. •Inputs will be provided on a timely basis.
COMPONENT ONE			
Technical Assistance	21,047		
Commodities	7,164		
Renovations	3,988		
Training	2,008		
Local Costs	2,506		
COMPONENT TWO			
Technical Assistance (w/commodities & training)	33,100		
Local Costs	1,808		
COMPONENT THREE	0		
Technical Assistance & Training	4,683		
Local Costs	428		
AUDIT/EVALUATION	821		
CONTINGENCY	947		

TOTAL	78,500		

B. TECHNICAL ANALYSIS

COMPONENT ONE

1. DESCRIPTION/RELATIONSHIP TO OTHER HEALTH CARE PROVIDERS

The scope of the Cost Recovery for Health Project (CRHP) at the present time includes four hospitals and one polyclinic, ranging in geographic location from a southern suburb of Cairo Governorate and the northern portion of Giza Governorate (home of the Pyramids) to the suburbs of Alexandria and the Suez coastal town of Ismailia. The CRHP intends to impact these five facilities in three basic areas: *institutional development*, including management systems, information systems, maintenance systems and management and technical training; *financial systems development*, including accounting, budgeting, and financial planning; and *the improvement of facilities and technology*, including renovations and equipment purchases. The resulting institutions will thus be able to provide services at a higher level of quality as a result of the additional revenues which will be obtained from the charging of appropriate fees for the services being rendered.

It is important and pertinent to note the significance of the relationship between quality levels and the acceptability of "charging" for hospital and clinic services. For more than four decades, the Government of Egypt (GOE) has promised constitutionally and generally provided free health care to the population. Unfortunately, in recent years, as a result of ever-increasing economic pressures, the Government has been able to provide less and less money to the more than 225 Ministry of Health (MOH) hospitals. Other health programs have suffered as well, especially those normally viewed as "public health and welfare" programs.

One only has to look at the impact of the Ministry of Health facilities, however, to understand their relative place in the health care delivery system in Egypt. The recent edition of the GOE book of statistical information (CAPMAS) shows the following from 1990:

All hospital beds	107,880	100%
MOH hospital beds	64,592	60%
Other GOE hosp. beds	21,980	20%
Public & private sector hospital beds	21,308	20%

With almost two thirds of the hospital beds in the country, it is obvious that the Ministry of Health facilities are an important part of the hospital and health services delivery system. Yet when one looks at quality or the amount of money available to this sector of the hospitals, the picture is different and less interesting.

The budgets of these hospital are at the point where the funding is so inadequate that facilities have not been able to provide a reasonable standard of care, and the reputation of these facilities has become extremely poor. Personal income and/or access to insurance or business coverage has become the deciding factor in the selection of a facility, and only those with minimal resources go to the MOH facilities. In addition, the list of alternative providers is long, as the MOH facilities are part of a varied and diverse set of health care providers in Egypt. There are numerous large hospitals, such as the University facilities, and quasi-government "systems" such as the Health Insurance Organization (HIO - 26 hospitals) and Curative Care Organization (CCO - 16 hospitals), private hospitals which range from five to several hundred beds, and hundreds of multiple and single specialty clinics. Only in the rural sectors of Egypt does one find a limited selection. The list of choices is rather considerable for patients and their physicians, depending on the location of the patient, the type of illness, and the resources available to the patient for his or her care.

The MOH facility is clearly yet unfortunately located at the bottom of this considerable range of options for the patient, especially if the patient or his or her family has the ability to pay for the needed services. As might be expected, the choice of facility is often made in part from a perception or interpretation of quality, with an underlying assumption which suggests that the higher the price, the better the quality. The bed price is often related to the amenities provided, such as the number of patients in the room, the type of bathroom facilities, and the inclusion or absence of air conditioning. While private patients also attempt to evaluate the medical care, these patients often pay for the amenities without any assurance that the quality of the medical services they will receive at the hospital will be adequate or even appropriate.

A further distinction is also made within Egypt regarding the relative quality of the various "types" of hospitals. The private hospitals, especially the large and usually high priced ones, and the University Hospitals are viewed as the best, with the HIO, CCO and smaller private hospitals (defined as less than 20 beds) in the middle, and the MOH facilities at the bottom. CRHP facilities must scale this perceptional ladder of quality, perhaps not to the top or even to the median, but at least to a level of respectability,

a level which is sometimes defined as "the same as HIO or CCO". Translated, this means to say, close to the level of quality, both in real and perceived terms, of the facilities within the HIO and CCO systems. The CRHP has utilized and to a large degree accepted this "model" of quality, even while recognizing that it is imprecise and relative.

The CRHP hospitals and polyclinics must therefore define and work toward a particular niche, or market orientation, within this range of options and possibilities. The appropriate status within this broad market must be carefully defined and stated in a mission statement and in the delineation of goals so that everyone associated with one of these facilities can understand what the goals are and what the organization seeks to achieve in both the short range and the long term. These statements can be valuable to many different groups, including government, the community, and the employees and management, among others. The value comes from clarity regarding the mission of the organization and a common understanding of and commitment to the stated purposes, goals and objectives.

This analysis assumes that the appropriate market orientation (or placement) for the CRHP facility is with the middle and lower income segments of the Egyptian population. In addition, as noted above, we believe the service approach should be direct and community-oriented, with few specialty or high technology services. There are numerous hospitals offering high cost/high quality services in Egypt, and many others offering every type of specialty service. The CRHP facilities will not have the financial or human resources to compete with these better facilities, and it is not their appropriate role or place. Emphasis should be on the performance of the basics and in the provision of quality services at a reasonable price to the local community. Service to the middle and low income groups is a critical part of the MOH mission, and this should remain a priority under cost recovery. These facilities can be successful in this market as long as quality and service are emphasized, and the hospitals are efficient, reasonably priced, and responsive to their communities.

a. The General Community Hospital and Polyclinic Approach

The Health Financing and Sustainability Project (HFSP) team and the CRHP Directorate staff worked together on the planning and development of the CRHP from mid-1990 until the end of 1992. This team clearly sees the need for a clear definition of what constitutes a cost recovery facility.

The CRHP pilot facilities must focus on offering the basic services of a general, community hospital and not try to provide specialized

or high technology services. These facilities do not and will not have the financial resources to offer specialty services. They cannot afford to "compete" with the private hospitals for various reasons; the fee level differences, the amount of free and reduced price care provided, and the differences in mission, resources, staff training, physical facilities and equipment. The focuses of these facilities should be on patient service, quality of care, and performance of the primary mission, which is to serve the community as a dependable, general service, community-oriented facility.

As noted above, the MOH facilities have two prominent difficulties: poor quality and inadequate funding. These problems are highly interrelated, for without funds, quality is hard to improve, and without a perception of quality, patients will not choose the facility and utilization will be low and funds short. The objectives are clear; (1) to improve the quality of the services of the facilities, and (2) to increase funding in order to sustain the quality improvements and allow the facility to do more for patients, employees, and the local community. The five CRHP facilities will be able to achieve more because they have more resources available as a result of the additional funds derived from patient fees. A related issue, which is discussed later in some detail, is the need for appropriate management skills to ensure effective utilization of the additional resources which will be available to the facility as a result of cost recovery.

The five facilities will need to be efficient in their utilization of resources and have effective management by the Hospital/Polyclinic Directors and the others responsible for the management of services and programs. The CRHP must teach these skills and provide them in a way which is practical and directly relevant to the Egyptian environment.

Yet there is another, less obvious, issue within the question of balance between the quality of services and the availability of funds. The cost of services within the facility is actually a combination of two elements; the quality of the services and the extent or range of the services. Each service has different patient care components which in total make up its quality level, and the variety of services within the hospital or clinic together constitute the collective range of services. The facility can therefore manage funds by controlling the expense of individual services or by limiting the number of services it offers. And because there is a clear desire to increase the quality of each and every service within these facilities, the management tool most available to Hospital/Polyclinic Directors is the control of the quantity or technological composition of the services and programs offered at their facilities.

The need for limiting the offered services and their technological component cannot be understated. Expensive, specialized services are simply not affordable within the limited resource base of the MOH or the CRHP. Services such as burn units, advanced radiology equipment (CT scanners, MRI, etc.), specialized technology-oriented surgical procedures, and pediatric intensive care units are examples of these specialized, and costly, services. The impact of ongoing operational costs and/or the renovation and equipment maintenance and depreciation costs will simply be too much for the facility to recover.

The CRHP facilities must carefully consider this important issue, and evaluate the long range effect of each specialized service being considered from both capital and operating cost perspectives. CRHP facilities may have a difficult time maintaining financial solvency as it is, and the burden of cash-draining, specialized services may be the difference between success and failure in the long term.

2. COMMUNITY, LOCAL BUSINESS AND GOVERNANCE RELATIONSHIPS

If the CRHP pilot facility is to be successful as a service provider, it must also take an active role in its community and be recognized as a leader of the community it serves. One of the possibilities for community participation is to allow the community representation on the Board of Directors so that views are heard. The facility also needs to take an active interest in the perspectives of community leaders and members, and to search out their thoughts and ideas. The marketing/public relations department can generally be responsible for this research effort, but the Hospital/Polyclinic Director must also be active as a spokesman and representative of the organization.

Relationships with the community and local businesses can provide direct, tangible benefits, such as contracts for health services, and other more indirect benefits, such as community expertise regarding financial management or similar fields, marketing assistance, and feedback regarding the facility's strengths, weaknesses and programs. Involvement within the community also strengthens the facility's image with community leaders and will provide direct benefits in terms of patient use of the programs and services.

Another critical relationship within this context is the dialogue with local businesses and government. In Egypt, the number of private businesses is growing, and the majority of these companies have no arrangements for the health care needs of their employees. Per capita contracts may be a large potential market, and particularly valuable because of the relative predictability of

monthly cash payments. Specific planning regarding these types of arrangements must be done by the CRHP facilities, and the service/financial package needs to be presented in a manner which is interesting to these local businesses and agencies. The CRHP facilities can likely provide a package which will be enticing within the market, as many small enterprises may want to offer some coverage, but are not necessarily willing to pay the higher rates of the private "competitor" facilities. The low-end product of the upgraded CRHP facility may better meet the needs of these businesses. The facility's job will be to clearly demonstrate the benefits of the "new" MOH/CRHP facilities and to provide value to these businesses within the health service/financial package.

a. The Board of Directors (Trustees)

As part of the partnership between the CRHP facility and its community, the facility must utilize a Board of Directors (see Appendix 1) to further its goals. The Board can obtain additional expertise, in such areas as finance, insurance, and marketing, through the careful selection of community and business representatives. These members can also be valuable to the organization because they can provide a balance of opinion on important, business-related issues. This "alternative" opinion can be useful in offsetting the views of a strong Board member, whether he or she is "strong" as a result of personality or position (such as a MOH representative or even the Hospital/Polyclinic Director himself). Boards work primarily as a result of an understanding among the Board members that reason and compromise are the mode of operation, but they also are important for the value created by the introduction and consideration of new ideas. The acceptance of these Board principles is yet to be established firmly in Egypt, but at the same time, there is some precedent for their use and acceptance. The CRHP facilities will need to break a considerable amount of new ground in this area.

At the current time in Ministry of Health facilities (and thus in the CRHP facilities), Boards of Directors do exist and are in fact defined by the rules and regulations of the MOH. However, in actuality, their role and composition is actually more like that of a management team than of a Board. First, the membership includes only two individuals from outside the facility, one chosen by the local Community Council and the other chosen by the Governor (a person who interested is public service or the health sector). The remainder of the Board includes the Hospital Director (as Chairman), the Deputy Director, one to eight physician department (service) chiefs, the Matron (or the most senior nurse), and two workers chosen by the Hospital Director. With six to thirteen "hospital" members in comparison to two outsiders, it is clear that this is not an objective membership. This point is further

emphasized by the Chairmanship, as the Hospital Director is designated by the regulations to serve as the Chair.

The definition of the roles and responsibilities of the Board of Directors for these hospitals by the MOH is a bit more interesting, and much more sensible. The MOH regulations suggest the following:

- Supervises all services,
- Seeks to improve the efficiency of the services,
- Approves the internal organization of the hospital,
- Approves the annual budget,
- Implements the activities of the budget,
- Authorizes the use of fees for some services,
- Organizes the use of the funds collected,
- Contracts with doctors from collected funds,
- Performs contracts for other needs, as required, and
- Implements all authorities granted to the hospital by the MOH or the Governorate.

However, as one might predict from discovering the composition of the Board, most meetings are spent discussing internal problems and issues. Some formal activities are performed, as minutes must be sent to the Governor for review, but the Board clearly is not independent and does not have true planning, financial or governing authority. The decision-making authority for these facilities, when the issue or process is not specified in the very detailed MOH regulations, is found either at the Governor/District Director level (depending of the District) or with the Hospital Director. Little responsibility is actually allowed to the Board, and as mentioned above, the group would much more appropriately be called a "management team".

One of the clearly defined roles of a "proper" Board of Directors is to hire and oversee the Hospital/Polyclinic Director in the completion of his duties. Yet before they can monitor his performance, they must first carefully define his role through the development of a concise job description (see Appendix 2). Just as it does for other employees, the job description should explain the duties, responsibilities, authorities, and educational requirements of the position, as well as the expectations the Board has of the Director in areas such as finance, results reporting, and planning. The job description should also outline responsibilities which the Board believes should be delegated by the Hospital/Polyclinic Director to deputies or area managers, while still retaining the overall responsibility.

As health care facilities become increasingly complex, both technologically and financially, Hospital/Polyclinic Directors must learn to delegate the responsibility for tasks they previously kept

in touch with. This is a difficult change, but it will be critical to survival for both the facility and the Director.

One final comment regarding the Board of Directors, or Trustees, has to do with the name itself. As discussed above, the MOH system designates a Board of Directors and assigns it duties. Because the Project wishes to revise the role and responsibilities of the Board, it is suggested that the name also be changed from Board of Directors to Board of Trustees in order to separate it from the historical perceptions of the current situation. The title "Board of Trustees" is not familiar in the Egyptian system, and this new term will thus help in the creation of a "new" model.

3. MANAGEMENT RESPONSIBILITIES, OBLIGATIONS, AND AUTHORITIES

The history of these facilities is one of financial and operational struggle, as has been mentioned previously. These facilities have been extremely underfunded, and the result has been poor service and poor quality. They must literally forget this history and develop new approaches and perspectives toward management, the quality of medical services, and patient service.

In each of these three areas, the underlying assumption is the same; changes are required, both in theory and practice. Management restructuring must take place at two levels: first, in the relations between the MOH and the individual facilities, and second, within the facilities themselves. The quality of the services provided must also be revised, as the facilities must improve all aspects of the medical care, including physician and nursing care, the quality and responsiveness of support departments, such as the laboratory and pharmacy, and the physical condition of the building.

The facilities and their directors/managers must also adopt a new way of being towards patients, a restructuring which will allow patient service to be a key goal and priority. Patients who feel cared for will become committed consumers and will create additional patient referrals, clearly an important "commodity". Viewing service as a priority, and implementing systems and programs which highlight this goal, may, in the overall cost recovery process, be one of the most significant elements in the differentiation between success and failure.

It is clear that the beneficiary population has limited financial resources, and the critical factor which determines whether they will spend or not spend their resources on health care may be their perceptions and knowledge of the medical care, the management, and the patient service. Satisfied patients will talk to relatives and friends, and over time, these conversations will create a

"community" perception of the facility and develop its "reputation". A reputation of quality, service and commitment will be a mandatory aspect of long term success for these CRHP facilities.

a. The Management Team

One of the first management tasks for the Hospital/Polyclinic Directors is to develop a "management team" structure. The purpose of this group is to develop a key team of top managers who can accept responsibility for delegated tasks, as noted above, and be valuable contributors to decision-making and information distribution. The key focuses are communication and the development of a management team, a practical synergy of talents which can be utilized to move the organization ahead in productive ways. The management team should meet weekly and should primarily focus on the issues which affect the facility managers most directly.

The exact composition of this team may vary from facility to facility, depending on the strengths of the key managers, but should generally consist of the Hospital/Polyclinic Director, Deputy Directors, Finance Manager, Nurse Manager (Matron), Personnel Officer/Manager, Chief of the Medical Staff, and any of the stronger technical department managers, such as laboratory manager, radiology manager, pharmacy manager, operating theater manager or the head of engineering. The group should not include all of these people, but be selective based on the particular situation at the facility. A rotation system is another approach to department head involvement, allowing one or two department managers to join the management team for three months or so, and then rotating others into the meetings for the following three months. Again, the composition is not the key element here. What is important is the team approach to the completion of tasks, to planning, and to decision-making.

b. The Finance Manager

One of the other authorities the Board of Directors will grant to the Hospital/Polyclinic Director is the responsibility for the financial management of the operations and capital of the facility. Financial management is a crucial role, as it is the life blood of the institution. Without proper financial controls and monitoring, the Facility can lose assets, lose patients, develop credit problems, get "cut off" by suppliers and equipment vendors, suffer major payment difficulties, and the list could likely be extended considerably. While both the Board and the Hospital/Polyclinic Director are responsible for the financial status of the organization, the Director is responsible for obtaining the

services of a qualified financial manager, and this is clearly one of his most significant duties.

The financial manager serves as the overseer of the financial tasks, including budgeting, the accounting discipline, the accounts receivable function, accounts payable, cash management, inventory management, capital assets management and internal controls, and is responsible to the Director for financial and statistical reports on a regular and timely basis. The importance of this role and function cannot be understated, as the Director must have a person who is knowledgeable and dedicated strictly to the financial matters of the organization. It is not a part-time job, and it is not a part of the job description of the Hospital/Polyclinic Director.

c. The Other Key Management Roles

Other key management team roles include the Matron, or Nurse Manager, the Personnel Manager/Officer, and the Chief of the Medical Staff. The Nursing Manager and the Medical Staff Chief will be largely responsible for the management of the employees in their departments, while the Personnel Officer role is primarily in the areas of policy development, the management of employee salary and benefit programs, and problem-solving.

Each of these positions must be acknowledged and promoted by the Hospital/Polyclinic Director, and job descriptions for these positions must include both authority and responsibility for the employees and the key tasks of these departments. Problems and proposals in these areas should be handled or developed, respectively, by the individuals in these jobs for presentation to and discussion by the management team. Power must be delegated, as appropriate, so these people can achieve the level of responsibility given to them by the Hospital/Polyclinic Director and by their level within the organization.

d. Financial Controls and Monitoring

The Hospital/Polyclinic Director under cost recovery will have a greatly increased responsibility for finances, as the overall budgets will increase and more money will actually flow through the organization. The control of funds, whether in the cashiering function at discharge, in the outpatient areas, in the payments for significantly larger pharmacy and medical supply inventories, or in other areas, will become increasing complex and important. More control in the payment system for personnel will create the need for a new and equitable incentive program for employee pay, also adding to increased accounting requirements. New or expanded facility departments, such as maintenance, engineering, food and

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catering services, and social services, to mention a few, will also require additional management, financial attention, and clear lines of management authority. The Board and the Hospital/Polyclinic Director will need to work together to clarify the responsibilities of these "new" departments and to find appropriate managers for the supervision of these service and support departments. Time and effort must be expended on these clarifications, as the status quo (the old way) will not be sufficient to move the organization forward with a workable management structure or a financial control system which is responsive and adequate to the new organization.

e. Personnel Management

The CRHP must continue to seek freedom or special exemptions from the personnel regulations of the Ministries of Health and Manpower, as has been achieved by the Health Insurance Organization (HIO) and the Curative Care Organization (CCO). Much discussion has been held regarding the development of the "Decree", yet little formal resolution has been achieved up to this point.

A list of the major personnel issues which need to be addressed in the Decree or in specific regulations regarding the Cost Recovery for Health Project are presented in the next section of this technical review. While there are many specific points of concern, the primary issues regard management flexibility with pay and benefits, control over discipline and firing, and the ability to retain employees indefinitely after expending both time and money to increase their skills through training programs.

While increased flexibility is a major goal of these desired changes, the CRHP must not forget the impact and importance of the labor laws of Egypt. It is clear from initial research that Egyptian law will strongly influence the personnel policies of the facilities. The laws are significantly pro-employee, and the right to fire and discipline is carefully controlled.

f. Historical Approach versus "New" Management Thinking

Finally, with all that has been discussed regarding the responsibilities and authorities of management, we are left with the issue of management style and practice. Management of the CRHP facilities will require new ways of thinking, as has been demonstrated in various areas. The use of the management team, the practice of delegation, the upgraded role for the financial manager, the oversight of an active Board of Directors, and increased flexibility and responsibility toward personnel management are just a few of the new ideas and approaches. Hospital/Polyclinic Directors must also change their thinking from a traditional "hold expenses down" approach to one more

appropriately described as "a customer service orientation combined with financial flexibility". This is not to suggest that there will be freedom to spend as the Director wishes, but the new orientation will allow for the creation of quality services and encourage a service orientation to patients. In other words, if patients are happy with the services they receive while in the facility, they will come back and they will recommend the facility when services are needed by their families or their friends.

Service orientation will make the facility a better place, and patients, employees and physicians will benefit from an organization which focuses on human needs, health, and well-being. The Hospital/Polyclinic Director will have to learn a new way of thinking, and in turn, he will be responsible for promoting and rewarding this type of thinking and behavior within the facility staff. Yet expansion of service to patients and the additional marginal expense for quality services will have its rewards in the patient volume increases which will occur as a result.

4. KEY PERSONNEL ISSUES FOR THE COST RECOVERY FACILITIES

For some time, the HFSP technical team has suggested that the CRHP facilities must have considerably more autonomy in the management of personnel and medical staff members than currently exists within the MOH system. The current system presents significant problems, including a lack of local (facility) control over the quantity and quality of staff members, an inability to ensure that trained employees will not be transferred by the MOH, and an inability to reward employees for good performance or discipline them for poor performance. These are only a few of the issues; the point is that changes must occur in the personnel system if these hospitals and polyclinics are to be successful in the cost recovery process. These changes are requirements for success and must be considered as such by each of the parties in the CRHP, including USAID, the Ministry of Health, the CRHP Office and the expatriate technical consultants.

Because the area of personnel and physician management is so vital to Component One's long-term outcome, a review of the various issues is appropriate. The following list is an attempt at comprehensiveness, although it is likely that new issues will arise as negotiations move forward between the CRHP, the MOH and the Governorates. These issues will be addressed and resolved by negotiation and hard work which results in a memorandum of understanding, a governmental decree, or legislation.

a. Hospital/Polyclinic Control Over the Selection and Assignment of Personnel

If the quality of medical care is to be improved, many employees must be retrained and new employees must be hired to fill unmet personnel needs. This is true for physician staff, technical staff, and support staff. However, the improvements in quality cannot be maintained if employees are routinely reassigned to other non-CRHP facilities, as is the current practice. Quality improvements are critical to the cost recovery process, and quality employees are critical to sustaining quality changes.

b. Hospital/Polyclinic Control Over Discipline and Firing

A related but distinct issue is facility control over the discipline and management of employees and physicians. In the current system, there is no useful mechanism for "encouraging" an employee to do the job well and with integrity. Disciplinary measures are rigid and ineffective, and employees can perform at totally unacceptable levels from a management perspective (fairly routine absenteeism, for example) and still be within the acceptable limits of the current government system. The present system also makes it very difficult to fire an employee, and then the government can overrule the Hospital/Polyclinic Director's decision. In order to maintain quality personnel, the Facility must gain control over these activities.

c. Evaluating and Rewarding Good Performance

Another aspect in the development of quality employees is being able to reward employees for a job well done. Incentive pay and bonuses can provide substantive reasons for employees to do what is expected in a quality manner or to reach beyond the "normal" level of performance. Management needs to have a system which allows rewards for above average performance, and which relates performance to specific job duties and expectations. A performance-based evaluation program can greatly increase the output of the facility's employees, as long as it is fair and provides incentives valuable enough to be interesting to the employees. Gaining employee commitment to their jobs in these former MOH facilities will be an important and significant task, as the current situation is one of poor employee performance and substantial indifference regarding the work and the organization.

In regard to Hospital/Polyclinic Directors, it is important to note that an entirely different situation exists. There are provisions in the MOH system for bonuses for the Directors, but there is little relationship of the value of these bonuses to actual performance. The Facility Board of Trustees must be directly

responsible for the incentive pay of these Directors, and as will be the situation for every other employee, the reward should be directly tied to successful performance of the tasks and duties of the position (job) description.

d. Clarity Regarding Job Responsibilities

An important step toward the improvement of employee performance is the clarification of job duties and expectations - that is, the development of job descriptions. In many instances currently, it is clear that employees have no idea of what is expected of them. Historically, there has been little thought given by management to the specific tasks and duties of most jobs (beyond the obvious), and the result is that little else gets accomplished. Communication regarding expectations is most often incomplete, and job performance is not tied to specific tasks or duties (see discussion above). Job descriptions which are clear and concise and communicated to employees will allow for better employee performance and a mechanism for the evaluation of employees.

e. Overall Pay Levels for Employees and Physicians

Employee morale is generally quite poor in these facilities, and much of this can be attributed to the low level of pay. In at least one situation, it has been suggested that the cost of public transportation to and from the facility actually costs employees more than they make while they are at work for the day. Pay will continue to be a morale and equity issue until pay levels can be improved in these facilities. Without a financial incentive to come to work and perform, both doctors and staff will be unlikely to make meaningful contributions to the conversion process.

f. The "Physical" Working Environment

A related morale issue, especially for the physicians, is the state of the physical facilities and the equipment. The working environment is poor, as the buildings are often in disrepair because of poor or non-existent maintenance. Equipment is not repaired when it is broken, nor replaced when it is obsolete or out-of-date. Improvements to the physical environment are critical, not only to the quality of care, but also for the morale of physicians and facility employees.

g. Pay For Hours Worked

In the current MOH system, there is no apparent mechanism for monitoring hours worked by employees. In fact, it seems that most if not all employees receive monthly salaries, with no accountability for the actual hours worked during the month. The

CRHP facilities need to develop more accountability for employee pay.

h. Hospital/Polyclinic Control of Staffing Levels

Egypt has a somewhat unique situation in regard to the supply of medical personnel. The supply of physicians, most of whom are trained by the national government at government expense, is higher than the demand, with a resulting surplus. In addition, under the national system, all physicians trained by the GOE are assigned to a MOH hospital or clinic as part of their "repayment" obligation to the GOE for their medical education. The result for these facilities is an oversupply of largely inexperienced physicians, and a budget which is overwhelmed by the salaries and benefits allocated to them.

In turn, an opposite situation exists for nurses and specialty technicians. There is a significant shortage of trained, much less experienced, nursing and technical personnel. Because of the ability of the private hospitals to pay better salaries, the shortage is particularly dramatic within the MOH facilities. The MOH, the CRHP Directorate, and the CRHP facilities together must work to evolve a solution to this significant problem, and training and retraining programs will need to be a part of the solution.

For the CRHP facilities, the problem of oversupply of physicians should be a bit easier to handle than that of the shortage of nurses and technicians, although this will only be true if the MOH cooperates with CRHP recommendations. One key goal for these facilities is to reduce the number of physicians on the payroll, and then to be able to utilize the savings for other expenses, including increases in salaries, an incentive program which relates pay to performance, maintenance and repairs, supplies and others. Clearly this will require the full and generous cooperation of the MOH, as they must provide the "released" physicians with other positions and provide cash payments to the hospitals in exchange for their salaries. While the exact MOH/CRHP mechanism is not yet clear, the goal is to improve efficiency and provide more money for hospital expenses other than salaries.

One of the other "new" expenses which the CRHP facilities will encounter is the increase in salaries and the related personnel costs for nurses and technical personnel, such as lab and radiology technicians, operating theater, intensive care and emergency nurses, and maintenance and repair technicians. These facilities must increase the quantity of these categories of personnel, if they are to maintain an acceptable level of quality, and they will be expensive in comparison to the "average" employee. They may also be somewhat difficult to find, and in some instances, the

facilities will need to retrain or upgrade current employees. The CRHP Directorate will take an active role in the development of the necessary training programs, but the task is significant nevertheless. The area of technical training is quite clearly a key to the long-term viability and success of Cost Recovery.

i. Management Training for Middle and Upper Level Managers

Management training is weak in all levels of the MOH and CRHP facilities. There has been little effort made to develop top managers beyond the Hospital/Polyclinic Directors and even less focus on the department managers and chief technicians. This will be an important focus for the cost recovery process, as these managers must take on more responsibility and be more active in the various managerial and financial tasks of the organization.

j. Personnel Management

The personnel systems of the CRHP hospitals and polyclinics must be developed completely by the cost recovery process, as personnel management has been handled entirely at the MOH. This decentralization effort must include many of the issues discussed herein, including performance review, manpower planning and budgeting, job descriptions, pay and incentives, benefits planning, and employee hiring, firing and selection. Each facility will need to create and support a human resources/personnel department as part of the cost recovery effort. The department will be responsible for the development and implementation of these and other programs and for protecting the rights of all employees of the organization.

5. THE DEVELOPMENT AND IMPLEMENTATION OF QUALITY STANDARDS AND OPERATIONAL SYSTEMS

The CRHP facilities, in order to upgrade the quality of their services and programs, must implement a new set of standards for their operations and financial management, a set of standards which ensures a quality environment and provides clarity regarding expectations for performance. The CRHP staff and the HFSP team have worked diligently on this set of standards for the CRHP pilot facilities, and they will be utilized by the initial five. The headings for the thirty standards are listed below:

- Governing Body and Chief Executive Officer (Hospital/Polyclinic Director)
- Management and Administrative Services
- Personnel Policies and Procedures
- Financial Management
- Utilization Review and Quality Assurance

- Patient Satisfaction and Facility Promotion
- Medical Staff
- Nursing Staff
- Emergency Services
- Surgical and Anesthesia Services
- Physical Rehabilitation Services
- Ambulatory Services
- Respiratory Care
- Social Services
- Special Care Units (ICU, CCU, Burn Unit)
- Pediatric Care
- Facility Conversion and Renovation
- Infection Control
- Laboratory
- Pharmacy
- Radiology
- Dietary Services
- Medical Records
- Medical Library
- Housekeeping, Physical Plant Maintenance and Operations, Safety and Sanitation
- Biomedical Equipment Maintenance
- Engineering and Architecture
- Staff Development and Training
- Security
- Purchasing, Central Supply, and Sterile Supply

The Government of Egypt has traditionally provided the majority of the funds for the CRHP facilities, and as previously discussed, the funds have been inadequate to allow for proper management or the provision of quality services.

In response to the "cost recovery" approach to funding, the Hospital/Polyclinic Directors must take on new management strategies and view their roles and responsibilities in entirely new ways from those of the past. The new role, as discussed above, emphasizes central coordination of a management team with a proactive approach to facility services and activities. Expertise will be more decentralized, and specialists or outside assistance will be needed in areas such as finance, planning and marketing, information systems, and business contracting.

In addition, the medical services of the CRHP pilot facilities will need new standards and requirements, as higher quality can be achieved and will be expected. The Quality Assurance (QA) program will set specific standards for each medical service (specialty), each technical department, and each non-medical (support) department. Monitoring and evaluation of the criteria and benchmarks of the QA program will be an ongoing activity, and

performance will be linked to the pay incentives of medical service chiefs and department heads. In order to accomplish this, the standards must be clearly presented and communicated so that the responsible service chiefs and department heads are clear about their responsibilities regarding the implementation of the new standards within their units or departments. The Quality Assurance Program will be a key aspect of the overall success of the CRHP facilities, as quality improvements must be maintained in order to provide an appropriate level of medical care and to satisfy patients and ensure that they will utilize the facility when it is required by themselves or their family members.

6. THE DEVELOPMENT OF INTERNAL POLICIES FOR PATIENT CARE

There are numerous facility policies and guidelines which must be developed for the CRHP facilities, especially for the hospitals. These policies and procedures should be consistent from facility to facility in order to fully gain the benefits of the technical assistance provided by the various specialists within Component One. It is intended that CRHP facilities will be both the "model" and trial sites for the development of standards for the MOH facilities of the future, particularly in regard to quality standards, financial management, and policies and procedures. Several policy areas of particular concern include: (1) the appropriate allocation of 1st, 2nd, 3rd, and free class beds, (2) the reasonable minimum standard for free care in the inpatient, outpatient, and casualty areas, (3) the methodology for determining ability-to-pay levels and the selection of free care patients, (4) the fair and equitable delivery of medical care to all patients, and (5) procedures for the admission and discharge of patients which ensure proper financial and records management. Considerable work has been done by the HFSP and CRHP team on these guidelines, although the final review is not yet complete.

Training, or employee development, is a key aspect for the "new" CRHP facility, and communication with employees about their roles and the expectations of them in these roles will be an important and ongoing activity. Training programs will need to be routine in these facilities, as there are many immediate and ongoing requirements for the upgrading of management skills, theoretical knowledge, and technical skills.

7. IMPROVEMENT OF FACILITIES AND TECHNOLOGY

a. Biomedical Equipment

A basic underlying tenet of sustainability is to "live within your means". In other words, do not over-use resources in the beginning

only to suffer a greater shortage later in the process. This principle must be applied to the situation facing Component One of the Cost Recovery Project in determining equipment needs. Resources must not be overused in the beginning of a project if it will result in a reduced quality of patient care at a later time. The same is true of infusions of capital goods through donations. Health services that cannot be supported by local means will result in a reduced level of quality of care through the diversion of resources to a technology that cannot be maintained over the long term.

In the conversion of a CRHP pilot facility, the purchase of biomedical equipment means fewer resources will be available for competing needs such as medications, supplies, and manpower. There is general agreement that the most effective method of allocating scarce resources is through cost effectiveness analysis. Using this method, one first assesses what is available, then distributes (utilizes) resources in a manner that will achieve the highest return in terms of reduced morbidity and mortality. In a world of scarce resources, there is a trade-off involved in choosing to use any particular resource: choosing a higher level of equipment necessarily means that fewer resources will be available for competing needs such as manpower or medications.

In an ideal world, a cost effectiveness analysis would be performed in each and every procurement decision. Unfortunately given the analytical resources available to CRHP hospitals and the thousands of purchasing decisions that are made in the course of operations, a less precise and simpler methodology must be used. This methodology is based on the assumption that the relative mix of resources devoted to salaries, medicines, and material resources by the CCO is a successful model, and one that should be used as a guide in determining overall funding levels for these different areas. The one area of exception to the CCO model is in biomedical equipment. As the following section points out, the goal of sustainability of resources must be met by the CRHP, and a system adopted where the long term viability of the facility is assured using its own financial capacity.

Following this line of reasoning, a facility or health system must seek to achieve the highest level of patient care that is constant. In other words, seek a level that is sustainable. In order to determine this level, the basic rule of allocating scarce resources is used: determine what is available. In a project such as the CRHP where improvement of health facilities is a major goal, one is faced with a situation where potential funding in the beginning is very high, while long-term financial resources are much more limited. Since the goal is to determine what is sustainable, the level of long term financial resources must be assessed. It is the

availability of long term resources that determines the quality of care that can be sustained at a constant level. It is the ability of a facility to repair or replace broken or obsolete equipment that determines its sustainable level of equipment.

In the "Facility Standards Manual" of the CRHP Directorate , there is a fully developed system for prioritizing the purchase of biomedical equipment. Section 17 of the manual contains a Decision Matrix for prioritizing the purchase of equipment based on cost effectiveness in terms of reducing morbidity and mortality. This decision system should be used in conjunction with the results gathered from the "Facility Assessment Instrument".

The "Facility Assessment Instrument" assists in determining equipment needs through a process of decentralized decision making by the end users. The end users are asked to specify their equipment needs, and to prioritize them. There is guidance provided in order to help the end users make the most complete and accurate determination of their needs. The results of this assessment process are then collated by the hospital administration and the CRHP Directorate The Decision Matrix is then employed to rank items in terms of priority. The items are then priced, and those items of the highest priority are purchased up to the ceiling amount.

Biomedical equipment costs were developed based on Phase A pilot facilities requests to CRHP Directorate. Table 1 presents estimates for the five Pilot Facilities. The equipment requests are for basis diagnostic and therapeutic services. The equipment will provide continued patient services at existing hospitals and polyclinics.

b. Building Rehabilitation

Cost recovery success requires that the CRHP Pilot Facilities are in a condition in which adequate levels of health care can be delivered. In the case of the CRHP pilot hospitals, those facilities that are presently functioning pose significant threats to the safety and sanitation of patients and staff. These threats are primarily in the form of sewage contamination in patient and service rooms of the facilities, and a generally unsanitary environment. In addition, there are some structural deficiencies that require immediate repair. To ascertain the extent of these problems, the CRHP Directorate has contracted, or is in the process of contracting, with Architectural and Engineering (A&E) firms to conduct studies of building conditions, and to develop plans and cost estimates for the rehabilitation of the facilities.

Table 1

CODE		ITEM	UNIT COST	MAY 15TH		EMBABA		SHARK ELMEDINA		KAFR EL DAWAR		EL KANTARA GHARB			TOTALS	
				QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	UNIT COST	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS
BAB	01	INCUBATOR, INFANT	6.5		0.0	9	58.5		0.0		0.0	5.5	2	11.0	11	69.5
BAB	02	INCUBATOR, INFANT, ICU	9.0		0.0	2	18.0		0.0		0.0	9.0	1	9.0	3	27.0
BAB	03	INCUBATOR, INFANT, TRANSPORT	7.0		0.0	2	14.0		0.0		0.0	9.0	1	9.0	3	23.0
BAB	03-1	INCUBATOR, INFANT, SERVO			0.0		0.0		0.0		0.0	9.0	2	18.0	2	18.0
BAB	04	WARMING UNIT (THERMOBED)	5.0		0.0	2	10.0		0.0		0.0	6.0	1	6.0	3	16.0
BAB	05	PHOTOTHERAPY	1.5	2	3.0	6	9.0		0.0		0.0	1.5	2	3.0	10	15.0
BAB	06	ASPIRATOR, INFANT	0.9	1	0.9	6	5.4	2	1.8		0.0	0.9	5	4.3	14	12.4
BAB	07	INFUSION PUMP, PEDIATRIC			0.0		0.0		0.0		0.0	2.8	6	16.8		16.8
BAB	08	SCALE, NEONATAL	0.3		0.0		0.0	2	0.6		0.0	0.3	2	0.6	4	1.2
BAB	08-1	SCALE, PED, MANUAL	0.3	2	0.5	4	1.0		0.0		0.0			0.0	6	1.5
BAB	10	HUMIDIFIER WITH NEBULIZER	2.0		0.0	2	4.0		0.0		0.0	1.5	3	4.5	5	8.5
BAB	11	MONITOR, ECG, PEDIATRIC	7.5		0.0	3	22.5	1	7.5		0.0	5.2	2	10.4	6	40.4
BAB	13	VENTILATOR, PEDIATRIC	9.0		0.0	2	18.0		0.0		0.0	8.0	2	16.0	4	34.0
BAB	14	INFANT CARE CENTER. SERVO	18.0	1	18.0	2	36.0		0.0		0.0	17.0	2	34.0	5	88.0
BAB	15	BILIRUBIN ABI GLUCOSE METER	3.5		0.0	1	3.5		0.0		0.0	3.0	1	3.0	2	6.5
BAB	16	RESUSCITATOR, PEDIATRIC, AMBU	0.2		0.0	2	0.4	3	0.6		0.0	0.4	3	1.1	8	2.1
BAB	17	CIRCUIT, ANESTH, JACKSON REES	0.5		0.0	2	1.0	2	1.0		0.0	0.3	1	0.3	5	2.3
BAB	18	ANALYZER, OXYGEN	0.6		0.0	1	0.6		0.0		0.0	0.6	6	3.5	7	4.1
BAB	19	DEFIBRILLATOR, PEDIATRIC	3.6		0.0	1	3.6		0.0		0.0			0.0	1	3.6
BAB	20	SYRINGE PUMP, PED	3.5		0.0	2	7.0		0.0		0.0	3.6	6	21.3	8	28.3
BAB	24	SPHYGMOMANOMETER, PED	0.1	6	0.3		0.0		0.0		0.0			0.0	6	0.3
BAB	27	MONITOR, INFANT, BP, RESP	7.0		0.0		0.0	3	21.0		0.0			0.0	3	21.0
BAB	28	AEROSOL NEBULIZER	2.0		0.0		0.0	3	6.0		0.0			0.0	3	6.0
BAB	29	THERMOMETER, ELECTRONIC	0.1		0.0		0.0	5	0.3		0.0			0.0	5	0.3
BURN	02	IMMERSION MASSAGE TANK	11.0	1	11.0	1	11.0		0.0		0.0			0.0	2	22.0
BURN	03	AIR MATTRESS, ALT PRESS W/PUMP	0.9	3	2.7	3	2.7		0.0		0.0			0.0	6	5.4
BURN	04	SKIN GRAFT CUTTER, (MESHER)	2.6	1	2.6	1	2.6		0.0		0.0			0.0	2	5.2
BURN	12	PATIENT LIFT	3.6	1	3.6		0.0		0.0		0.0			0.0	1	3.6
BURN	15	RAZOR, SKIN GRAFTING	0.7	1	0.7		0.0		0.0		0.0			0.0	1	0.7
CARD	01	STRESS SYSTEM, ECG	18.0		0.0	1	18.0	1	18.0	1	18.0			0.0	3	54.0
CARD	04	ELECTROCARDIOGRAPH, 1 CHANNEL	4.5	1	4.5	1	4.5	2	9.0	1	4.5			0.0	5	22.5
CCU	03	ASPIRATOR, DOUBLE JAR	1.5		0.0		0.0		0.0		0.0			0.0	0	0.0
CCU	05	SYRINGE PUMP	3.5		0.0	8	28.0		0.0		0.0			0.0	8	28.0
CCU	06	BED, HOSP, MANUAL	2.0		0.0	8	16.0		0.0		0.0			0.0	8	16.0
CCU	07	VENTILATOR, ADULT, ICU	9.0		0.0	3	27.0		0.0		0.0	8.5	2	17.0	5	44.0
CHST	01	SPIROMETER	0.3		0.0		0.0	2	0.6		0.0			0.0	2	0.6
CHST	02	RESPIROMETER, PORTABLE	1.0		0.0		0.0	1	1.0		0.0			0.0	1	1.0
CSSD	04	RINSER, WATER GUN	0.5		0.0	1	0.5		0.0		0.0			0.0	1	0.5
CSSD	04	HEAT SEALING UNIT	0.6		0.0	1	0.6		0.0		0.0	0.5	1	0.5	2	1.1
CSSD	11	ULTRASONIC CLEANER	25.0		0.0	1	25.0		0.0		0.0			0.0	1	25.0
CSSD	13	STERILIZER, STEAM, LARGE	45.0		0.0	2	90.0		0.0		0.0			0.0	2	90.0
CSSD	14	STERILIZER, DRY HEAT, TABLETOP	0.6		0.0	1	0.6		0.0		0.0			0.0	1	0.6
CSSD	15	DISINFECTING APPARATUS,AUTO	98.0		0.0	1	98.0		0.0		0.0			0.0	1	98.0
CSSD	15	DISINFECT AND CLEANING MACH	100.0		0.0	1	100.0		0.0		0.0			0.0	1	100.0
CSSD	16	WASHER/STERILIZER	0.6		0.0	1	0.6		0.0		0.0			0.0	1	0.6
DERM	01	ELECTROSURG UNIT, HYFRECATOR	1.0	1	1.0	1	1.0	2	2.0	1	1.0	0.7	1	0.7	6	5.7
DERM	03	LAMP, ULTRAVIOLET	2.0		0.0	2	4.0	2	4.0	2	4.0	2.0	1	2.0	7	14.0
DERM	04	INJECTION DEVICE, NEEDLE FREE	0.5		0.0	1	0.5		0.0		0.0			0.0	1	0.5
DERM	05	DERMATOME, PUNCH	2.2	1	2.2	1	2.2		0.0		0.0			0.0	2	4.4
DERM	07	MICROSCOPE, BINOCULAR	2.0	3	6.0	4	8.0	6	12.0	3	6.0			0.0	16	32.0
DERM	09	CENTRIFUGE, TABLE-TOP	1.5	1	1.5	1	1.5	2	3.0	1	1.5			0.0	5	7.5
DERM	10	WATER BATH 10L	3.0		0.0	1	3.0		0.0	1	3.0	2.9	1	2.9	3	5.9
DERM	12	HEMOCYTOMETER, SLIDE	0.5		0.0	2	1.0		0.0		0.0			0.0	2	1.0

CODE		ITEM	UNIT COST	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	UNIT COST	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS
DERM	14	CRYODERMATOLOGY UNIT	0.5		0.0		0.0	2	1.0	1	0.5			0.0	3	1.5
DLS	03	CHAIR, PATIENT, RECLINING	1.0		0.0	6	6.0		0.0		0.0			0.0	6	6.0
DNT	101	DENTAL UNIT	7.0	1	7.0	2	14.0	4	28.0	1	7.0			0.0	8	56.0
DNT	102	X-RAY UNIT, DENTAL	15.0		0.0	1	15.0	1	15.0		0.0	8.9	1	8.9	3	38.9
DNT	103	X-RAY, DENTAL, PANORAMIC	23.0		0.0	1	23.0		0.0		0.0			0.0	1	23.0
DNT	104	CHAIR, DENTAL HYDRAULIC	7.0		0.0	2	14.0	3	21.0	2	14.0			0.0	7	49.0
DNT	105	DEVELOPER, DENTAL X-RAY FILM	3.5		0.0	1	3.5	1	3.5	1	3.5	2.5	1	2.5	4	13.0
DNT	106	STERILIZER, DRY HEAT, 20L	2.7		0.0		0.0	3	8.1	1	2.7			0.0	4	10.8
DNT	106-1	STERILIZER, DRY HEAT, 30L	5.5	2	11.0		0.0		0.0		0.0			0.0	2	11.0
DNT	107	ANESTHESIA UNIT, DENTAL	11.0		0.0	1	11.0		0.0		0.0			0.0	1	11.0
DNT	108	AMALGAMATOR	1.0		0.0	2	2.0	1	1.0	1	1.0	0.9	2	1.9	6	5.9
DNT	109	ULTRASONIC SCALER, CAVITRON	2.0	1	2.0	2	4.0	2	4.0	1	2.0	0.5	1	0.5	7	12.5
DNT	110	LIGHT CURE	0.6		0.0	1	0.6	1	0.6	1	0.6			0.0	3	1.7
DNT	111	RUBBER DAM ISOLATION SET	0.4		0.0		0.0	2	0.8		0.0			0.0	2	0.8
DNT	113	STOOL, DENTIST	0.6		0.0		0.0	4	2.2	1	0.6			0.0	5	2.8
DNT	114	FORCEPS SET, DENTAL, CHILDREN	2.5		0.0		0.0	3	7.5		0.0			0.0	3	7.5
DNT	115	FORCEPS SET, DENTAL, ADULT	2.7		0.0		0.0	3	8.1		0.0			0.0	3	8.1
DNT	117	INST SET, DENT ROOT ELEVATOR	0.7		0.0		0.0	1	0.7		0.0			0.0	1	0.7
DNT	201	FURNACE FOR RINGS, AUTO	0.5	1	0.5	1	0.5		0.0		0.0			0.0	2	1.0
DNT	201-1	FURNACE ELECTRIC, DENT	2.0	1	2.0		0.0		0.0		0.0			0.0	1	2.0
DNT	202	INDUCTION, CASTING MACHINE	11.0	1	11.0	1	11.0		0.0		0.0			0.0	2	22.0
DNT	203	VACUUM INVESTING MACHINE	1.0		0.0	1	1.0		0.0		0.0			0.0	1	1.0
DNT	204	SANDBLASTING MACHINE, DENTAL	0.6	1	0.6	1	0.6		0.0		0.0			0.0	2	1.2
DNT	205	DUPLICATING MACHINE AUTO	2.6		0.0	1	2.6		0.0		0.0			0.0	1	2.6
DNT	206	SURVEYOR	0.5		0.0	1	0.5		0.0		0.0			0.0	1	0.5
DNT	207	MICROMOTOR, DENTAL, LAB	0.9	2	1.8	1	0.9		0.0		0.0			0.0	3	2.7
DNT	208	MELTING WAX CURING BATH	0.3	1	0.3	1	0.3		0.0		0.0			0.0	2	0.6
DNT	209	CUTTING DEVICE, PLASTER, DENT	0.5		0.0	1	0.5	3	1.4		0.0			0.0	4	1.8
DNT	210	VIBRATOR	0.2	2	0.4	1	0.2	3	0.6		0.0			0.0	6	1.2
DNT	211	POLISHER, ELECTROLYTIC, DENTAL	3.0		0.0	1	3.0	4	12.0		0.0			0.0	5	15.0
DNT	214	DIPPING WAX APPARATUS	0.4	1	0.4		0.0		0.0		0.0			0.0	1	0.4
DNT	221	WAX ELIMINATING MACHINE	0.3		0.0		0.0	2	0.6		0.0			0.0	2	0.6
DNT	222	CURING DEVICE, ELECTRIC	2.0		0.0		0.0	2	4.0		0.0			0.0	2	4.0
DNT	224	ARTICULATOR, DENTAL	0.5		0.0		0.0	40	20.0		0.0			0.0	40	20.0
DNT	225	ULTRASONIC CLEANER, DENTAL	2.1		0.0		0.0	1	2.1		0.0			0.0	1	2.1
DNT	226	FLASK HYDRAULIC	0.5		0.0		0.0		0.0	1	0.5			0.0	1	0.5
DNT	226-1	FLASKS, DENTAL	0.1		0.0		0.0	40	3.0		0.0			0.0	40	3.0
DNT	227	MOTOR, POLISHING, DENT LAB	1.5		0.0		0.0	4	6.0		0.0			0.0	4	6.0
DNT	228	MOTOR, DENTAL LAB	0.3		0.0		0.0	12	3.6		0.0			0.0	12	3.6
DNT	229	HAND PIECE, DENTAL LAB	0.4		0.0		0.0	12	4.8		0.0			0.0	12	4.8
EMRG	01	TABLE, OPERATING, GENERAL	27.0	1	27.0	3	81.0	1	27.0	1	27.0			0.0	6	162.0
EMRG	05-1	STRETCHER, TRAUMA	7.0		0.0		0.0	1	7.0		0.0	6.5	1	6.5	2	13.5
EMRG	06	PROCESSOR, X-RAY FILM, AUTO	20.0		0.0	2	40.0	2	40.0		0.0	15.0	2	30.0	6	110.0
EMRG	09	DEFIBRILLATOR W/ECG	6.0		0.0	1	6.0		0.0		0.0	3.6	2	7.2	3	13.2
EMRG	12	VENTILATOR, ANESTHESIA	12.7	2	25.4	9	114.3		0.0		0.0	12.7	1	12.7	12	152.4
EMRG	14	RESUSCITATOR, ADULT, AMBU	0.2	1	0.2		0.0	2	0.4		0.0			0.0	3	0.6
ENC	01	GLUCOMETER, DRY TEST	0.2		0.0		0.0	2	0.4		0.0			0.0	2	0.4
END	10	LIGHT SOURCE, HALOGEN LAMP	1.5		0.0		0.0	3	4.5	2	3.0			0.0	5	7.5
END	11-1	COUCH, PATIENT ENDOSCOPY	2.0		0.0		0.0		0.0	1	2.0			0.0	1	2.0
END	12	CART, ENDOSCOPY PROCEDURE	0.5		0.0		0.0		0.0	1	0.5			0.0	1	0.5
END	13	DISINFECTION STATION,FIBERSCOPE	1.5		0.0		0.0		0.0	1	1.5			0.0	1	1.5
END	14	CABINET, FIBERSCOPE	0.6		0.0		0.0		0.0	1	0.6			0.0	1	0.6
END	15	ASPIRATOR, ENDOSCOPIC IRRIG	1.0		0.0		0.0		0.0	1	1.0			0.0	1	1.0
END	16	ELECTROSURG UNIT, DIATHERMY	3.3		0.0		0.0		0.0	1	3.3			0.0	1	3.3
END	G01	GASTROSCOPE, 9.5mm	13.5	1	13.5		0.0	1	13.5	1	13.5			0.0	3	40.5
END	G02	GASTROSCOPE, 11mm	13.5		0.0		0.0	1	13.5	1	13.5			0.0	2	27.0
END	G05	GASTROSCOPE, 13mm	12.0		0.0		0.0	1	12.0	1	12.0			0.0	2	24.0
END	U01	RESECTOSCOPE WORKING ELEMEN	0.7		0.0		0.0		0.0	1	0.7			0.0	1	0.7
END	U01	CYSTOSCOPE, ADULT	15.0		0.0		0.0	1	15.0	1	15.0			0.0	2	30.0
END	U02	RESECTOSCOPE, ADULT	2.6		0.0		0.0	1	2.6		0.0	2.6	1	2.6	2	5.2
END	U03	URETHROTOME, ADULT	2.1		0.0		0.0	1	2.1		0.0			0.0	1	2.1
END	U04	LITROTITE, BLIND	1.0		0.0		0.0	1	1.0		0.0			0.0	1	1.0
END	U04	URETROTOME, OPTICAL, ADULT	2.5		0.0		0.0		0.0	1	2.5			0.0	1	2.5
END	U05	LITROTITE, VISUAL	1.0		0.0		0.0	1	1.0	1	1.0			0.0	2	2.0
END	U08	INST SET, CYSTOSCOPE	3.0		0.0		0.0	1	3.0	1	3.0			0.0	2	6.0
END	U09	RESECTOSCOPE, PAEDIATRIC	2.0		0.0		0.0		0.0	1	2.0			0.0	1	2.0
END	U16	DIATHERMY UNIT, UNDER WATER	3.5		0.0		0.0		0.0	1	3.5			0.0	1	3.5
ENT	01	AUDIOMETRIC BOOTH	12.5		0.0	1	12.5	1	12.5		0.0			0.0	2	25.0

CODE		ITEM	UNIT COST	MAY 15TH		EMBABA		SHARK ELMEDINA		KAFR EL DAWAR		EL KANTARA GHARB			TOTALS	
				QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	UNIT COST	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS
ENT	02	AUDIOMETER	3.0		0.0	1	3.0		0.0	1	3.0	2.7	1	2.7	3	8.7
ENT	04	CHAIR, PATIENT, ENT	5.0		0.0	1	5.0		0.0		0.0	3.6	1	3.6	2	8.6
ENT	05	ENT UNIT	4.0		0.0	1	4.0		0.0		0.0	2.9	1	2.9	2	6.9
ENT	07	STOOL, ENT, PHYSICIAN	0.6		0.0	1	0.6		0.0		0.0	0.6	1	0.6	2	1.1
ENT	08	ELECTROSURGERY UNIT, ENT	5.0		0.0		0.0		0.0	1	5.0			0.0	1	5.0
ENT	10	SINOSCOPE	0.4		0.0		0.0	1	0.4		0.0			0.0	1	0.4
ENT	11	AURAL SYRINGE, SIMPSON	0.1		0.0		0.0	2	0.2		0.0			0.0	2	0.2
ENT	302	LARYNGOSCOPE	0.3		0.0		0.0	1	0.3	1	0.3			0.0	2	0.6
ENT	303	LARYNGOSCOPE, NASO PHARYNGO	0.6		0.0		0.0	1	0.6		0.0			0.0	1	0.6
ENT	304	ESOPHAGOSCOPE	11.0		0.0		0.0		0.0	1	11.0			0.0	1	11.0
ENT	412	TYMPANOMETER	1.5		0.0		0.0	1	1.5	1	1.5			0.0	2	3.0
ENT	501	INST SET, FORCEPS	1.5		0.0		0.0		0.0	1	1.5			0.0	1	1.5
ENT	502	TRACHEOSTOMY KIT	0.5		0.0		0.0	1	0.5		0.0			0.0	1	0.5
ENT	503	INST SET, MICRO-LARYNGEAL	1.4		0.0		0.0	1	1.4		0.0			0.0	1	1.4
GAS	01	FLOW METER, NITROUS OXIDE			0.0		0.0		0.0		0.0	0.1	5	0.6	5	0.6
GAS	02	FLOW METER, AIR			0.0		0.0		0.0		0.0	0.1	3	0.4	3	0.4
GAS	03	FLOW METER, OXYGEN			0.0		0.0		0.0		0.0	0.1	12	1.5	12	1.5
GYN	02	COLPOSCOPE	8.5		0.0	1	8.5		0.0		0.0	8.2	1	8.2	2	16.7
GYN	03	FETAL HEART MONITOR	6.8	1	6.8	2	13.6		0.0	2	13.6	6.8	1	6.8	6	40.8
GYN	04	HYSTEROSCOPY & INSUFFLATOR	6.0		0.0	1	6.0		0.0		0.0	6.0	1	6.0	2	12.0
GYN	05	EXAMINATION UNIT, GYN	5.0		0.0	1	5.0		0.0		0.0			0.0	1	5.0
GYN	06	SCALE, ADULT	0.4	1	0.4	2	0.7		0.0		0.0			0.0	3	1.1
GYN	10	ELECTROCAUTERY UNIT	1.5		0.0	1	1.5		0.0		0.0	1.0	1	1.0	2	2.5
GYN	18	FETAL HEART DETECTOR	0.9	1	0.9		0.0		0.0		0.0	0.7	2	1.4	3	2.3
ICU	03	EEG, 8-CHANNEL	8.5		0.0		0.0	1	8.5		0.0			0.0	1	8.5
ICU	04	ELECTROCARDIOGRAPH, 3-CHANNEL	5.5		0.0	1	5.5		0.0		0.0	7.0	1	7.0	2	12.5
ICU	07	INFUSION PUMP	2.8		0.0	5	14.0		0.0		0.0	2.8	4	11.2	9	25.2
ICU	09	CRASH CART	15.0		0.0	3	45.0		0.0		0.0			0.0	3	45.0
ICU	11	ANALYZER, BLOOD/GAS	34.0		0.0	1	34.0		0.0		0.0	35.0	1	35.0	2	69.0
ICU	12	HUMIDIFIER	1.5		0.0	4	6.0		0.0		0.0	1.5	4	6.0	8	12.0
LAB	102	SPECTROPHOTOMETER, VISIBLE	3.9	1	3.9		0.0	1	3.9	1	3.9	3.6	1	3.6	4	15.3
LAB	102-1	PHOTOMETER SYSTEM	17.5	1	17.5		0.0		0.0		0.0			0.0	1	17.5
LAB	103	PHOTOMETER, FLAME	5.5	1	5.5		0.0		0.0		0.0	5.5	1	5.5	2	11.0
LAB	104-1	WATERBATH, 3L	1.5	2	3.0		0.0		0.0		0.0			0.0	2	3.0
LAB	105	INCUBATOR, LABORATORY	1.5	1	1.5	3	4.5	2	3.0	1	1.5	1.0	1	1.0	8	11.5
LAB	106	PH METER	1.0	1	1.0		0.0		0.0		0.0	1.0	1	1.0	2	2.0
LAB	107	VORTEX AGITATOR	0.4		0.0	1	0.4		0.0		0.0			0.0	1	0.4
LAB	108	STIRRER	0.5		0.0	1	0.5		0.0		0.0			0.0	1	0.5
LAB	109	REFLOWMETER	0.5	1	0.5		0.0		0.0		0.0			0.0	1	0.5
LAB	115	DISTILLING UNIT, WATER			0.0		0.0		0.0		0.0	6.0	2	11.9	2	11.9
LAB	116	PIPETTE, AUTO	2.9	1	2.9	2	5.8		0.0		0.0	2.9	2	5.8	5	14.5
LAB	117	DEIONIZER	4.1		0.0	1	4.1		0.0		0.0	4.1	1	4.1	2	8.2
LAB	119	OVEN, DRYING, HOT AIR	5.5	1	5.5		0.0	2	10.9	2	10.9	3.0	1	3.0	6	30.4
LAB	152	PIPETTE, AUTO VARIABLE	0.4	1	0.4	1	0.4		0.0		0.0			0.0	2	0.8
LAB	153	PIPETTE, AUTO HANDHELD, FIXED	0.4	1	0.4		0.0		0.0		0.0			0.0	1	0.4
LAB	159	DISPENSER, SERIES DOSING	5.0	1	5.0		0.0		0.0		0.0			0.0	1	5.0
LAB	203	ANAEROBIC CULTURE JAR	0.7		0.0	1	0.7		0.0		0.0	0.7	1	0.7	2	1.4
LAB	215	STERILIZER, DRY HEAT, SMALL	3.5		0.0	4	14.0	1	3.5		0.0	2.9	2	5.7	7	23.2
LAB	216	DISPENSER, SENSITIVITY DISC	0.6		0.0	1	0.6		0.0		0.0			0.0	1	0.6
LAB	303	COUNTER, BLOOD CELL, AUTO	0.8	1	0.8		0.0		0.0		0.0	0.7	1	0.7	2	1.5
LAB	303-1	PLATELET COUNTER, AUTO	3.5	1	3.5		0.0		0.0		0.0			0.0	1	3.5
LAB	314	CENTRIFUGE, HEMATOCRIT	2.8	1	2.8	1	2.8		0.0		0.0			0.0	2	5.5
LAB	315	ELECTROPHORESIS SYSTEM	7.4		0.0	1	7.4		0.0		0.0			0.0	1	7.4
LAB	316	PROTHROMBIN TIME UNIT	0.2		0.0		0.0		0.0	1	0.2			0.0	1	0.2
LAB	402	SHARPENER, MICROTOME KNIFE	4.0		0.0		0.0	1	4.0		0.0			0.0	1	4.0
LAB	403	MICROTOME, ROTARY	8.9		0.0	1	8.9	1	8.9		0.0			0.0	2	17.9
LAB	406	FLOTATION BATH	0.3		0.0	1	0.3		0.0		0.0			0.0	1	0.3
LAB	407	HOT PLATE	0.5		0.0	1	0.5		0.0		0.0	0.5	1	0.5	2	1.0
LAB	408	CAMERA	1.5		0.0	1	1.5		0.0		0.0			0.0	1	1.5
LAB	505	SHAKER	1.1	1	1.1		0.0		0.0		0.0			0.0	1	1.1
LAB	506	REFRIGERATOR, BLOOD BANK	9.0		0.0		0.0	2	18.0		0.0			0.0	2	18.0
OPH	01	SLIT LAMP	5.0		0.0		0.0	1	5.0	1	5.0			0.0	2	10.0
OPH	02	OPHTHALMOSCOPE, INDIRECT	0.1	1	0.1	1	0.1	3	0.3	1	0.1	0.8	1	0.8	7	1.4
OPH	03	CAMERA FOR FUNDUS	19.0		0.0	1	19.0	1	19.0	1	19.0			0.0	3	57.0
OPH	04	RETINOSCOPE	0.6	1	0.6	1	0.6		0.0		0.0	0.6	1	0.6	3	1.8
OPH	05	REFRACTOMETER, AUTOMATIC	4.0	1	4.0	1	4.0		0.0	1	4.0	3.5	1	3.5	4	15.5
OPH	07	CONSULTING EXAM UNIT	5.5		0.0	1	5.5		0.0		0.0			0.0	1	5.5
OPH	14	TRIAL FRAME, CHILD	0.3	1	0.3	1	0.3		0.0		0.0	0.2	1	0.2	3	0.8

CODE		ITEM	UNIT COST	MAY 15TH		EMBABA		SHARK ELMEDINA		KAFR EL DAWAR		EL KANTARA GHARB			TOTALS	
				QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	UNIT COST	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS
OPH	15	LENSOMETER	8.8	1	8.8		0.0		0.0		0.0			0.0	1	8.8
OPH	20	TONOMETER, OPHTHALMIC			0.0		0.0		0.0		0.0	2.9	1	2.9	1	2.9
OPH	24	ALBUM, ISHIHARA TEST	0.3		0.0	1	0.3		0.0		0.0	0.2	1	0.2	2	0.5
OPH	32	TRIAL FRAME, ADULT	0.3	1	0.3		0.0		0.0		0.0			0.0	1	0.3
OPH	39	LENS, 20D	0.2	1	0.2		0.0		0.0		0.0			0.0	1	0.2
OPH	40	CRYOPENCIL FOR CATARACT	5.9	1	5.9		0.0	1	5.9		0.0			0.0	2	11.8
OPH	41	INST SET, GLAUCOMA SURGERY	1.2		0.0		0.0	1	1.2		0.0			0.0	1	1.2
OPH	42	INST SET, CATARACT SURG	3.0		0.0		0.0	1	3.0		0.0			0.0	1	3.0
OPH	43	INST SET, LACRIMAL	1.2		0.0		0.0	1	1.2		0.0			0.0	1	1.2
OPH	44	INST SET, OPHTHALMIC, MUSCLE	1.2		0.0		0.0	1	1.2		0.0			0.0	1	1.2
OPH	45	INST SET, GEN EYE SURGERY	1.6		0.0		0.0	1	1.6		0.0			0.0	1	1.6
OPH	46	DIATHERMY UNIT, OPHTHALMIC	3.0		0.0		0.0	1	3.0		0.0			0.0	1	3.0
OPTG	06	ASPIRATOR, SURGICAL, MOBILE	0.9	1	0.9		0.0	1	0.9		0.0			0.0	2	1.8
ORTH	327	TABLE, FRACTURE & ORTHO	0.8		0.0		0.0	1	0.8		0.0			0.0	1	0.8
ORTH	01	FVM SYSTEM	1.0		0.0	1	1.0		0.0		0.0			0.0	1	1.0
ORTH	02	DRILL SET, AIR			0.0		0.0		0.0		0.0	2.9	1	2.9	1	2.9
ORTH	03	ARTHROSCOPE	7.0		0.0	1	7.0		0.0		0.0	7.0	1	7.0	2	14.0
ORTH	04	EXTERNAL FIXATOR SET	2.0		0.0	1	2.0	1	2.0		0.0	2.0	1	2.0	3	6.0
ORTH	07	TOURNIQUET, PNEU, PEDIATRIC	1.0		0.0	1	1.0		0.0		0.0			0.0	1	1.0
ORTH	08	TOURNIQUET, PNEU, ADULT	0.6		0.0	1	0.6	1	0.6		0.0	0.6	2	1.2	4	2.4
ORTH	09	DRIVER, MICROELECTRIC	0.8		0.0		0.0	1	0.8		0.0			0.0	1	0.8
ORTH	10	NAILING SET, INTRAMEDULLARY			0.0		0.0		0.0		0.0	2.2	1	2.2	1	2.2
ORTH	11	INST SET, MENISCUS			0.0		0.0		0.0		0.0	2.1	1	2.1	1	2.1
ORTH	12	A.O. SCREW SET	1.5		0.0		0.0	1	1.5		0.0	1.2	1	1.2	2	2.7
ORTH	13	A.O. PLATE SET	1.5		0.0		0.0	1	1.5		0.0	1.1	1	1.1	2	2.6
ORTH	14	FORCEPS SET, BONE HOLDING	0.8		0.0		0.0	1	0.8		0.0			0.0	1	0.8
ORTH	15	CAST CUTTER	0.6		0.0		0.0		0.0	2	1.2			0.0	2	1.2
ORTH	16	INST SET, STAPLE	1.2		0.0		0.0	1	1.2		0.0			0.0	1	1.2
ORTH	17	INST SET, MEDULLARY	1.2		0.0		0.0	1	1.2		0.0			0.0	1	1.2
ORTH	18	BENDING INSTRUMENT FOR PLATES	0.7		0.0		0.0	1	0.7		0.0			0.0	1	0.7
ORTH	19	INST SET, AUSTIN-MORE	0.9		0.0		0.0	1	0.9		0.0			0.0	1	0.9
ORTH	20	INST SET, ANGLED BLADE PLATE	0.9		0.0		0.0	1	0.9		0.0			0.0	1	0.9
ORTH	21	FORCEPS SET, BONE CUTTING	0.8		0.0		0.0	1	0.8		0.0			0.0	1	0.8
ORTH	22	LOUPE,OPERATING, MAGNIFYING	0.5		0.0		0.0	1	0.5		0.0			0.0	1	0.5
ORTH	333	IMPLANTS FOR FRAGMENTS, SET	15.0	1	15.0		0.0		0.0		0.0			0.0	1	15.0
OT	102	LAMP, OPERATING CEILING	18.0		0.0	2	36.0	1	18.0		0.0	17.5	4	70.1	7	124.1
OT	103	LAMP, OPERATING, EMERGENCY	4.5		0.0		0.0	1	4.5		0.0			0.0	1	4.5
OT	107	MONITOR, ECG, DUAL CHANNEL	7.5		0.0	20	150.4		0.0		0.0	7.5	9	67.7	29	218.1
OT	108	CHAIR, SURGEON SWIVEL	0.3		0.0	12	3.0		0.0		0.0			0.0	12	3.0
OT	109	ENDOTRACHEAL TUBE SET	0.5		0.0		0.0	6	3.0		0.0			0.0	6	3.0
OT	110	FORCEPS SET, MACGILL	0.6		0.0		0.0	6	3.6		0.0			0.0	6	3.6
OT	111	REGULATOR, OXYGEN PRESSURE	0.3		0.0		0.0	4	1.2		0.0			0.0	4	1.2
OT	113	ANESTHESIA MACHINE	19.0		0.0	6	114.0	2	38.0		0.0			0.0	8	152.0
OT	120	DEFIBRILLATOR	4.0		0.0	4	16.0	1	4.0	1	4.0	3.5	1	3.5	7	27.5
OT	122	SCRUB UNIT, SURGERY, 2 PERSON	6.0		0.0	5	30.0		0.0		0.0	4.6	2	9.2	7	39.2
OT	126	OXIMETER	4.3		0.0	8	34.4		0.0		0.0	4.3	6	25.8	14	60.2
OT	127	INST SET, GENERAL SURGERY	23.4	1	23.4		0.0		0.0		0.0			0.0	1	23.4
OT	128	INST SET, VASCULAR SURGERY	7.0	1	7.0		0.0		0.0		0.0			0.0	1	7.0
OT	129	LARYNGOSCOPE, MACKINTOSH	0.3	2	0.5		0.0	11	3.0		0.0			0.0	13	3.5
OT	130	X-RAY UNIT, FIXED	200.0		0.0		0.0	1	200.0		0.0	200.0	1	200.0	2	400.0
OT	134	CRYOSURGICAL SYSTEM	4.5	1	4.5		0.0		0.0		0.0			0.0	1	4.5
OT	135	SUTURE UNIT, AUTO	0.5	1	0.5		0.0		0.0		0.0			0.0	1	0.5
OT	136	INST SET, MICRO SURGERY	4.0	1	4.0		0.0		0.0		0.0			0.0	1	4.0
OT	201	TABLE, OPERATING, GYN			0.0		0.0		0.0		0.0	33.0	1	33.0	1	33.0
OT	202	LAPAROSCOPE	2.5	1	2.5	1	2.5	2	5.0		0.0	2.5	1	2.5	5	12.5
OT	203	EXTRACTOR, VACUUM DEL, MAN	0.4		0.0	2	0.8		0.0	1	0.4	0.3	2	0.7	5	1.9
OT	204	EXTRACTOR, VACUUM DEL, ELEC	2.5		0.0		0.0		0.0	1	2.5	2.5	1	2.5	2	5.0
OT	204	INST SET, GYN	3.5	1	3.5		0.0		0.0		0.0			0.0	1	3.5
OT	301	TABLE, OPERATING, ORTH	26.0		0.0	1	26.0	1	26.0		0.0	20.6	1	20.6	3	72.6
OT	303	DRILL, BONE	2.9		0.0	1	2.9		0.0		0.0			0.0	1	2.9
OT	304	X-RAY UNIT, C-ARM	150.0		0.0		0.0	1	150.0		0.0	136.5	1	136.5	2	286.5
OT	330	INST SET, LAMINECTOMY	3.0	1	3.0		0.0		0.0		0.0			0.0	1	3.0
OT	401	TABLE, OPERATING, UROLOGY	35.0		0.0	1	35.0		0.0		0.0	32.5	1	32.5	2	67.5
OT	402	CYSTOSCOPE, RIGID	4.0		0.0	1	4.0		0.0		0.0	3.6	1	3.6	2	7.6
OT	405	NEPHROSCOPE, FLEXIBLE	9.8		0.0	1	9.8		0.0		0.0			0.0	1	9.8
OT	405-1	URETHROSCOPE	5.0		0.0		0.0	1	5.0		0.0	5.0	1	5.0	2	10.0

CODE		ITEM	UNIT COST	MAY 15TH		EMBABA		SHARK ELMEDINA		KAFR EL DAWAR		EL KANTARA GHARB			TOTALS	
				QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS	UNIT COST	QTY	EXTENDED COSTS	QTY	EXTENDED COSTS
OT	406	ULTRASONIC LITHOLAPAXY UNIT			0.0		0.0		0.0		0.0	16.0	1	16.0	1	16.0
OT	407	INST SET, UROLOGY	13.0	1	13.0		0.0		0.0		0.0	12.5	1	12.5	2	25.5
OT	409	CYSTOSCOPE, RIGID, PEDIATRIC	4.0		0.0	1	4.0		0.0		0.0	3.6	1	3.6	2	7.6
OT	409-1	CYSTOSCOPE, PED, DIAG	4.0		0.0		0.0		0.0	1	4.0			0.0	1	4.0
OT	409-2	CYSTOSCOPE, ADULT, DIAG	4.0		0.0		0.0		0.0	1	4.0			0.0	1	4.0
OT	410	FORCEPS, STONE-MANIPULATING			0.0		0.0		0.0		0.0	0.2	1	0.2	1	0.2
OT	411	FORCEPS, BIOPSY	1.5	1	1.5		0.0		0.0		0.0	1.5	1	1.5	2	3.0
OT	414	ULTRASONIC PRCBE/BLADDER ST.	3.6		0.0	1	3.6		0.0		0.0	3.6	1	3.6	2	7.2
OT	418	URETHROTOME, VISUAL			0.0		0.0		0.0		0.0	0.8	1	0.8	1	0.8
OT	501	SURGICAL MICROSCOPE, OPHTH	15.0		0.0	1	15.0		0.0		0.0			0.0	1	15.0
OT	501	MICROSCOPE, OPHTHALMIC SURG	25.0		0.0	1	25.0		0.0		0.0			0.0	1	25.0
OT	502	CRYOSURGICAL UNIT, OPHTHALMIC	4.5	1	4.5	1	4.5		0.0		0.0			0.0	2	9.0
OT	519	INSTRUMENT SET, OPHTHALMIC	4.5		0.0		0.0	1	4.5		0.0			0.0	1	4.5
OT	601	SURGICAL MICROSCOPE, ENT	35.0		0.0	1	35.0		0.0		0.0			0.0	1	35.0
OT	602	INST SET, ENT	6.5	1	6.5		0.0		0.0		0.0			0.0	1	6.5
OT	701	INST SET, PLASTIC SURGERY	3.8	1	3.8		0.0		0.0		0.0			0.0	1	3.8
PHYS	01	SHORTWAVE THERAPY APPARATUS	3.5	2	7.0	2	7.0		0.0	2	7.0			0.0	6	21.1
PHYS	03	ULTRASONIC THERAPEUTIC MACH	3.5	2	7.0	1	3.5		0.0	1	3.5			0.0	4	14.1
PHYS	033	COLD PACK	1.2	2	2.4		0.0	1	1.2		0.0			0.0	3	3.6
PHYS	04	LAMP, INFRARED	0.7		0.0	3	2.1		0.0	1	0.7			0.0	4	2.8
PHYS	06	ELECTRO-STIMULATOR (GALVANIC)	2.0	1	2.0	1	2.0	1	2.0	1	2.0			0.0	4	8.0
PHYS	07	LASER THERAPY UNIT	3.9	2	7.8	1	3.9		0.0		0.0			0.0	3	11.7
PHYS	10	PARAFFIN BATH	1.2		0.0	1	1.2		0.0		0.0			0.0	1	1.2
PHYS	13	ERGOMETER, CLINICAL	1.9	1	1.9	2	3.8		0.0	2	3.8	1.5	1	1.5	6	11.0
PHYS	16	MIRROR, CORRECTION	0.3		0.0	1	0.3		0.0		0.0			0.0	1	0.3
PHYS	17	TRACTION UNIT, COMPUTERIZED	2.5	1	2.5	1	2.5	1	2.5	1	2.5			0.0	4	10.0
PHYS	18	SPIROMETER, POCKET SIZE, DRY	0.2		0.0	1	0.2		0.0		0.0			0.0	1	0.2
PHYS	19	EMG, 2-CHANNEL	3.0		0.0		0.0	1	3.0		0.0			0.0	1	3.0
PHYS	20	TREADMILL, ELECTRIC	1.5		0.0		0.0	1	1.5		0.0			0.0	1	1.5
PHYS	23	INTERFERENTIAL THERAPY UNIT	0.2	1	0.2		0.0	1	0.2		0.0			0.0	2	0.4
PHYS	24	LASER SCANNER, THERAPEUTIC	4.0	1	4.0		0.0		0.0		0.0			0.0	1	4.0
PHYS	25	SHOULDER WHEEL	0.7		0.0		0.0		0.0	1	0.7			0.0	1	0.7
PHYS	26	OVERHEAD WALKING UNIT	1.2		0.0		0.0	1	1.2		0.0			0.0	1	1.2
PHYS	27	QUADRICEPS BENCH UNIT	1.1		0.0		0.0	1	1.1		0.0			0.0	1	1.1
PHYS	28	HAND, WRIST & FOREARM UNIT	0.9		0.0		0.0	1	0.9		0.0			0.0	1	0.9
PHYS	33	HOT PACK	1.2	2	2.4		0.0	1	1.2		0.0			0.0	3	3.6
PSC	01	ELECTROMYOGRAPHY SYSTEM	7.0		0.0		0.0	1	7.0		0.0			0.0	1	7.0
RAD	02	X-RAY UNIT, MOBILE	45.0		0.0	2	90.0	1	45.0		0.0	45.0	1	45.0	4	180.0
RAD	03	TV SCREEN, X-RAY	28.1		0.0	1	28.1		0.0		0.0			0.0	1	28.1
RAD	04	CASSETTES, X-RAY	0.6		0.0	20	12.4	1	0.6	5	3.1			0.0	26	16.1
RAD	05	HANGER, X-RAY	0.2		0.0	20	3.2		0.0		0.0			0.0	20	3.2
RAD	06	INTENSIFYING SCREEN, X-RAY	0.2		0.0	20	4.8	1	0.2	1	0.2			0.0	22	5.3
RAD	07	CAMERA, RADIOLOGY, ID	0.6		0.0	1	0.6	1	0.6		0.0			0.0	2	1.1
RAD	10	ULTRASOUND, LINEAR/SECTOR	30.0		0.0		0.0		0.0	1	30.0	30.0	1	30.0	2	60.0
RAD	124	X-RAY SYSTEM, R&F, 500mA	225.0		0.0		0.0	1	225.0		0.0			0.0	1	225.0
RAD	13	VIDEO PRINTER FOR ULTRASOUND	2.8	1	2.8		0.0		0.0		0.0			0.0	1	2.8
RAD	14	SHIELD, X-RAY, APRON	0.2		0.0		0.0	7	1.4		0.0			0.0	7	1.4
RAD	15	SHIELD, X-RAY, OVARIES	0.2		0.0		0.0	1	0.2		0.0			0.0	1	0.2
RAD	16	SHIELDS, X-RAY, GONADAL	0.2		0.0		0.0	1	0.2		0.0			0.0	1	0.2
SUB	01	ULTRASOUND DOPPLER	2.5		0.0		0.0		0.0	1	2.5			0.0	1	2.5
UPS	01	UNINTERRUPTED POWER SUPPLY			0.0		0.0		0.0		0.0	0.8	6	4.5	6	4.5
UPS	02	SURGE PROTECTOR			0.0		0.0		0.0		0.0	0.0	10	0.3	10	0.3
		TOTAL			379.1		1,990.2		1,286.2		328.6			1,166.4		5,1[illegible].4
		EST. SHIPPING US TO EGYPT			18.0		92.0		72.0		16.0			5.0	*	20[illegible].0
		EST. INSTALLATION COST			14.0		73.0		57.0		13.0			0.0	*	1[illegible].0
		EST. MAINTENANCE CONTRACTS			77.0		404.0		261.1		66.7			227.9		1,0[illegible].6
		EST. COST/FACILITY			488.1		2,559.2		1,676.2		424.3			1,399.2		6,9[illegible].0

*The costs of shipping and installation are already included in the estimates for Kantara Gharb, with the exception of the airfreight for the mobile X-ray unit.

The following summarizes the expected renovations for each facility: at Embaba hospital, electro-mechanical, plumbing work, and civil and architectural work; at Shark El Medina Hospital, minimal level of civil and architectural modifications, plus electrical and plumbing connections for the new equipment; at El Kantara Gharb, a sewage treatment plant or hook up to the nearest point on the city main sewer line; at 15th of May Hospital, electro-mechanical work and civil and architectural work; and at Kafr El Dawar Polyclinic, civil and architectural work, plumbing, electrical, and minimal of mechanical work. A&E drawings for 15th May Hospital and Kafr el Dawar Polyclinic have been received by USAID and are kept in DR/ENG files. Initial estimates for the other three facilities have been undertaken by Project Directorate staff. In general, the plans appear sound, and appear to address safety and sanitation problems. The plans do not appear to propose more than modest functional changes to the facilities in terms of new construction. There is no need for an A&E study for Shark El Medina, as the work is limited to minor modifications and proper connections for equipment.

Table 4 in the Cost Analysis (Annex C) presents building renovation estimates for the five Phase A pilot facilities.

8. AFFORDING THE COST OF HOSPITAL AND CLINIC CARE

a. The Egyptian Context

The current Ministry of Health facility is subsidized largely by the GOE allotments from *Babs* 1 and 2. These facilities are allowed by the MOH to charge for "economic" beds, and most facilities do collect some revenue from patient fees. In addition, there are small fees for visitors and outpatient visits. In combination, the revenues from the different fees vary considerably as a percentage of total revenues. The chart below shows the calculations for four of the five CRHP facilities for the fiscal year 1990-91. The fifth, Kantara Gharb, is not yet operating.

The chart of these four CRHP facilities, two hospitals and two polyclinics, shows a range from 10% to 33%. It is anticipated that these percentages will increase dramatically as a result of cost recovery. The preliminary targets being proposed are 70 to 75% from fees, with the remainder from the GOE allocation. The total revenues will also increase dramatically for these facilities, as shown in the Financial Analysis.

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Table 2
Fee Revenues as a Percentage of Total Revenue (FY90/91)
(£E)

	Revenue Earned From Fees	GOE Babs 1&2	Total Revenue	Percentage Fees/ Revenues
Embaba Hospital	484,900	1,900,000	2,384,900	20%
15th of May	82,700	750,000	832,700	10%
Shark El Medina*	178,800	1,300,000	1,478,800	12%
Kafr El Dawar*	136,400	275,000	411,400	33%

* Outpatient clinics only

b. The Affordability of Cost Recovery

Initial research suggests that patients will have a difficult time paying the anticipated bills for their medical and hospital care at CRHP facilities. These facilities are at the lower end of the spectrum of health care providers in Egypt, and the current patient population is generally from the low end of the income distribution. While this may change slightly after cost recovery is implemented, the market for these facilities will generally remain the same. There are limited insurance mechanisms existing in Egypt currently, so patients and their families will often be directly responsible for their own hospital and outpatient bills.

To respond to this concern, several steps should be considered. First, emphasis needs to be placed on the development of social financing mechanisms, whether through insurance, government, or business. Second, research needs to determine what Egyptians expect from their local facilities and what they will pay to obtain these results. Finally, each CRHP facility must implement a practical approach for determining a patient's ability to pay for services and must be consistent and fair in the use of this system. The user fees initially established at the pilot CRHP facilities are likely to scare patients. Over time, however, if the CRHP facilities clearly demonstrate to patients the "new and improved" services, products, and attitudes, they will gain comfort with the fee-for-service approach.

c. The Need for Social Financing

As noted above, social financing, business contracting, and other systems which help reduce the burden on patients and their families must also be part of the cost recovery process. CRHP facilities

will eventually have fees which will be considerable for the lower income family, yet this is necessary in order to improve the quality level. Policy and decision-makers in Egypt must become more involved in the health care arena, and health care professionals must educate them continuously on the needs for social financing mechanisms, including health insurance, health maintenance organizations, and contracts with businesses on behalf of their employees and their dependents. These systems must grow concurrently with the fee-for-service approach if cost recovery is to truly have a substantial impact on the health delivery system in the Arab Republic of Egypt.

APPENDIX 1

COST RECOVERY FOR HEALTH (CRHP) PROJECT
ARAB REPUBLIC OF EGYPT

THE BOARD OF DIRECTORS

I. PURPOSE

The Board of Governors, Directors or Trustees serves the hospital or polyclinic in several capacities; (1) to oversee the overall management of the organization, (2) to set policies for the operations and financial management of the organization and to monitor adherence to these policies, (3) to hire and oversee the Hospital/Polyclinic Director, (4) to ensure the facility fulfills its purpose and safeguards its assets as defined by its mission, its goals and its plans, and (5) to ensure compliance with government regulations.

II. STRUCTURE

While there are many different options for the membership structure of a Board of Directors, there are two significant guidelines which are valuable to consider: (1) the size of the Board should be manageable and reasonable, and (2) the representation of different groups should be such that a balance is maintained and no group is dominant over any other due to the number of representatives.

The Board, in its role as a representative body, seeks to provide representation to various groups significant to the medical services and financial operations of the Facility, such as management, the medical staff, the local government and the community. Again, however, it is important to create balance so that no one group is dominant over the others as a result of an imbalance of numbers. The suggested structure for the Board of Directors for CRHP Hospitals and Polyclinics is presented below:

(1) Hospital/Polyclinic Director
(2) Medical Staff Chief (or elected representative from a major specialty [surgery, medicine, or obstetrics])
(3) A second medical staff representative elected by the physicians actively working at the facility
(4) A Ministry of Health representative, appointed by the Minister of Health or the Undersecretary
(5) A representative of the Governorate of the facility, preferably from the Office of Health Affairs, and appointed by the Governor
(6) A community or business leader of the district, appointed by the Governor
(7) A community or business leader of the district, appointed by the nominating committee of the Board
(8) A business leader of the district, appointed by a nominating committee of the Board, preferably from a large organization in or near the district of the Facility and with a direct health services contract with the Facility
(9) An "at-large" member, appointed by the nominating committee or the Hospital/Polyclinic Director, because of particular skills or contributions which can be provided to the Facility, preferably in finance, insurance or marketing

Ex-officio members (allowed to attend but not vote) -

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(10) Facility Deputy Director
(11) Facility Financial Manager

This eleven person group will provide guidance to the organization, but hopefully allow the Hospital/Polyclinic Director the space to manage the facility without significant interference. In the Board/Management relationship, this is always a delicate balance, and research has shown that in Egypt, Boards have a tendency to involve themselves deeply into the activities and operations of their organizations. Guidelines and authorities should be clearly defined to provide clarity surrounding this issue.

III. CHARTER/ARTICLES OF AUTHORITY AND RESPONSIBILITY/BYLAWS

A. Responsibilities and Authorities of the Board of Trustees

According to the American Hospital Association, the Board of Trustees, Directors or Governors (hereafter referred to as Board of Trustees) has nine main functions:

1. *Establish and maintain procedures for conducting the business of the Board,*
2. *Establish and update the goals and policies for the hospital,*
3. *Develop and continuously update a long-range plan for the hospital and ensure that decisions are made in accordance with that plan,*
4. *Monitor and evaluate plans and programs to ensure that they meet goals and policies and the objectives of the long-range plan,*
5. *Ensure the hospital's long-range financial stability,*
6. *Select the CEO (Hospital/Polyclinic Director), define his duties and responsibilities, and evaluate his performance,*
7. *Approve the selection of medical staff and ensure that it is properly organized,*
8. *Provide a process for evaluation of all phases of hospital performance, including the quality of medical care, and*
9. *Ensure that the community the hospital serves is well informed about the goals and performance of the hospital; ensure that the hospital is meeting the community's needs.*[1]

These functions (responsibilities) are applicable to any Board of Trustees, whether the entity is a hospital or a polyclinic, and they should be adopted by the CRHP Hospital and Polyclinic Boards. The Board will be responsible for the development of goals, policies and procedures to guide the Board's activities, to ensure the completion of these nine functions, and to direct the activities of management and the medical staff.

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[1] American Hospital Association, Trustee Development Program-Volume 1, American Hospital Association: American Hospital Publishing, Inc., 1979, pp. 6, 8.

In order to clearly define the authorities of the Board of Trustees, the Facility will have a charter and a set of bylaws. The charter is the facility's organizational document, and it may be derived from a statute or governmental decree or developed by the initial Facility Board. The charter is then supplemented by bylaws which guide the Board's activities. The bylaws will usually include the following elements: organization description, Board set up and membership process, schedule of meetings, types of committees, duties of the Hospital/Polyclinic Director and other key managers, responsibilities of the medical staff, and the process for bylaw amendment.[2] *Other areas can be included, depending on the type of organization and the needs of the Board and the Governorate and the MOH. Each of these documents - the charter, the facility bylaws, and the goals, policies, and procedures - will be developed in a cooperative effort of the facility Boards, the CRHP Office and the MOH. The primary responsibility will be at the individual Board and facility level, with technical assistance from the CRHP staff and the U.S. Contractor.*

B. Responsibilities and Authorities of the Hospital/Polyclinic Director and Other Key Managers

As noted above, the facility bylaws will be the document responsible for outlining the duties and authorities of the Hospital/Polyclinic Director and for developing the selection and evaluation processes. The bylaws can also include the job duties for other key managers, and it is recommended that the Chief Financial Officer, the Nursing Director, and the Chief of the Medical Staff also be included in the bylaws. Selection and performance evaluation of these individuals should remain the responsibility of the Hospital/Polyclinic Director, but the Board should help in the definition of their duties and areas of responsibility. This will be especially valuable because of the need for clarity regarding these "expanded" roles within the post-CRHP hospital or polyclinic.

C. Relationship with the Ministry of Health and the Local Governorate

Considerable discussion has been presented in other sections of this Paper on the desired changes in the relationship between the MOH and the CRHP facilities. An argument for increased local autonomy and authority has been presented, particularly in regard to personnel management and financial responsibility. This responsibility should be transferred from the MOH to the local Hospital or Polyclinic Board of Trustees, and both the MOH and the local Governorate should limit their roles to participation in the Board's activities. While recognizing the concerns inherent in this proposed change in regard to control, the government must find a way to create local autonomy for these facilities to be successful in cost recovery. Quality demands local control and responsiveness, both in relation to personnel and financial decision-making. As stated previously, this is a critical point which cannot be overlooked or ignored.

D. Committees and Meetings

The Board of Trustees, as part of the Charter and/or Bylaws, will designate various standing (regular) committees to serve its needs and to provide focus to specific areas of priority. Possible committees include the Executive Committee, often created to act on behalf of the entire Board at interim periods or to act on specific responsibilities; the Finance Committee, developed to oversee on behalf of the Board the long-range financial plan and other financial matters; the Planning Committee, utilized to guide the long-range strategic plan and specific facility and program planning, and Medical Affairs, whose activities

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[2] Ibid., p. 12.

include oversight of the medical staff, review of new medical staff members, and coordination of the issues which require joint administrative and medical staff action. Other committees can be created by the Board of Trustees based on need, such as a Personnel/Human Resources Committee, a Marketing Committee, and a Development Committee. While it is valuable to remember that committees, especially standing committees, should only be created based on a clear, ongoing need, there are times when an additional Board-designated committee is warranted.

The issue of meetings of the Board and its designated committees is also fairly flexible, yet there should be a clear statement of the schedule in the Bylaws. The key question for the Board is how to maintain the appropriate balance between oversight and over management. Many Boards meet monthly, along with the key committees, while others meet every other month, especially if they have created an Executive Committee to act on their behalf on many issues. Few Boards meet more often than monthly, primarily because the preparation and follow-up workload becomes voluminous and unmanageable. In addition, in this situation, the Board often involves itself in areas that are more appropriately managed by the Hospital/Polyclinic Director and his staff. Again, balance is the key, and the Board should try to find the comfortable level between their overall social responsibility and the appropriate level of delegated authority granted to the Hospital/Polyclinic Director and the management staff.

E. Paid vs. Volunteer Status for Board Participation

It is common in Egypt to pay individuals for service on Boards and Committees. As a result, the CRHP facilities will be required to make a decision regarding this question. Our belief is that participation is the key issue. Board and Committee meetings short in attendance will likely be frustrating and unproductive, as some meetings will be unable to make decisions and others will result in reviewing and rediscussing for those who were not there previously. The CRHP Directorate, in conjunction with the facilities, should look carefully at this issue and the impact of volunteer status. While volunteer status is preferable, it may not be the best model for Egypt.

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APPENDIX 2

COST RECOVERY FOR HEALTH (CRHP) PROJECT
ARAB REPUBLIC OF EGYPT

JOB DESCRIPTION FOR A HOSPITAL/POLYCLINIC DIRECTOR

The Hospital/Polyclinic Director, or Chief Executive Officer (CEO), is appointed by the Board of Trustees to manage the day-to-day operations of the facility, and he is directly accountable to the Board. He is the equivalent of a president of a corporation, and his role includes periodic reporting to the Board regarding the activities of the facility, just as other subordinates are responsible to him in regard to their performance. The Board of Trustees has clear, direct authority over the Hospital/Polyclinic Director, and this relationship must be remembered and respected at all times.

In writing a job description for the Hospital/Polyclinic Director, the Board of Trustees must keep in mind the issue of accountability, as noted above. The Board is responsible for evaluating the performance of the Hospital/Polyclinic Director, so the job description should include tasks and assignments which can be measured during the performance evaluation process. The job description should also include specific criteria which help in the selection process, such as educational requirements, specific skill requirements (management training and/or experience, medical background, demonstrated abilities in the management of people, etc.), and experience requirements (years of experience in medicine, management, etc.). These criteria should be fairly specific, thus helping the Board to eliminate candidates who do not have the skills and abilities needed to meet the rigorous demands of the position.

The Hospital/Polyclinic Director has six principal areas of responsibility in the completion of his role, each of which must be considered as primary and of no less significance than any other:[3]

1. *To develop and maintain programs and services that implement Board-authorized goals and policies,*

2. *To develop and, with Board approval, implement an organizational and staffing plan for facility operations,*

3. *To act as a liaison to the community and to other health care institutions,*

4. *To coordinate and facilitate appropriate interaction and communication among the various groups within the facility,*

5. *To develop and implement evaluation procedures for all functional areas of the facility, and*

6. *To safeguard (protect) and ensure appropriate use of facility resources and assets.*

Within these six general areas of responsibility, there are many significant and specific requirements and expectations for the Hospital/Polyclinic Director

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[3] Ibid., p. 16.

within his position. For example, the Director must hire and oversee the key administrative team members, such as the Deputy Director, the Finance Manager, the Nursing Manager and the Chief of the Medical Staff. He must also develop and implement the medical staff organization, in conjunction with the leadership of the medical staff, ensuring that the quality and scope of their services is appropriate. The Director must also direct the strategic and financial planning processes on behalf of the Board of Trustees, ensuring timely, comprehensive reporting and programmatic and financial results. He is also the coordinator and leader of communications, ensuring that information is disseminated in a timely and appropriate manner and to the appropriate groups, whether internal or external to the organization.

This list could be continued for some time, however, the point should be clear by now. The Hospital/Polyclinic Director has a central and vital role within the facility, and he must provide leadership while simultaneously balancing the numerous requirements and demands of the position. To do this successfully, the Hospital/Polyclinic Director must be able to delegate effectively and utilize a team approach to the management of the organization. The responsibilities are simply too much for one individual, and Hospital/Polyclinic Directors must allow teamwork and employee development to come to the forefront of their management "style". Without this commitment, which will be a significant adjustment for some, these Hospital/Polyclinic Directors will quickly find themselves overwhelmed by the duties of the "new" CRHP facility.

C. COST ANALYSIS

The following items are included in this cost analysis:

- Illustrative budgets, including detailed cost estimates by project year and standard unit costs; and
- Host-country contributions, by type of contribution (cash vs. in-kind).

1. Detailed Cost Estimates

Table 1 below presents the detailed cost estimates for Component One, with year-by-year budget figures disaggregated into somewhat greater detail than in the cost estimate tables presented in the body of the Project Paper Supplement. The following assumptions have been made throughout: a dollar inflation rate of 5.00%; a 1993 local inflation rate of 12.00%, continuing to gradually decrease over the LOP; contingency of 1.29%; and a 1993 exchange rate of £E 3.35 to the dollar, continuing to adjust gradually upward over the LOP.

Costs were derived from the standard unit costs developed under Section 2 below; local cost estimates have been developed in Section 3 below; and the GOE contribution is described in Section 3 below.

2. Standard Unit Cost Estimates

a. Standard Labor and Related Costs

A large share of the total cost of this project is allocated to expatriate short-term and long-term technical assistance and related costs. For budgeting purposes, standard costs were developed for:

- A person-year of US resident TA labor with a long-term contract for personal services working under a long-term contractor. The contract period is estimated to be 3.75 years.
- A person-month of US short-term TA labor with a short-term contract for personal services working under a long-term contract. The average contract period is estimated to be 1.5 months.

Table 1
Detailed Costs of Component One
($000)

	THRU FY92	FY93	FY94	FY95	FY96	FY97	TOTAL
TECHNICAL ASSISTANCE							
ST Contracts and Buy-ins	1,156	4,087	1,971	1,044	400	400	9,058
Prime TA Contractor							
- US Long Term TA	0	0	1,712	1,801	2,015	2,380	7,909
- US Short Term TA	0	0	263	345	290	152	1,049
- US Home Office	0	0	130	175	184	192	682
- Egyptian LT Staff	0	0	266	372	390	410	1,438
- Egyptian ST TA	0	0	24	34	35	37	131
Subtotal Prime TA	0	0	2,394	2,727	2,915	3,172	11,208
US PSC	0	0	177	141	162	204	684
FSN PSC	0	0	23	24	25	26	98
SUBTOTAL TECHNICAL ASSISTANCE	1,156	4,087	4,564	3,936	3,502	3,802	21,047
COMMODITIES							
Office Equipment	117	0	0	0	0	0	117
Medical Supplies							
Embaba Hospital	0	0	100	0	0	0	100
Shark El Medina Hospital	0	100	0	0	0	0	100
El Kantara Gharb Hospital	0	100	0	0	0	0	100
15th of May Hospital	0	0	100	0	0	0	100
Kafr Dawar Polyclinic	0	100	0	0	0	0	100
Subtotal Medical Supplies	0	300	200	0	0	0	500
Biomedical Equipment							
Embaba Hospital	0	0	2,559	0	0	0	2,559
Shark El Medina Hospital	0	1,676	0	0	0	0	1,676
El Kantara Gharb Hospital	0	1,399	0	0	0	0	1,399
15th of May Hospital	0	0	488	0	0	0	488
Kafr Dawar Polyclinic	0	424	0	0	0	0	424
Subtotal Biomedical Equipment	0	3,500	3,047	0	0	0	6,547
SUBTOTAL COMMODITIES	117	3,800	3,247	0	0	0	7,164
RENOVATIONS							
A&E Drawings & Supervision	20	95	194	89	0	0	398
Phase A Renovations							
Embaba Hospital	0	0	1,243	323	0	0	1,566
Shark El Medina Hospital	0	149	155	0	0	0	305
El Kantara Gharb Hospital	0	149	155	0	0	0	305
15th of May Hospital	0	0	544	566	0	0	1,110
Kafr Dawar Polyclinic	0	149	155	0	0	0	305
Subtotal Renovations	0	448	2,253	889	0	0	3,590
SUBTOTAL RENOVATIONS	20	543	2,447	978	0	0	3,988
TRAINING							
Local Facilities Training	20	307	162	249	175	181	1,094
Participant/Observational	0	0	212	223	234	246	914
SUBTOTAL TRAINING	20	307	374	472	409	427	2,008
LOCAL OPERATING COSTS	317	191	137	155	157	159	1,117
LOCAL FACILITY START UP COSTS	0	134	186	69	600	400	1,389
TOTAL COMPONENT ONE	1,630	9,062	10,956	5,610	4,668	4,788	36,713

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- A person-month of US Home Office Staff of the long-term contractor, working either full or part time on the project.

- A person-year of Egyptian staff labor with a long-term contract for personal services working under a long-term contract.

- A person-month of Egyptian short-term labor with a short-term contract for personal services working under a long-term contract

- A person year of US PSC labor with a long-term direct contract.

These standard costs are presented in Table 2, below. The planned level of technical assistance has been detailed in Section VI.B.1. The costs associated with level of effort under the Prime Contractor were estimated, given the standard person-month costs for long- and short-term technical assistance developed herein, and assuming the planned Component One level of effort (23 person years of US long term TA, 60 person months of US short term TA, 68 person months of home office support, 41 person years of Egyptian long term TA, and 30 person months of Egyptian short term TA) and Component Three level of effort (5 person years of US long term TA, 36 person months of US short term TA, and 4 person years of Egyptian long term TA), these costs are shown in Table 1, above, under the line item entitled "Technical Assistance".

b. Standard Costs for Participant Training and Consultation/Invitational Travel

Using information provided by USAID/Egypt FM/FA Office, standard costs for participant training and consultation/invitational travel were developed. These are shown in Table 2, below.

Taking into consideration inflation and contingency, the illustrative planning level of 40 5-month participant training activities and 40 consultations/invitational travel was used to estimate the cost. These costs are shown in Table 1, above, under the line item entitled "Training". This does not include the airfare for participant training, which is a host-country contribution.

c. Standard Costs for Biomedical Equipment

Detailed lists of biomedical equipment were prepared by the interim technical assistance contractor and reviewed and updated by the short-term technical assistance contractor who is currently assisting the CRHP Directorate in finalizing the procurement. These lists have been summarized as part of the Technical Analysis, Annex B and the costs are presented in Table 3, below. These estimated costs have been included in Table 1, above, under the line item entitled "Biomedical Equipment".

d. Standard Costs for Commodities

The c.i.f. costs for commodities were derived from the experience of other projects supported by USAID and from the USAID/Egypt FM/FA Office. They are shown in Table 4 below, in 1993 dollars.

Given these standard costs, costs associated with the commodities to be procured under this Project (identified in the Technical Analysis, Annex B) were estimated. These are shown in Table 1, above, under the line item entitled "Commodities".

e. Renovations

The renovation cost estimates have been prepared as follows:

- Cost estimates for preparation and implementation of working drawings for renovation of Embaba Hospital were prepared by the CRHP Directorate Engineering Unit. Selection of an A&E firm is underway.
- Shark el Medina Hospital is under construction via a consulting firm and construction contractor contracted by local authorities. Cost estimates above represent engineering modifications requested by the CRHP Directorate Engineering Unit.
- El Kantara Gharb Hospital is a new facility and requires no renovation/reconstruction works. The figure above represents costs estimated for the establishment of a sewage treatment plant.
- Costs of preparation of working drawings for 15th of May Hospital and Kafr El Dawar Polyclinic are actual expenses (not estimates) because the drawings were finalized. The above cost estimates for implementation were prepared by the consulting firms but are subject to review in early April.

f. Other Costs

It is assumed that a total of 10 audits or assessments will be held over the remaining LOP. The standard unit cost for an audit is included in Table 2, below.

It is also assumed that additional technical assistance will continue to be procured through the mechanism of A.I.D./W buy-ins. These costs are outlined in Table 5, below, and included in Table 1, above, under the line item "Short Term Contracts and Buy-ins".

Table 2
Standard Unit Costs
($)

	FY93	FY94	FY95	FY96	FY97
US Long Term TA (PY)*	--	346,325	300,232	335,898	396,698
US Short Term TA (PM)*	--	16,419	17,240	18,102	19,008
US Home Office (PM)*	--	9,294	9,738	10,204	10,693
Egyptian LT (PY)*	--	32,189	33,799	35,488	37,263
Egyptian Short Term (PM)*	--	4,024	4,225	4,436	4,658
PSC (PY)	--	176,597	140,818	162,480	203,623
ST Participant Training	--	13,865	14,559	15,286	16,051
Participant Travel	--	8,000	8,400	8,820	9,261
Consultation/Invitational	--	7,350	7,718	8,103	8,509
Audit	32	33	35	36	38

* Includes multiplier.

Table 3
Biomedical Equipment
($)

	Embaba	Shark El Medina	El Kantara Gharb	15th of May	Kafr El Dawar	TOTAL
Equipment Costs	1,990	1,286	1,166	379	329	5,151
Installation	92	72	5	18	16	203
Maintenance Contracts	73	57	0	14	13	157
Transportation	404	261	228	77	67	1,037
Total	2,559	1,676	1,399	488	424	6,547

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Table 4
Renovations
(£E)

	Embaba	Shark El Medina	El Kantara Gharb	15th of May	Kafr El Dawar	TOTAL
Preparation of Working Working Drawings and Tender Documents (by A&E Consulting Firm)	200,000	0	0	80,000	30,000	310,000
Implementation of Working Drawings, i.e., Traditional/ Electro-Mechanical Works (by Construction Contractors)	4,800,000	1,000,000	0	3,420,000	970,000	10,190,000
Implementation of Other A&E Works (by Construction Contractors)	0	0	1,000,000	0	0	1,000,000
	---	---	---	---	---	---
TOTAL RENOVATIONS	5,000,000	1,000,000	1,000,000	3,500,000	1,000,000	11,500,000

Notes: Embaba Hospital - The selection of an A&E consulting firm is still in process. Cost estimates are therefore derived from estimates undertaken by the Project Directorate A&E Department (£E4.15 million), and subsequently adjusted by DR/ENG because of the dated nature of the original estimates.
Shark El Medina Hospital - This facility is currently under construction contracted by the Alexandria local authorities. DIR/ENG has adjusted the Project Directorate A&E Unit estimate of £E400,000 upward due to the size of the facility and the requirement for special connections for the equipment.
El Kantara Gharb Hospital - This is a new facility and requires no renovation or reconstruction work. Based on DR/ENG's estimates, this is the minimum realistic cost of a "packaged" sewage treatment plant. A water and sewerage specialist has been contracted to do an assessment.
15th of May Hospital - Cost of preparation is based on working drawings prepared by an A&E consulting firm (£E3.07 million), which were then adjusted to accommodate construction contingencies by DR/ENG.
Kafr El Dawar Polyclinic - Cost of preparation is based on working drawings prepared by an A&E consulting firm (£E828,000), which were then adjusted to accommodate construction contingencies by DR/ENG.

Table 5
Short-Term Contracts, Buy-Ins, and Grants
($)

	THRU FY92	FY93	FY94	FY95	FY96	FY97
Interim TA (Abt)	1,156	323	--	--	--	--
Short Term TA (CCC)	--	2,167	788	--	--	1,479
DSM Buy-in	--	897	483	644	--	2,955
QA Buy-in	--	400	400	--	--	2,024
HealthCom	--	300	300	--	--	800
Other Misc. Buy-ins	--	--	--	400	400	600
	---	---	---	---	---	1,200
	1,156	4,087	1,971	1,044	400	400
						9,058
Grant - Suez Canal University	--	100	300	300	200	100
						1,000

3. Local Costs Estimates

Table 6
Local Costs
($)

	THRU FY92	FY93	FY94	FY95	FY96	FY97	TOTAL
LOCAL OPERATING COSTS							
Building Renovations	47	150	0	0	0	0	197
CRHP Consultants	79	45	58	74	82	91	428
CRHP Staff Salaries	204	150	192	246	273	304	1,369
Office Supplies	51	45	55	66	70	73	359
Office Equipment & Furniture	508	100	0	0	0	0	608
Maintenance	37	50	72	76	80	83	397
Travel & Per Diem	25	20	24	30	31	32	162
Project Directorate Training	33	40	49	59	62	65	308
Telecommunication	64	40	43	45	48	50	290
SUBTOTAL LOCAL OPERATING COSTS	1,047	640	493	596	645	698	4,119
LOCAL TRAINING COSTS							
Furnish/Equip Trng. Centers	4	250	0	310	0	0	563
Training Honoraria	59	100	111	124	138	153	685
Teaching Materials	5	45	50	56	62	69	287
Secretarial/Admin Support	1	15	17	19	21	23	95
Translation Services	8	200	223	248	276	306	1,260
Travel Perdiem for Trainees	56	100	111	124	138	153	682
Conference Space Rental	17	60	67	74	83	92	393
Contingency	66	260	0	0	0	0	326
SUBTOTAL LOCAL TRAINING COSTS	215	1,030	579	955	717	796	4,291
LOCAL FACILITY START UP COSTS							
Embaba Hospital	0	152	246	97	0	0	494
Shark El Medina Hospital	0	65	61	0	0	0	126
El Kantara Gharb Hospital	0	124	197	108	0	0	429
15th of May Hospital	0	19	24	6	0	0	49
Kafr Dawar Polyclinic	0	90	139	52	0	0	281
Phase B Start Up	0	0	0	0	2,462	1,756	4,219
SUBTOTAL LOCAL START UP COSTS	0	450	667	263	2,462	1,756	5,599
TOTAL LOCAL COSTS	1,262	2,119	1,739	1,814	3,825	3,250	14,009
TOTAL LOCAL COSTS (US $000)	382	633	485	473	932	740	3,645

Notes: It has been assumed that the GOE will begin to undertake an increasing proportion of the local costs related to CRHP Directorate salaries, office supplies, maintenance, and telecommunication such that by the PACD a minimum of 50% of these costs will have been incorporated into the GOE budget.

4. Host-Country Contributions

Tables 7 through 9, below, present the estimated host-country contributions over the life of the Project. As shown, the contribution is estimated at £E 19.4 million in cash and £E 35.0 million in-kind over the remaining LOP. Added to the GOE contribution of £E 35.5 million already provided through GOE

FY91/92, this total contribution of £E 126.1 million (approximately $35.2 million) constitutes approximately 31.0% of the total value of the Project.

a. Estimates of Host-Country Contributions

The estimate of host-country contributions is conservative for a variety of reasons:

- A large share of actual contributions were excluded from the calculations because of difficulties in monitoring and auditing. For example, depreciation of government buildings (e.g. hospitals) and other capital goods is excluded from this estimate, although it clearly is a contribution of the GOE to the Project. These calculations do not include the "economic fees" charged to patients which will result in income to the facilities and thereby allow for continued upgrading of facilities and services. The estimates of the value of both the depreciation and the fees have been included in the proforma statements for each facility in Annex D following.

- The contribution that will be associated with the Phase B facilities was not included. Since the actual facilities have not been identified, the value of the contribution, either cash or in-kind, cannot be calculated at this time.

Therefore, the estimates presented below should be considered a minimum.

Table 7
GOE Contribution - CRHP Directorate
(£E 000)

	THRU FY91/92	FY92/93	FY93/94	FY94/95	FY95/96	FY96/97	First Q FY97/98	TOTAL

Table 7
GOE Contribution - CRHP Directorate
(£E 000)

	THRU FY91/92	FY92/93	FY93/94	FY94/95	FY95/96	FY96/97	First Q FY97/98	TOTAL
CRHP - In-Kind Contribution								
MOH Staff Salaries (Bab 1)	--	127	140	147	154	162	40	769
Facility Premium Pay (Bab 1)	--	105	173	193	215	238	0	924
Office Space/Maint. (Est.)	225	240	256	285	317	352	98	1,772
Furniture (Bab 1)	--	20	21	0	0	0	0	41
Subtotal In-Kind Contribution	225	492	590	624	685	752	138	3,507
CRHP - Cash Contribution	1,650							1,650
MOH Premium Pay	--	173	193	214	238	265	0	1,083
Op. Expenses	--	66	86	113	142	177	70	654
Research	--	25	28	31	34	38	11	168
Participant Travel (FT-800)	0	0	80	84	88	93	0	345
Hospital Start Up	0	0	300	300	300	200	100	1,200
Subtotal CRHP Cash Contribution	1,650	264	687	742	803	773	181	5,100
TOTAL CRHP PROJECT DIRECTORATE	1,875	756	1,277	1,366	1,488	1,524	319	8,606

Notes:
- With the exception of participant travel, these estimates are based on actual GOE allocations provided in FY92/93, and inflated as appropriate for future years.
- MOH staff salaries represents basic salary to 26 MOH employees seconded to the CRHP Directorate on a full-time or part-time basis. The amount of time committed to CRHP by part-time employees is assumed to average 50% of their total MOH employment. Annual increase of 5% is included in the calculations, rather than the full level of inflation.
- It is assumed that the GOE will take on an increasing portion of the CRHP staff salaries currently funded by the Operating Costs PIL. This portion is included in the MOH Staff Salaries line item.
- Facility Premium Pay is paid through the CRHP Directorate to staff of MOH facilities participating in the CRHP.
- Office Space and Maintenance was estimated at 660 m^2 at £E 30/m^2/month in FY92/93, with an additional 40 m^2 in 1993.
- MOH Staff Premium Pay is paid to the CRHP Directorate staff.
- It is assumed that the GOE will take on an increasing portion of the operating expenses currently funded by the Operating Costs PIL. This portion is included in the Operating Expenses line item.

Table 8
GOE Contribution - Cost Recovery Facilities
(£E 000)

	THRU FY91/92	FY92/93	FY93/94	FY94/95	FY95/96	FY96/97	First Q FY97/98	TOTAL
COST RECOVERY FACILITIES - Bab 1 and Bab 2								
- Embaba Hospital								
Bab 1	--	1,000	1,000	1,000	1,000	1,000	250	5,250
Bab 2	--	600	600	600	600	600	150	3,150
- Shark El Medina Hospital								
Bab 1	--	1,250	1,250	1,250	1,250	1,250	313	6,563
Bab 2	--	426	426	426	426	426	107	2,237
- El Kantara Gharb Hospital								
Bab 1	--	436	800	800	800	800	200	3,836
Bab 2	--	0	500	500	500	500	125	2,125
- 15th of May Hospital								
Bab 1	--	693	693	693	693	693	173	3,638
Bab 2	--	166	166	166	166	166	42	872
- Kafr Dawar Polyclinic								
Bab 1	--	613	613	613	613	613	153	3,218
Bab 2	--	151	151	151	151	151	38	793
Subtotal In-Kind Contribution	0	5,335	6,199	6,199	6,199	6,199	1,550	31,681
COST RECOVERY FACILITIES - Bab 3								
Phase A Facilities								
- Embaba Hospital								
Buildings	--	40	200	0	0	0	0	240
Equipment	--	160	0	0	0	0	0	160
Furniture	--	300	0	0	0	0	0	300
Pharmaceuticals	0	0	0	873	0	0	0	873
- Shark El Medina Hospital								
Buildings	--	1,100	2,000	0	0	0	0	3,100
Equipment	--	0	0	0	0	0	0	0
Furniture	--	400	0	0	0	0	0	400
Pharmaceuticals	0	0	560	0	0	0	0	560
- El Kantara Gharb Hospital								
Buildings	--	2,300	300	0	0	0	0	2,600
Equipment	--	2,500	0	0	0	0	0	2,500
Furniture	--	0	0	0	0	0	0	0
Pharmaceuticals	0	0	224	0	0	0	0	224
- 15th of May Hospital								
Buildings	--	0	0	0	0	0	0	0
Equipment	--	0	0	0	0	0	0	0
Furniture	--	0	0	0	0	0	0	0
Pharmaceuticals	0	0	0	125	0	0	0	125
- Kafr Dawar Polyclinic								
Buildings	--	1,000	0	0	0	0	0	1,000
Equipment	--	0	0	0	0	0	0	0
Furniture	--	0	0	0	0	0	0	0
Pharmaceuticals	0	0	252	0	0	0	0	252
Subtotal Cash Contribution	0	7,800	3,536	998	0	0	0	12,334
TOTAL COST RECOVERY FACILITIES	0	13,135	9,735	7,197	6,199	6,199	1,550	44,015

Notes:
- Bab 1 and Bab 2 expenses are taken from the budget allocations for FY92/93, with the exception of Kantara. These are straight lined through the remaining years of the Project. This assumes continuing inflation and increasing funds dedicated to maintenance balanced by an increase in staff.
- "Economic" represents the GOE subsidy for free beds.
- Bab 3 expenses for building and equipment are based on figures identified in the "MOH Facility Development Plan" for FY92/93 and FY93/94.
- Requirements for pharmaceuticals are based on a three month supply of drugs and medical supplies for a CCO hospital of similar size. These are included as a Bab 3 expenditure; however, these may be funded as a Bab 2 expense.
- The GOE is expected to also provide similar Bab 3 contribution for Phase B facilities; however, as the facilities have yet to be selected, the value of this contribution cannot be calculated at this time.

Table 9
GOE Contribution - Components Two and Three
(£E 000)

	THRU FY91/92	FY92/93	FY93/94	FY94/95	FY95/96	FY96/97	First Q FY97/98	TOTAL
HIO - Cash Contribution	550							550
Staff Premium Pay	--	57	63	71	79	87	24	381
Op. Expenses	--	73	500	500	600	600	200	2,473
Subtotal HIO Cash Contribution	550	130	563	571	679	687	191	3,371
CCO - Cash Contribution	100							100
Staff Premium Pay	--	70	78	87	96	107	30	468
Op. Expenses	--	36	140	145	150	155	115	741
Subtotal CCO Cash Contribution	100	106	218	232	246	262	73	1,237
CGC - Cash Contribution								
Guarantee Fund (FT-800)	33,000	0	35,845	0	0	0	0	68,845

b. In-kind Contributions

GOE in-kind contributions, as identified in the above tables, consist of *Bab* 1 and *Bab* 2 expenditures, i.e., mainly salaries and operations and maintenance costs.

Several hundreds of regular GOE employees (full time and part-time) are employed by the Ministry of Health. Neither the payroll records at the central MOH in Cairo nor the annual budget line items are established in a manner that readily identifies those employees assigned by the MOH to the A.I.D. Project, either at the CRHP Directorate or at the governorate facility levels. The same situation applies to operations and maintenance costs (*Bab* 2 of the GOE annual budget document). This situation creates a major difficulty in accounting, reporting and verification of these inputs on a straightforward basis. However, the information is available peripherally at the office of the CRHP Directorate (for the CRHP Directorate data) and in the form of facility payroll records and facility expenditure records (for the facility data). Therefore, a system will be established to ensure the regular reporting of this data and its incorporation into the overall Project monitoring system described in Section VI.C.1.

c. Cash Contributions

The GOE cash contribution consists of premium pay, operating expenses, research, and travel for participant training. If premium pay, operating expenses, or research appear as a separate line item in GOE budgetary documents, review of this line item to ensure that funds have been allocated will suffice; if it is not

identifiable as a separate line item, USAID will rely on reports from the GOE, which will be verified as needed. The GOE contribution for air line tickets will be verified by reviewing both USAID and GOE records pertaining to the number of trainees actually sent and applying a standard cost for a round trip ticket Cairo/Washington/Cairo. In all of the above cases, the CRHP Directorate (with input from the facilities) will be required to provide A.I.D. with reports on its cash contributions, as part of the overall Project monitoring system described in Section VI.C.1.

D. FINANCIAL AND ECONOMIC ANALYSIS

This financial and economic analysis consists of three parts:

- An analysis of the cost recovery and self-sufficiency considerations from the perspective of the individual Phase A facilities under Component One.
- An analysis of the overall financial feasibility of the activities proposed under Component One; and
- An analysis of the Component One activities from an economic perspective.

1. Cost Recovery and Self-Sufficiency Considerations for the Cost Recovery Facilities under Component One

a. Summary

The Component One sub-purpose is to develop and test cost recovery systems in MOH facilities as a model for country wide application. The objective is to increase the resources available for the GOE/MOH health care system by implementing policy changes to convert selected hospitals and polyclinics to fee for service facilities. It focuses on mechanisms that will support recovery of the greatest percent of costs for curative services from those who can afford to pay. This will be accomplished by allowing MOH public hospitals and polyclinics to function more autonomously and efficiently. Component One utilizes a fee for service model to expand the revenue generating capabilities of the CRHP pilot facilities. As CRHP pilot facilities begin to support themselves financially, MOH resources can be reallocated from curative care for the general public to preventive programs, such as endemic disease control, expanded immunization programs, maternal and child health care, research, and others.

The aim of this section of the analysis is to show that the proposed project is "financially viable" from the perspective of a cost recovery facility, i.e., the expected stream of revenues to the facilities exceeds the costs when suitably discounted and totaled. This analysis attempts to identify and describe the anticipated value of a CRHP pilot facility before and after renovation and revitalization. Achieving a reduced cost to the GOE/MOH after CRHP renovation and revitalization will determine whether or not to pursue the Project past the pilot phase.

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b. Methodology and Assumptions

Exhibits 1 through 5 provide a ProForma Statement of Operations for each Pilot Facility for a period of five years. The ProForma Statements of Operations provide estimates of patient revenue and related expenses based on inpatient beds; inpatient, outpatient, and casualty productive services; and outpatient and casualty visits. The projected revenue and expense assumptions for each pilot facility are shown in current Egyptian Pounds and are not annually adjusted for inflation. Changes in annual projected revenues and expenses are due to changes in utilization of services and occupancy of inpatient beds.

Estimates for Inpatient Revenue are produced for three categories of general service beds (First Class, Second Class, and Third Class), obstetric delivery beds, and intensive/coronary Care(ICU/CCU)/neonatal beds. These revenues are assumed to be generated solely through user fees on the pay beds. The number of free beds varies at each pilot facility and is determined by the respective governorates. The Productive Services Revenue is projected from patient medical services (laboratory, radiology, physiotherapy, pharmacy, supplies, and surgery). The Outpatient Revenue is projected from outpatient clinics and casualty visits.

Operating Expenses are the expenditures of the facility related to the support of patient services. Besides salaries, these include utilities, telephone, food, laundry and clothes, supplies (medical, laboratory, radiology, pharmacy, cleaning, and administrative), marketing, transport, and maintenance. Another expense included in this ProForma Statement of Operations which normally is not considered by government operations is that of the cost of physical capital, referred to as depreciation of buildings and equipment.

Conversion of the five pilot facilities will require improvements in physical plant, operations, and management capability. These will include institutional improvements in administration, finance, maintenance, health services, and information systems, and improvements in the service delivery environment through new and repaired equipment, facility renovations, and service quality standards.

In each Exhibit it is assumed that the government allotment is the same as the *Bab* 1 funds for fiscal year 1992/93. In each scenario the overall occupancy rate increases as service quality is improved. The occupancy rate varies among facilities, from a low of 50 percent for Shark El Medina Hospital in 1993/94 to a high of 80.2 percent for El Kantara Gharb Hospital in 1996/97.

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Exhibit 1-A
EMBABA HOSPITAL
ProForma Statement of Operations (£E)

	FY93/94	FY94/95	FY95/96	FY96/97	FY97/98
INCOME					
Inpatient					
First Class	230,000	256,000	281,000	307,000	307,000
Second Class	465,000	512,000	558,000	605,000	605,000
Third class	253,000	276,000	322,000	345,000	345,000
General - Free	0	0	0	0	0
ICU/CCU/Neonatal	73,000	73,000	73,000	73,000	73,000
Inpatient Income	1,021,000	1,117,000	1,234,000	1,330,000	1,330,000
Delivery	511,000	562,000	624,000	675,000	675,000
Productive Services					
Laboratory	247,000	275,000	326,000	354,000	354,000
Radiology	104,000	116,000	137,000	149,000	149,000
Pharmacy	1,859,000	2,068,000	2,450,000	2,659,000	2,659,000
Supplies	559,000	622,000	737,000	800,000	800,000
Surgery	419,000	461,000	516,000	558,000	558,000
Renal Dialysis	82,000	82,000	82,000	82,000	82,000
Other	12,000	14,000	16,000	18,000	18,000
Productive Services Income	3,282,000	3,638,000	4,264,000	4,620,000	4,620,000
Outpatient Income	650,000	650,000	650,000	650,000	650,000
Allowance for Free Service	(325,000)	(325,000)	(325,000)	(325,000)	(325,000)
PATIENT INCOME	5,139,000	5,642,000	6,447,000	6,950,000	6,950,000
GOVERNMENT ALLOTMENT	1,600,000	1,600,000	1,600,000	1,600,000	1,600,000
TOTAL INCOME	6,739,000	7,242,000	8,047,000	8,550,000	8,550,000
OPERATING EXPENSES					
Salaries and Benefits	2,159,000	2,159,000	2,159,000	2,159,000	2,159,000
Utilities	240,000	254,000	278,000	292,000	292,000
Telephone	19,000	20,000	22,000	23,000	23,000
Food	501,000	530,000	581,000	609,000	609,000
Laundry and Clothes	215,000	227,000	249,000	261,000	261,000
Supplies					
Medical	554,000	585,000	642,000	673,000	673,000
Laboratory	82,000	87,000	96,000	77,000	77,000
Radiology	104,000	110,000	121,000	127,000	127,000
Pharmacy	2,179,000	2,302,000	2,526,000	2,648,000	2,648,000
Cleaning	57,000	61,000	66,000	70,000	70,000
Administrative	18,000	19,000	21,000	22,000	22,000
Total Supplies	2,994,000	3,164,000	3,472,000	3,617,000	3,617,000
Marketing	15,000	15,000	15,000	15,000	15,000
Transport	25,000	25,000	25,000	25,000	25,000
Maintenance	145,000	145,000	145,000	145,000	145,000
TOTAL OPERATING EXPENSES	6,313,000	6,539,000	6,946,000	7,146,000	7,146,000
OPERATING INCOME	426,000	703,000	1,101,000	1,404,000	1,404,000
NON OPERATING EXPENSE					
Building Depreciation	345,000	345,000	345,000	345,000	345,000
Equipment Depreciation	1,100,000	1,100,000	1,100,000	1,100,000	1,100,000
NET INCOME	(1,019,000)	(742,000)	(344,000)	(41,000)	(41,000)

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Exhibit 1-B
EMBABA HOSPITAL
Success Criteria

	FY93/94	FY94/95	FY95/96	FY96/97	FY97/98
TARGET					
OPERATING - Bab 2	50.00%	60.00%	100.00%	100.00%	100.00%
BUILDING DEPRECIATION	10.00%	20.00%	30.00%	100.00%	100.00%
EQUIPMENT DEPRECIATION	40.00%	60.00%	80.00%	100.00%	100.00%
CALCULATION					
OPERATING	2,077,000	2,628,000	4,787,000	4,987,000	4,987,000
PERCENT	247.42%	214.69%	134.68%	139.36%	139.36%
DEPRECIATION	474,500	729,000	983,500	1,445,000	1,445,000
PERCENT	89.78%	96.43%	111.95%	97.16%	97.16%
INPATIENT COST (75% TOTAL)	4,734,750	4,904,250	5,209,500	5,359,500	5,359,500
TOTAL BEDS	334	334	334	334	334
OCCUPANCY	61.5%	65.0%	71.3%	74.8%	74.8%
INPATIENT DAYS	71,631	75,665	83,819	87,053	87,053
COST EXCLUDING DEPRECIATION					
COST PER BED	14,176	14,683	15,597	16,046	16,046
COST PER INPATIENT DAY	66	65	63	62	62
COST INCLUDING DEPRECIATION					
COST PER BED	17,421	17,928	18,842	19,291	19,291
COST PER INPATIENT DAY	81	79	76	74	74

Exhibit 2-A
SHARK EL MEDINA HOSPITAL
ProForma Statement of Operations (£E)

	FY93/94	FY94/95	FY95/96	FY96/97	FY97/98
INCOME					
Inpatient					
First Class	88,000	131,000	161,000	190,000	190,000
Second Class	256,000	319,000	415,000	415,000	415,000
Third class	205,000	246,000	287,000	308,000	308,000
General - Free	0	0	0	0	0
ICU/CCU/Neonatal	27,000	32,000	46,000	50,000	50,000
Inpatient Income	576,000	728,000	909,000	963,000	963,000
Delivery	409,000	522,000	653,000	686,000	686,000
Productive Services					
Laboratory	293,000	431,000	552,000	583,000	583,000
Radiology	76,000	111,000	143,000	151,000	151,000
Pharmacy	1,464,000	2,150,000	2,756,000	2,909,000	2,909,000
Supplies	629,000	924,000	1,184,000	1,250,000	1,250,000
Surgery	331,000	431,000	530,000	574,000	574,000
Renal Dialysis	0	0	0	0	0
Other	10,000	14,000	19,000	20,000	20,000
Productive Services Income	2,803,000	4,061,000	5,184,000	5,487,000	5,487,000
Outpatient Income	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000
Allowance for Free Service	(750,000)	(750,000)	(750,000)	(750,000)	(750,000)
PATIENT INCOME	4,288,000	5,811,000	7,246,000	7,636,000	7,636,000
GOVERNMENT ALLOTMENT	1,686,000	1,686,000	1,686,000	1,686,000	1,686,000
TOTAL INCOME	5,974,000	7,497,000	8,932,000	9,322,000	9,322,000
OPERATING EXPENSES					
Salaries and Benefits	2,133,000	2,133,000	2,133,000	2,133,000	2,133,000
Utilities	135,000	166,000	194,000	201,000	201,000
Telephone	11,000	13,000	16,000	16,000	16,000
Food	281,000	347,000	405,000	420,000	420,000
Laundry and Clothes	120,000	149,000	174,000	180,000	180,000
Supplies					
Medical	296,000	365,000	426,000	442,000	442,000
Laboratory	76,000	94,000	110,000	76,000	76,000
Radiology	138,000	170,000	199,000	206,000	206,000
Pharmacy	992,000	1,225,000	1,430,000	1,482,000	1,482,000
Cleaning	32,000	40,000	46,000	48,000	48,000
Administrative	10,000	12,000	14,000	15,000	15,000
Total Supplies	1,544,000	1,906,000	2,225,000	2,269,000	2,269,000
Marketing	15,000	15,000	15,000	15,000	15,000
Transport	25,000	25,000	25,000	25,000	25,000
Maintenance	195,000	195,000	195,000	195,000	195,000
TOTAL OPERATING EXPENSES	4,459,000	4,949,000	5,382,000	5,454,000	5,454,000
OPERATING INCOME	1,515,000	2,548,000	3,550,000	3,868,000	3,868,000
NON OPERATING EXPENSE					
Building Depreciation	753,000	753,000	753,000	753,000	753,000
Equipment Depreciation	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
NET INCOME	(438,000)	595,000	1,597,000	1,915,000	1,915,000

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Exhibit 2-B
SHARK EL MEDINA HOSPITAL
Success Criteria

	FY93/94	FY94/95	FY95/96	FY96/97	FY97/98
TARGET					
OPERATING - Bab 2	50.00%	60.00%	100.00%	100.00%	100.00%
BUILDING DEPRECIATION	10.00%	20.00%	30.00%	100.00%	100.00%
EQUIPMENT DEPRECIATION	40.00%	60.00%	80.00%	100.00%	100.00%
CALCULATION					
OPERATING	1,163,000	1,689,600	3,249,000	3,321,000	3,321,000
PERCENT	368.70%	343.93%	223.02%	229.93%	229.93%
DEPRECIATION	555,300	870,600	1,185,900	1,953,000	1,953,000
PERCENT	272.83%	292.67%	299.35%	198.05%	198.05%
INPATIENT COST (75% TOTAL)	3,344,250	3,711,750	4,036,500	4,090,500	4,090,500
TOTAL BEDS	230	230	230	230	230
OCCUPANCY	50.0%	61.7%	72.0%	74.7%	74.7%
INPATIENT DAYS	40,150	49,549	57,853	59,951	59,951
COST EXCLUDING DEPRECIATION					
COST PER BED	14,540	16,138	17,550	17,785	17,785
COST PER INPATIENT DAY	83	75	70	68	68
COST INCLUDING DEPRECIATION					
COST PER BED	20,909	22,507	23,918	24,153	24,153
COST PER INPATIENT DAY	120	104	95	93	93

Exhibit 3-A
EL KANTARA GHARB HOSPITAL
ProForma Statement of Operations (£E)

	FY93/94	FY94/95	FY95/96	FY96/97	FY97/98
INCOME					
Inpatient					
First Class	51,000	66,000	80,000	95,000	95,000
Second Class	183,000	228,000	297,000	342,000	342,000
Third class	192,000	230,000	268,000	287,000	287,000
General - Free	0	0	0	0	0
ICU/CCU/Neonatal	22,000	26,000	37,000	40,000	40,000
Inpatient Income	448,000	550,000	682,000	764,000	764,000
Delivery	420,000	522,000	653,000	745,000	745,000
Productive Services					
Laboratory	36,000	62,000	83,000	93,000	93,000
Radiology	32,000	55,000	72,000	81,000	81,000
Pharmacy	310,000	535,000	710,000	796,000	796,000
Supplies	93,000	161,000	214,000	240,000	240,000
Surgery	347,000	431,000	530,000	603,000	603,000
Renal Dialysis	0	0	0	0	0
Other	1,000	2,000	3,000	3,000	3,000
Productive Services Income	819,000	1,246,000	1,612,000	1,816,000	1,816,000
Outpatient Income	100,000	100,000	100,000	100,000	100,000
Allowance for Free Service	(60,000)	(60,000)	(60,000)	(60,000)	(60,000)
PATIENT INCOME	1,727,000	2,358,000	2,987,000	3,365,000	3,365,000
GOVERNMENT ALLOTMENT	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000
TOTAL INCOME	3,027,000	3,658,000	4,287,000	4,665,000	4,665,000
OPERATING EXPENSES					
Salaries and Benefits	1,409,000	1,409,000	1,409,000	1,409,000	1,409,000
Utilities	263,000	320,000	365,000	386,000	386,000
Telephone	21,000	26,000	29,000	31,000	31,000
Food	293,000	356,000	406,000	431,000	431,000
Laundry and Clothes	125,000	153,000	174,000	185,000	185,000
Supplies					
Medical	368,000	448,000	511,000	541,000	541,000
Laboratory	91,000	111,000	127,000	104,000	104,000
Radiology	95,000	115,000	131,000	139,000	139,000
Pharmacy	441,000	538,000	613,000	649,000	649,000
Cleaning	33,000	41,000	46,000	49,000	49,000
Administrative	10,000	13,000	15,000	15,000	15,000
Total Supplies	1,038,000	1,266,000	1,443,000	1,497,000	1,497,000
Marketing	15,000	15,000	15,000	15,000	15,000
Transport	25,000	25,000	25,000	25,000	25,000
Maintenance	61,000	61,000	61,000	61,000	61,000
TOTAL OPERATING EXPENSES	3,250,000	3,631,000	3,927,000	4,040,000	4,040,000
OPERATING INCOME	(223,000)	27,000	360,000	625,000	625,000
NON OPERATING EXPENSE					
Building Depreciation	278,000	278,000	278,000	278,000	278,000
Equipment Depreciation	330,000	330,000	330,000	330,000	330,000
NET INCOME	(831,000)	(581,000)	(248,000)	17,000	17,000

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Exhibit 3-B
EL KANTARA GHARB HOSPITAL
Success Criteria

	FY93/94	FY94/95	FY95/96	FY96/97	FY97/98
TARGET					
OPERATING - Bab 2	50.00%	60.00%	100.00%	100.00%	100.00%
BUILDING DEPRECIATION	10.00%	20.00%	30.00%	100.00%	100.00%
EQUIPMENT DEPRECIATION	40.00%	60.00%	80.00%	100.00%	100.00%
CALCULATION					
OPERATING	920,500	1,333,200	2,518,000	2,631,000	2,631,000
PERCENT	187.62%	176.87%	118.63%	127.90%	127.90%
DEPRECIATION	159,800	253,600	347,400	608,000	608,000
PERCENT	-139.55%	10.65%	103.63%	102.80%	102.80%
INPATIENT COST (75% TOTAL)	2,437,500	2,723,250	2,945,250	3,030,000	3,030,000
TOTAL BEDS	218	218	218	218	218
OCCUPANCY	54.5%	66.4%	75.7%	80.2%	80.2%
INPATIENT DAYS	41,793	50,918	58,035	61,503	61,503
COST EXCLUDING DEPRECIATION					
COST PER BED	11,181	12,492	13,510	13,899	13,899
COST PER INPATIENT DAY	58	53	51	49	49
COST INCLUDING DEPRECIATION					
COST PER BED	13,273	14,584	15,602	15,991	15,991
COST PER INPATIENT DAY	69	62	59	57	57

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Exhibit 4-A
15th OF MAY HOSPITAL
ProForma Statement of Operations (£E)

	FY93/94	FY94/95	FY95/96	FY96/97	FY97/98
INCOME					
Inpatient					
First Class	36,000	41,000	56,000	61,000	61,000
Second Class	161,000	181,000	241,000	261,000	261,000
Third class	93,000	102,000	130,000	140,000	140,000
General - Free	0	0	0	0	0
ICU/CCU/Neonatal	22,000	26,000	37,000	40,000	40,000
Inpatient Income	312,000	350,000	464,000	502,000	502,000
Delivery	159,000	177,000	230,000	248,000	248,000
Productive Services					
Laboratory	23,000	26,000	37,000	40,000	40,000
Radiology	9,000	11,000	15,000	16,000	16,000
Pharmacy	173,000	196,000	273,000	296,000	296,000
Supplies	53,000	60,000	83,000	90,000	90,000
Surgery	347,000	389,000	516,000	558,000	558,000
Renal Dialysis	0	0	0	0	0
Other	2,000	2,000	2,000	3,000	3,000
Productive Services Income	607,000	684,000	926,000	1,003,000	1,003,000
Outpatient Income	150,000	150,000	150,000	150,000	150,000
Allowance for Free Service	(75,000)	(75,000)	(75,000)	(75,000)	(75,000)
PATIENT INCOME	1,153,000	1,286,000	1,695,000	1,828,000	1,828,000
GOVERNMENT ALLOTMENT	859,000	859,000	859,000	859,000	859,000
TOTAL INCOME	2,012,000	2,145,000	2,554,000	2,687,000	2,687,000
OPERATING EXPENSES					
Salaries and Benefits	814,000	814,000	814,000	814,000	814,000
Utilities	80,000	85,000	103,000	108,000	108,000
Telephone	6,000	7,000	8,000	9,000	9,000
Food	166,000	177,000	214,000	225,000	225,000
Laundry and Clothes	71,000	76,000	92,000	96,000	96,000
Supplies					
Medical	184,000	196,000	236,000	248,000	248,000
Laboratory	27,000	29,000	35,000	28,000	28,000
Radiology	35,000	37,000	44,000	47,000	47,000
Pharmacy	273,000	291,000	351,000	369,000	369,000
Cleaning	19,000	20,000	24,000	26,000	26,000
Administrative	6,000	6,000	8,000	8,000	8,000
Total Supplies	544,000	579,000	698,000	726,000	726,000
Marketing	15,000	15,000	15,000	15,000	15,000
Transport	25,000	25,000	25,000	25,000	25,000
Maintenance	38,000	38,000	38,000	38,000	38,000
TOTAL OPERATING EXPENSES	1,759,000	1,816,000	2,007,000	2,056,000	2,056,000
OPERATING INCOME	253,000	329,000	547,000	631,000	631,000
NON OPERATING EXPENSE					
Building Depreciation	268,000	268,000	268,000	268,000	268,000
Equipment Depreciation	110,000	110,000	110,000	110,000	110,000
NET INCOME	(125,000)	(49,000)	169,000	253,000	253,000

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Exhibit 4-B
15th OF MAY HOSPITAL
Success Criteria

	FY93/94	FY94/95	FY95/96	FY96/97	FY97/98
TARGET					
OPERATING - Bab 2	50.00%	60.00%	100.00%	100.00%	100.00%
BUILDING DEPRECIATION	10.00%	20.00%	30.00%	100.00%	100.00%
EQUIPMENT DEPRECIATION	40.00%	60.00%	80.00%	100.00%	100.00%
CALCULATION					
OPERATING	472,500	601,200	1,193,000	1,242,000	1,242,000
PERCENT	244.02%	213.91%	142.08%	147.18%	147.18%
DEPRECIATION	70,800	119,600	168,400	378,000	378,000
PERCENT	357.34%	275.08%	324.82%	166.93%	166.93%
INPATIENT COST (75% TOTAL)	1,319,250	1,362,000	1,505,250	1,542,000	1,542,000
TOTAL BEDS	126	126	126	126	126
OCCUPANCY	55.2%	58.8%	71.0%	74.6%	74.6%
INPATIENT DAYS	23,762	25,313	30,569	32,120	32,120
COST EXCLUDING DEPRECIATION					
COST PER BED	10,470	10,810	11,946	12,238	12,238
COST PER INPATIENT DAY	56	54	49	48	48
COST INCLUDING DEPRECIATION					
COST PER BED	12,720	13,060	14,196	14,488	14,488
COST PER INPATIENT DAY	67	65	59	57	57

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Exhibit 5-A
KAFR EL DAWAR POLYCLINIC
ProForma Statement of Operations (£E)

	FY93/94	FY94/95	FY95/96	FY96/97	FY97/98
INCOME	0	0	0	0	0
Inpatient	0	0	0	0	0
First Class	0	0	0	0	0
Second Class	0	0	0	0	0
Third class	0	0	0	0	0
General - Free	0	0	0	0	0
ICU/CCU/Neonatal	0	0	0	0	0
Inpatient Income	0	0	0	0	0
Delivery	0	0	0	0	0
Productive Services					
Laboratory	97,000	101,000	112,000	123,000	123,000
Radiology	76,000	79,000	88,000	97,000	97,000
Pharmacy	490,000	511,000	564,000	623,000	623,000
Supplies	233,000	243,000	268,000	296,000	296,000
Surgery	0	0	0	0	0
Renal Dialysis	0	0	0	0	0
Other	0	0	0	0	0
Productive Services Income	896,000	934,000	1,032,000	1,139,000	1,139,000
Outpatient Income	180,000	180,000	180,000	180,000	180,000
Allowance for Free Service	(90,000)	(90,000)	(90,000)	(90,000)	(90,000)
PATIENT INCOME	986,000	1,024,000	1,122,000	1,229,000	1,229,000
GOVERNMENT ALLOTMENT	764,000	764,000	764,000	764,000	764,000
TOTAL INCOME	1,750,000	1,788,000	1,886,000	1,993,000	1,993,000
OPERATING EXPENSES					
Salaries and Benefits	168,000	168,000	168,000	168,000	168,000
Utilities	87,000	90,000	105,000	105,000	105,000
Telephone	7,000	7,000	8,000	9,000	9,000
Food	0	0	0	0	0
Laundry and Clothes	0	0	0	0	0
Supplies					
Medical	150,000	156,000	172,000	189,000	189,000
Laboratory	100,000	104,000	114,000	126,000	126,000
Radiology	70,000	73,000	80,000	88,000	88,000
Pharmacy	300,000	312,000	343,000	378,000	378,000
Cleaning	21,000	21,000	25,000	26,000	26,000
Administrative	6,000	7,000	8,000	8,000	8,000
Total Supplies	647,000	673,000	742,000	815,000	815,000
Marketing	10,000	10,000	10,000	10,000	10,000
Transport	5,000	5,000	5,000	5,000	5,000
Maintenance	20,000	20,000	20,000	20,000	20,000
TOTAL OPERATING EXPENSES	944,000	973,000	1,058,000	1,132,000	1,132,000
OPERATING INCOME	806,000	815,000	828,000	861,000	861,000
NON OPERATING EXPENSE					
Building Depreciation	48,000	48,000	48,000	48,000	48,000
Equipment Depreciation	150,000	150,000	150,000	150,000	150,000
NET INCOME	608,000	617,000	630,000	663,000	663,000

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Exhibit 5-B
KAFR EL DAWAR POLYCLINIC
Success Criteria

	FY93/94	FY94/95	FY95/96	FY96/97	FY97/98
TARGET					
OPERATING - Bab 2	50.00%	60.00%	100.00%	100.00%	100.00%
BUILDING DEPRECIATION	10.00%	20.00%	30.00%	100.00%	100.00%
EQUIPMENT DEPRECIATION	40.00%	60.00%	80.00%	100.00%	100.00%
CALCULATION					
OPERATING	388,000	483,000	890,000	964,000	964,000
PERCENT	254.12%	212.01%	126.07%	127.49%	127.49%
DEPRECIATION	64,800	99,600	134,400	198,000	198,000
PERCENT	1243.83%	818.27%	616.07%	434.85%	434.85%
TOTAL VISITS	60,000	62,400	68,640	75,504	83,054
COST EXCLUDING DEPRECIATION					
COST PER VISIT	16	16	15	15	14
COST INCLUDING DEPRECIATION					
COST PER VISIT	19	19	18	18	16

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Exhibit 6
Assumptions for Estimating Facility Revenues and Costs
(£E)

	EMBABA	SHARK EL MEDINA	EL KANTARA GHARB	15th OF MAY	KAFR EL DAWAR
FIRST YEAR OF PROJECTION	1993/94	1993/94	1993/94	1993/94	1993/9
SECOND YEAR OF PROJECTION	1994/95	1994/95	1994/95	1994/95	1994/9
THIRD YEAR OF PROJECTION	1995/96	1995/96	1995/96	1995/96	1995/9
FOURTH YEAR OF PROJECTION	1996/97	1996/97	1996/97	1996/97	1996/9
FIFTH YEAR OF PROJECTION	1997/98	1997/98	1997/98	1997/98	1997/9
DEBT SERVICE INTEREST	0.00%	0.00%	0.00%	0.00%	0.00
WORKING CAPITAL - 120 DAYS	30.00%	30.00%	30.00%	30.00%	30.00
CAPITAL COSTS	10.00%	10.00%	10.00%	10.00%	10.00
UTILITIES - PRIOR YEAR COST-ESTIMATE	250,000	250,000	250,000	250,000	250,000
TELEPHONE - PRIOR YEAR COST-ESTIMATE	20,000	20,000	20,000	20,000	20,000
CLEANING SUPPLIES - PRIOR YEAR COST-ESTIMATE	0.800	0.800	0.800	0.800	0.800
MARKETING -FIXED	15,000	15,000	15,000	15,000	10,000
TRANSPORT - PRIOR YEAR COST-ESTIMATE	25,000	25,000	25,000	25,000	5,000
BUILDING COST - REPLACEMENT VALUE	10,800,000	30,000,000	10,800,000	8,400,000	1,200,000
CONSTRUCTION COST - RENOVATION	3,000,000	100,000	300,000	2,300,000	700,000
DEPRECIATION BUILDING LIFE	40	40	40	40	40
DEPRECIATION - STRAIGHT LINE-ANNUAL	345,000	753,000	278,000	268,000	48,000
EQUIPMENT COST	11,000,000	12,000,000	3,300,000	1,100,000	1,500,000
DEPRECIATION EQUIPMENT LIFE	10	10	10	10	10
DEPRECIATION - STRAIGHT LINE-ANNUAL	1,100,000	1,200,000	330,000	110,000	150,000
GOVERNMENT SUBSIDY	1,600,000	1,680,000	1,300,000	859,000	764,000
GOVERNMENT SUBSIDY INCREASE-ESTIMATE	0.00%	0.00%	0.00%	0.00%	0.00
INFLATION -- ESTIMATE ANNUALLY					
General	0.00%	0.00%	0.00%	0.00%	0.00
Salary	0.00%	0.00%	0.00%	0.00%	0.00
Bed Rates	0.00%	0.00%	0.00%	0.00%	0.00
BED RATES (CHARGE)					
First Class	40.000	40.000	40.000	40.000	--
Second Class	25.000	25.000	25.000	25.000	--
Third Class	15.000	15.000	15.000	15.000	--
General - Free	0.000	0.000	0.000	0.000	--
ICU	50.000	50.000	50.000	50.000	--
Neonatal	50.000	50.000	50.000	50.000	--
Renal	25.000	25.000	25.000	25.000	--
DELIVERY CHARGE	200.000	200.000	200.000	200.000	--
First Class	100.00%	100.00%	100.00%	100.00%	--
Second Class	80.00%	80.00%	80.00%	80.00%	--
Third Class	60.00%	60.00%	60.00%	60.00%	--
General - Free	0.00%	0.00%	0.00%	0.00%	--
OUTPATIENT VISIT CHARGE	2.500	2.500	2.500	2.500	--
NUMBER OF BEDS	334	230	218	126	--
First Class	35	20	10	7	--
Second Class	102	70	50	44	--
Third Class	84	75	70	34	--
General - Free	98	55	80	33	--
CCU	8	5	4	4	--
ICU & Neonatal	7	5	4	4	--
Renal	9	0	0	0	--
DELIVERIES PER YEAR -- AVERAGE	6,073	4,182	3,964	2,291	--
DELIVERIES -- OCCUPANCY -- ESTIMATE					
General - Free 12/32 beds	40.00%	40.00%	40.00%	40.00%	--
PRIOR YEAR PATIENT DAYS - TOTAL	74,547	74,547	39,784	74,547	--
PRIOR YEAR ADMISSIONS - TOTAL	18,921	13,242	9,946	18,921	--
General - Free	17,419	17,419	17,419	17,419	--
AVERAGE LENGTH OF STAY -- YEARS 1 THROUGH 5					
First Class	4	4	4	4	--
Second Class	4	4	4	4	--
Third Class	4	4	4	4	--
General - Free	4	4	4	4	--
CCU/ICU/Neonatal	3	3	3	3	--
OB	2	2	2	2	--

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	EMBABA	SHARK EL MEDINA	EL KANTARA GHARB	15th OF MAY	KAFR EL DAWAR
BED OCCUPANCY - YEAR 1					
First Class	45.00%	30.00%	35.00%	35.00%	--
Second Class	50.00%	40.00%	40.00%	40.00%	--
Third Class	55.00%	50.00%	50.00%	50.00%	--
General - Free	85.00%	70.00%	70.00%	85.00%	--
CCU/ICU/Neonatal	50.00%	30.00%	30.00%	30.00%	--
BED OCCUPANCY - YEAR 2					
First Class	50.00%	45.00%	45.00%	40.00%	--
Second Class	55.00%	50.00%	50.00%	45.00%	--
Third Class	60.00%	60.00%	60.00%	55.00%	--
General - Free	85.00%	85.00%	85.00%	85.00%	--
CCU/ICU/Neonatal	50.00%	35.00%	35.00%	35.00%	--
BED OCCUPANCY - YEAR 3					
First Class	55.00%	55.00%	55.00%	55.00%	--
Second Class	60.00%	65.00%	65.00%	60.00%	--
Third Class	70.00%	70.00%	70.00%	70.00%	--
General - Free	90.00%	90.00%	90.00%	90.00%	--
CCU/ICU/Neonatal	50.00%	50.00%	50.00%	50.00%	--
BED OCCUPANCY - YEAR 4&5					
First Class	60.00%	65.00%	65.00%	60.00%	--
Second Class	65.00%	65.00%	75.00%	65.00%	--
Third Class	75.00%	75.00%	75.00%	75.00%	--
General - Free	90.00%	90.00%	90.00%	90.00%	--
CCU/ICU/Neonatal	50.00%	55.00%	55.00%	55.00%	--
OUTPATIENT VISIT CHARGE	--	--	--	--	3.000
PRIOR YEAR VISITS- TOTAL	--	--	--	--	60,000
General - Free	--	--	--	--	17,419
OUTPATIENT VISITS (NO EMERGENCY)	260,000	500,000	40,000	60,000	60,000
OUTPATIENT VISITS -- COST ESTIMATE	1.000	1.000	1.000	1.000	1.000
OUTPATIENT VISITS -- UTILIZATION ESTIMATE					
Pay Class	50.00%	40.00%	40.00%	50.00%	50.00
General - Free	50.00%	60.00%	60.00%	50.00%	50.00
OUTPATIENT UTILIZATION ESTIMATE					
Laboratory - percent of Inpatient	30.00%	50.00%	30.00%	30.00%	100.00
Radiology - percent of Inpatient	10.00%	50.00%	20.00%	10.00%	100.00
Pharmacy - percent of Inpatient	30.00%	60.00%	40.00%	30.00%	100.00
Medical Supply - percent of Inpatient	30.00%	60.00%	40.00%	30.00%	100.00
PRODUCTION SERVICE CENTRES -- TOTAL SERVICES					
Laboratory	87,000	129,000	19,000	25,000	12,000
Inpatient 80%/Admits	14,000	8,000	8,000	5,000	0
Outpatient 20%/Out&ER	73,000	121,000	11,000	20,000	12,000
Radiology	11,000	10,000	5,000	3,000	1,000
Inpatient 40%/Admits	7,000	4,000	4,000	2,000	0
Outpatient 1%/Outpt&ER	4,000	6,000	1,000	1,000	1,000
Pharmacy	218,000	322,000	49,000	62,000	30,000
Inpatient 2 Scripts/Admit	36,000	20,000	21,000	12,000	0
Outpatient 1 Script/every 2 Pts	182,000	302,000	28,000	50,000	30,000
Medical Supplies	236,000	332,000	59,000	68,000	30,000
Inpatient 3 Items/Admit	54,000	30,000	31,000	18,000	0
Outpatient 1 Item/every 2 Patients	182,000	302,000	28,000	50,000	30,000
EMERGENCY SERVICES	104,000	104,000	15,000	39,709	0
Surgeries	14,000	10,100	9,600	5,500	0
PRODUCTION SERVICE CENTRES -- CHARGE PER SERVICE					
Laboratory	6.000	6.000	6.000	6.000	6.000
Radiology	20.000	20.000	20.000	20.000	20.000
Pharmacy	18.000	12.000	20.000	18.000	12.000
Medical Supplies	5.000	5.000	5.000	5.000	5.000
EMERGENCY SERVICES	0.250	0.250	0.250	0.250	0.250
Surgery	200.000	200.000	200.000	200.000	0.000
Administration -- Per patient Day Cost	--	--	--	--	0.250
SUPPORT SERVICE CENTRES					
Kitchen -- Per Patient Day Cost	7.000	7.000	7.000	7.000	--
Prior year cost	102,000	102,000	102,000	102,000	--
Laundry -- Per Patient Day Cost	3.000	3.000	3.000	3.000	--
Prior year cost	125,433	125,433	125,433	125,433	--
Nursing / Medical School Cost	38,290	0	0	0	--
Administration -- Per patient Day Cost	0.250	0.250	0.250	0.250	--
SALARY & BENEFITS -- ANNUAL TOTALS					
Specialist	1,317,600	1,317,600	1,317,600	1,317,600	--
House Drs	687,600	687,600	687,600	687,600	--
Nurses	547,200	547,200	547,200	547,200	--
Technician	147,600	147,600	147600	147,600	--
Pharmacists	28,800	28,800	28,800	28,800	--
Admin	118,800	118,800	118,800	118,800	--
Finance	43,200	43,200	43,200	43,200	--
Maintenance	14,400	14,400	14,400	14,400	--
TOTAL SALARY & BENEFITS	2,905,200	2,905,200	2,905,200	2,905,200	--

The assumptions supporting these projections are described in the Illustrative Business Guide developed by the HFSP consultants and the CRHP Directorate. They are not discussed in detail in this analysis due to the volume of the Guide. A summary discussion can be found in the HFSP consultants' report entitled "Financial Analysis: Cost Recovery for Health Programs."

To develop the assumptions for the compilation of Financial Operations for each Phase A pilot hospital and polyclinic after cost recovery, historical information and data from prior years were obtained from each pilot facility, and estimated revenue, costs, and other operating data after renovation were developed. The baseline data for assumptions were developed from Embaba Hospital operating statistics for 1989 and 1990. Embaba Hospital operations have been reviewed and examined by HFSP consultants and CRHP Directorate staff since 1990. Numerous interviews with pilot facility management and staff have been conducted, as well as, a Cost and Pricing Study, Business Plan, Facility Conversion Plan, Economic Study, Catchment Area Surveys of Patients, Consumers, and Providers, A&E renovation estimates, and biomedical equipment cost estimates have been developed and implemented during this period. Information on Embaba Hospital is the most complete and to date the most accurate.

This information from Embaba Hospital along with estimated biomedical equipment costs, and estimated A&E renovation costs for each pilot facility provides the basis for the Proforma Statements in Exhibits 1 through 5. Each pilot facility Exhibit includes assumptions for estimating future utilization, staffing levels, the mix of patient services, the estimated cost of medical services and hospital support and other operations, the estimated utility and general service costs, and the estimated depreciation cost of buildings and equipment.

Only Embaba Hospital and 15th of May Hospital of the five pilot facilities have operating inpatient facilities. Kafr El Dawr has only outpatient facilities with no inpatient operations under construction. Shark El Medina has an active outpatient operation with inpatient facilities under construction, and El Kantara Gharb is expected to open both inpatient and outpatient operations in mid-1993, under the cost recovery program.

Another major expense element is the depreciation of capital (e.g., buildings, equipment). For this ProForma Statement of Operations, the depreciation formula which is appropriate for the Hospital is a straight-line estimated life for two types of capital, buildings and equipment. The estimated life of the buildings, after renovation, is 40 years. The life of equipment in a hospital is affected by proper maintenance, technological

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obsolescence, usage, and other factors, some which cannot be easily controlled. This makes estimation of a useful life more difficult. For this ProForma Statement of Operations, it is assumed that all equipment will have the same useful life, 10 years.

Two sets of projections were developed using Embaba and Shark El Medina Hospitals. Depreciation requirements for the facilities range from twenty to thirty-five percent of total revenues. In establishing the reasonableness of this assumption, these projections were discussed with Dr. Fayad, Director of the Curative Care Organization (CCO). CCO has a policy of annually depreciating equipment at five percent of the revenues generated by a hospital. This policy does not consider the purchase cost or replacement cost of the equipment. Dr. Fayad said the five percent depreciation policy practiced by the CCO was not adequate to replace the equipment. Although the five percent puts the CCO in a comparatively better position than the MOH (which does not accumulate a replacement fund for equipment), the amount set aside does not cover equipment replacement costs. The CCO obtains replacement equipment through loans from investment banks and grants from Arab and other foreign donors.

In order for the Pilot Facilities to deliver a level of quality of care that will attract paying patients, they will require operating funds equivalent to those they would be collecting under a full cost recovery scenario. Thus, a gap will occur based on full operations and limited user-charges collections, requiring operational support. There are two problems with this operational support covering so long a time period. The first of these is cost. The second, and perhaps more important consideration is that of motivation. If support funding is based on a five year period, the hospital will take five years to achieve self sufficiency. There is no motivation to become self sufficient at a more rapid pace. Therefore, the strategy recommended is to provide the Phase A pilot facilities with operational support on a decreasing basis over the remaining LOP, generally for two to three years depending on the differing situations to be found at the individual facilities. This will provide the needed funding to deliver the necessary quality of care at the facility's opening as a CRHP Pilot Facility, yet would not provide a disincentive to the facility's becoming self sufficient.

The operations support required for the each of the five Phase A pilot facilities can be considered to be equivalent to the negative figures found in the "Net Income" line item of the Pro Forma Exhibits 1-5. This figure should prove sufficient for the implementation of improved levels of care, and should also motivate the facility in its role of collecting patient fees. As with many of the assumptions made in this paper, an operational support

strategy will depend on the implementation of a social financing mechanism. Without such a mechanism, achieving self sufficiency would be difficult if not impossible, even over a five year period.

c. Conclusion

In view of the above, and the stream of income generated by the pilot facilities, this analysis points to a potentially viable investment in the CRHP pilot facilities, from the facilities' perspective, through fiscal year 1995/96.

2. Financial Analysis of Component One

a. Summary of Financial Analysis

The aim of this section of the analysis is to examine the direct financial benefits to be obtained as a result of the Project. The five facilities identified for conversion to cost recovery operations are intended to serve as a demonstration of the effectiveness of the cost recovery system. Given the low rate of return projected for the Phase A demonstration units, conversion of a minimum of 21 additional Phase B and C facilities by the GOE will be required to achieve an internal rate of return (IRR) over 10%. This minimum number of additional conversions is based on a very favorable set of assumptions. Changes in critical assumptions could have a dramatic effect on the results of the analysis. However given the large population of hospitals, there is the potential for conversion of a substantially larger number of facilities. The larger number of conversions would generate a higher rate of return, or off set the expected lower return if key assumptions do not hold. The large population also presents the opportunity to select facilities for conversion carefully, which increases the possibility of favorable results.

b. Background

The Egyptian medical care system includes 225 hospital facilities run by the government. These hospitals are generally poorly run from a medical, managerial, and financial standpoint. As a result, the quality of care provided is poor. Although some hospitals have begun to collect limited fees for services, the provision of essentially free care at these hospitals, represents a tremendous drain on GOE resources allocated to health care. The premise of the Cost Recovery for Health Project is that these hospitals can be converted to cost recovery facilities where patients will pay for better quality care. Primary inputs required to effect this change are improvements in management and financial systems, training, and in some cases building renovation and upgrading biomedical equipment. The Project approach is to establish a Cost Recovery

for Health Project Directorate (CRHP Directorate) within the Ministry of Health (MOH) that can assist facilities in implementing better management systems. The Project will test and demonstrate the relative advantages of key management interventions at five different facilities that were selected by the GOE. For these five "Phase A" demonstration facilities, AID will finance technical assistance, training, and local support costs for the CRHP Directorate in the amount of $25.5 million. AID will also finance renovations and equipment procurement for the five facilities totaling $11.2 million. The Project assumes that positive results in the demonstration facilities will enable the government to continue implementation in additional facilities. During the Life of Project, it is anticipated that the previously mentioned Project financed technical assistance and training will be used to assist the GOE in undertaking cost recovery conversions in five additional "Phase B" facilities. Following the PACD, it is further expected that the GOE will undertake additional cost recovery conversions at its own initiative ("Phase C" facilities).

c. Methodology

The analysis first computes the IRR for the five demonstration facilities, which is negative. Subsequent analysis focuses on how many additional hospitals will have to be converted to obtain an IRR over 10%. The analysis uses the financial projections developed by Abt Associates Inc. for the demonstration facilities. The analysis compares the net increase in revenues anticipated from cost recovery operations with the investment by both USAID and the GOE. Net increase in revenue is the increase in revenues over historic levels, less the increase in costs. Revenue and cost figures projected for the demonstration facilities are assumed to be representative of the results that can be achieved for similar facilities in the future. To determine the expected increase in revenues and costs, historic revenue and cost figures were provided by the MOH CRHP Directorate. These figures are not very accurate as the facilities do not currently maintain reliable financial information. In addition one facility, Kantara hospital, is not currently in operation. Projections of expected costs and revenues for Kantara without the cost recovery program were made based on historic information for other small to medium hospitals. By their nature, the accuracy of projected costs and revenues for cost recovery operations is open to question. Of particular concern are benefits associated with changes in hospital staff composition or salary rates. AID probably cannot expect to influence the GOE civil service procedures through this Project, therefore, the net benefit, if any, projected because of such changes may not be realized. Changes in estimates of the current costs and revenues, or those associated with projected cost recovery operations could have a significant impact on the analysis.

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Basic assumptions include adjustment to exclude inflation, the 10 year "life" for each facility converted, an overall timeframe not exceeding 28 years, 10 percent as an acceptable rate of return, and a 3.35 £E/$ exchange rate. The exchange rate used for the analysis is the current one. The 10 percent rate was chosen based on Office of Management and Budget's directive in response to Executive Order 12291 (the 1981 Order for mandating the use of cost-benefit analysis before promulgating regulations). The 28 year length of analysis was chosen to allow for the projected long-term effects of Component One. Discounting reduces the impact on the analysis of costs and benefits after this time to a very low level.

For the purposes of this analysis, facilities have been broken down into three types. Large hospitals (over 300 beds), small to medium hospitals (100-300 beds), and polyclinics. The five initial demonstration facilities were chosen, in part, for their diversity - one is a large hospital, three are small to medium hospitals, and one is a polyclinic.

The Project involves two different types of investment - technical assistance and training to establish the CRHP Directorate, develop cost recovery systems, and install them in the facilities; and capital improvements in the form of building renovations and procurement of biomedical equipment. Some level of capital improvement is planned for each demonstration facility. With the data and projections available it is impossible to distinguish how much of the increase in net revenue projected for the demonstration facilities flows from the capital investment as opposed to the cost recovery systems. Therefore the analysis is unable to determine the possible effect of dropping one component of the investment. The Project's technical staff state that the two types of investment are synergistic. The increase in revenues with the combined investments is larger than the sum of the increases that would be obtained from each type of investment alone.

Although all the demonstration facilities require some capital improvements, Project technical staff state that not all hospitals will require this type of investment. This analysis assumes that net revenue increases similar to those projected for the demonstration facilities can be achieved in hospitals that do not require capital improvements. The analysis considers how many facilities of each type (large, medium, polyclinic, with or without capital improvements required) would have to be converted after the demonstration period to produce an IRR over 10%. It was assumed that three of the five demonstration facilities begin Cost Recovery operations in CY 95, the other two in CY 96. Thereafter, it is anticipated that three facilities will be converted each year. It is assumed the management interventions will generate an increased flow of net revenues to each "converted" facility for a period of

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ten years, and that equipment and renovations will have a ten-year life.

d. Results

The analysis indicates that conversion of small to medium hospitals produce the best results. In addition, conversion of facilities that do not require capital improvements, such as renovation or procurement of biomedical equipment, will produce better financial results. Without capital improvements, 21 small to medium hospitals are required to produce a favorable IRR (see Table 1), as compared to 27 large hospitals (see Table 2). When it is assumed that all additional facilities would need capital improvements the IRR remains below 10%, even with the conversion of 45 additional facilities (see Tables 3 & 4). This is the case whatever the size of facility being converted. It is assumed that the conversion of 45 facilities would take 15 years. It is clear from our analysis that for the Project to produce a favorable IRR a significant number of hospitals not requiring renovation must be converted. Using small to medium hospitals, if 15 of 45 hospitals converted (one each year) need capital improvements, 36 additional hospitals result in an IRR slightly above 10% (see Table 5). The average capital improvement paid by AID for each type of facility was used for additional facility conversion computations. This average was 2.4 million dollars for small to medium hospitals. If facilities of this size could be found with lower capital improvement requirements financial performance would be better. For example 10 of 30 medium hospitals converted (one each year) could have capital improvement requirements up to 1.2 million dollars and the IRR would be above 10% with 27 additional hospitals (see Table 6).

It should be noted that there is considerable variability in the projected revenues and costs for the three medium sized hospitals, particularly in the area of productive services income and outpatient income. An average of the three hospitals was used for projections for future small to medium sized hospital conversions. If medium hospitals with the potential for significant outpatient and productive services income are chosen for conversion, fewer facilities would be required to produce the desired IRR. Conversely if the potential for outpatient and productive services income is low, more facilities would be required.

In the case of large hospitals and polyclinics, we only have projected data for one facility. Therefore, there is a higher probability that the projections will not prove to be representative of large hospitals in general. This uncertainty can

TABLE 1
Internal Rate of Return for Cost Recovery Health Project
($ 000)

FYR	Investment Cost	Increase Operating Cost		Increase Revenues	Net Revenues	Net Cash Flow
92	2,130	0	0	0	(2,130)	
93	11,544	0	0	0	(11,544)	
94	12,112	0	0	0	(12,112)	
95	5,849	977	1,694	717	(5,132)	
96	5,533	2,640	3,754	1,114	(4,419)	
97	4,584	4,077	6,126	2,049	(2,535)	
98	690	5,687	8,990	3,303	2,613	
99	654	7,406	12,146	4,740	4,086	
0	654	9,122	15,382	6,260	5,606	
1	654	10,838	18,618	7,780	7,126	
2	654	12,554	21,854	9,300	8,646	
3	654	14,270	25,090	10,820	10,166	
4	0	14,894	26,779	11,885	11,885	
5	0	13,673	24,521	10,848	10,848	
6	0	12,012	22,652	10,640	10,640	
7	0	10,296	19,416	9,120	9,120	
8	0	8,580	16,180	7,600	7,600	
9	0	6,864	12,944	6,080	6,080	
10	0	5,148	9,708	4,560	4,560	
11	0	3,432	6,472	3,040	3,040	
12	0	1,716	3,236	1,520	1,520	
13	0	0	0	0	0	
14	0	0	0	0	0	
TOT	45,712	144,186	255,562	111,376	65,664	
IRR					10.48%	

Assumptions
•Add 3 medium hospitals a year, no capital investment required.
•21 hospitals result in an IRR over 10%.

TABLE 2
Internal Rate of Return for Cost Recovery Health Project
($ 000)

FYR	Investment Cost	Increase Operating Cost	Increase Revenues	Net Revenues	Net Cash Flow
92	2,130	0	0	0	(2,130)
93	11,544	0	0	0	(11,544)
94	12,112	0	0	0	(12,112)
95	5,849	977	1,694	717	(5,132)
96	5,533	2,640	3,754	1,114	(4,419)
97	4,584	6,456	8,461	2,005	(2,579)
98	690	10,418	13,418	3,000	2,310
99	654	14,531	18,662	4,131	3,477
0	654	18,749	24,167	5,418	4,764
1	654	22,967	29,672	6,705	6,051
2	654	27,185	35,177	7,992	7,338
3	654	31,403	40,682	9,279	8,625
4	654	35,621	46,187	10,566	9,912
5	654	38,273	48,437	10,164	9,510
6	0	37,287	47,922	10,635	10,635
7	0	33,564	43,590	10,026	10,026
8	0	29,526	38,535	9,009	9,009
9	0	25,308	33,030	7,722	7,722
10	0	21,090	27,525	6,435	6,435
11	0	16,872	22,020	5,148	5,148
12	0	12,654	16,515	3,861	3,861
13	0	8,436	11,010	2,574	2,574
14	0	4,218	5,505	1,287	1,287
TOT	47,020	398,175	515,963	117,788	70,768
IRR					10.10%

Assumptions
•Add 3 large hospitals a year, without capital investment.
•27 additional hospitals result in an IRR over 10%.

TABLE 3
Internal Rate of Return for Cost Recovery-Health Project
($ 000)

FYR	Investment Cost	Increase Operating Cost	Increase Revenues	Net Revenues	Net Cash Flow
92	2,130	0	0	0	(2,130)
93	11,544	0	0	0	(11,544)
94	12,112	0	0	0	(12,112)
95	5,849	977	1,694	717	(5,132)
96	5,533	2,640	3,754	1,114	(4,419)
97	11,784	4,077	6,126	2,049	(9,735)
98	7,890	5,687	8,990	3,303	(4,587)
99	7,854	7,406	12,146	4,740	(3,114)
0	7,854	9,122	15,382	6,260	(1,594)
1	7,854	10,838	18,618	7,780	(74)
2	7,854	12,554	2[illegible] 854	9,300	1,446
3	7,854	14,270	25,090	10,820	2,966
4	7,854	15,986	28,326	12,340	4,486
5	7,854	16,136	28,307	12,171	4,317
6	7,854	16,119	29,405	13,286	5,432
7	7,854	16,119	29,405	13,286	5,432
8	7,854	16,119	29,405	13,286	5,432
9	7,854	16,119	29,405	13,286	5,432
10	7,854	16,119	29,405	13,286	5,432
11	7,854	16,119	29,405	13,286	5,432
12	0	15,027	27,858	12,831	12,831
13	0	13,656	25,619	11,963	11,963
14	0	12,012	22,652	10,640	10,640
15	0	10,296	19,416	9,120	9,120
16	0	8,580	16,180	7,600	7,600
17	0	6,864	12,944	6,080	6,080
18	0	5,148	9,708	4,560	4,560
19	0	3,432	6,472	3,040	3,040
20	0	1,716	3,236	1,520	1,520
TOT	158,944	273,138	490,802	217,664	58,720
IRR					4.68%

Assumptions
- Add 3 medium hospitals a year, with average capital improvements $2.4 million.
- 45 additional hospitals result in an IRR less than 10%.

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TABLE 4
Internal Rate of Return for Cost Recovery Health Project
($ 000)

FYR	Investment Cost	Increase Operating Cost	Increase Revenues	Net Revenues	Net Cash Flow
92	2,130	0	0	0	(2,130)
93	11,544	0	0	0	(11,544)
94	12,112	0	0	0	(12,112)
95	5,849	977	1,694	717	(5,132)
96	5,533	2,640	3,754	1,114	(4,419)
97	16,584	6,456	8,461	2,005	(14,579)
98	12,690	10,418	13,418	3,000	(9,690)
99	12,654	14,531	18,662	4,131	(8,523)
0	12,654	18,749	24,167	5,418	(7,236)
1	12,654	22,967	29,672	6,705	(5,949)
2	12,654	27,185	35,177	7,992	(4,662)
3	12,654	31,403	40,682	9,279	(3,375)
4	12,654	35,621	46,187	10,566	(2,088)
5	12,654	38,273	48,437	10,164	(2,490)
6	12,654	40,758	51,804	11,046	(1,608)
7	12,654	40,758	51,804	11,046	(1,608)
8	12,654	40,758	51,804	11,046	(1,608)
9	12,654	40,758	51,804	11,046	(1,608)
10	12,654	40,758	51,804	11,046	(1,608)
11	12,654	40,758	51,804	11,046	(1,608)
12	0	37,287	47,922	10,635	10,635
13	0	33,564	43,590	10,026	10,026
14	0	29,526	38,535	9,009	9,009
15	0	25,308	33,030	7,722	7,722
16	0	21,090	27,525	6,435	6,435
17	0	16,872	22,020	5,148	5,148
18	0	12,654	16,515	3,861	3,861
19	0	8,436	11,010	2,574	2,574
20	0	4,218	5,505	1,287	1,287
TOT	230,944	638,505	821,282	182,777	(48,167)
IRR					-3.89%

Assumptions
- Add 3 large hospitals a year, with capital investment of $4 million each required.
- 45 additional hospitals result in a negative IRR.

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TABLE 5
Internal Rate of Return for Cost Recovery Health Project
($ 000)

FYR	Investment Cost	Increase Operating Cost	Increase Revenues	Net Revenues	Net Cash Flow
92	2,130	0	0	0	(2,130)
93	11,544	0	0	0	(11,544)
94	12,112	0	0	0	(12,112)
95	5,849	977	1,694	717	(5,132)
96	5,533	2,640	3,754	1,114	(4,419)
97	6,984	4,077	6,126	2,049	(4,935)
98	3,090	5,687	8,990	3,303	213
99	3,054	7,406	12,146	4,740	1,686
0	3,054	9,122	15,382	6,260	3,206
1	3,054	10,838	18,618	7,780	4,726
2	3,054	12,554	21,854	9,300	6,246
3	3,054	14,270	25,090	10,820	7,766
4	3,054	15,986	28,326	12,340	9,286
5	3,054	16,136	28,307	12,171	9,117
6	3,054	16,119	29,405	13,286	10,232
7	3,054	16,119	29,405	13,286	10,232
8	3,054	16,119	29,405	13,286	10,232
9	0	15,027	27,858	12,831	12,831
10	0	13,656	25,619	11,963	11,963
11	0	12,012	22,652	10,640	10,640
12	0	10,296	19,416	9,120	9,120
13	0	8,580	16,180	7,600	7,600
14	0	6,864	12,944	6,080	6,080
15	0	5,148	9,708	4,560	4,560
16	0	3,432	6,472	3,040	3,040
17	0	1,716	3,236	1,520	1,520
TOT	77,782	224,781	402,587	177,806	100,024
IRR					10.15%

Assumptions
•Add 3 medium hospitals a year, 1 requires capital improvements of $2.4 million remaining 2 do not require capital improvements.
•36 additional hospitals result in an IRR over 10%.

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TABLE 6
Internal Rate of Return for Cost Recovery Health Project
($ 000)

FYR	Investment Cost	Increase Operating Cost	Revenues	Net Revenues	Net Cash Flow
92	2,130	0	0	0	(2,130)
93	11,544	0	0	0	(11,544)
94	12,112	0	0	0	(12,112)
95	5,849	977	1,694	717	(5,132)
96	5,533	2,640	3,754	1,114	(4,419)
97	5,784	4,077	6,126	2,049	(3,735)
98	1,890	5,687	8,990	3,303	1,413
99	1,854	7,406	12,146	4,740	2,886
0	1,854	9,122	15,382	6,260	4,406
1	1,854	10,838	18,618	7,780	5,926
2	1,854	12,554	21,854	9,300	7,446
3	1,854	14,270	25,090	10,820	8,966
4	1,854	15,986	28,326	12,340	10,486
5	1,854	16,136	28,307	12,171	10,317
6	0	15,027	27,858	12,831	12,831
7	0	13,656	25,619	11,963	11,963
8	0	12,012	22,652	10,640	10,640
9	0	10,296	19,416	9,120	9,120
10	0	8,580	16,180	7,600	7,600
11	0	6,864	12,944	6,080	6,080
12	0	5,148	9,708	4,560	4,560
		3,432	6,472	3,040	3,040
		1,716	3,236	1,520	1,520
TOT	57,820	176,424	314,372	137,948	80,128
IRR					10.43%

Assumptions
•Add 3 medium hospitals a year, 1 requires $1.2 million capital improvements remaining 2 do not require capital improvements.
•27 hospitals result in an IRR over 10%.

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cut both ways. The large Embaba hospital projections are not as favorable as the average of the small to medium hospitals. If this is an anomaly and other large hospitals could perform better, the choice of large hospitals for conversion could be more easily justified from a financial standpoint. On the other hand other hospitals may not perform as well, which could make justification of conversion of large hospitals difficult.

e. Sensitivity of Key Assumptions

The projections for the demonstration facilities assume most of the financial benefit of conversion to a cost recovery facility will occur in the first year. Most of the projections show a 400-500 percent increase in revenues in the first year. For the next three years increases in revenues are more modest, ranging from 10 to 40 percent in any given year. After four years, the facilities are projected to be operating at a full cost recovery level. In addition operating costs are not projected to increase before the revenues. These assumptions probably are not realistic. If assumptions are changed and increased net revenues feed in more slowly, but full cost recovery operations and revenues are reached in the fourth year, the addition of 41 additional small to medium hospitals would result in an IRR slightly above 10% (see Table 7). This figure was computed assuming 50%, 65%, and 80% of the increased costs and revenues projected for the first, second and third years respectively are actually attained. Changing the assumption to have costs increases precede revenue increases would reduce the IRR.

The CRHP, and therefore this analysis, assumes that technical assistance efforts are successful. Furthermore it assumes that the CRHP Directorate will continue to function effectively after the end of the Project without additional external assistance. Of particular concern in this regard is the absence of the salary supplements paid by AID and the GOE during the Project, and training provided the staff. The analysis assumes that salary supplements will not be continued, but that the CRHP Directorate will retain its staff and that they will continue to work at the same or improved levels of effectiveness, converting three facilities a year for up to 15 years. This follow on period for replication of the demonstration models would not require development of new, original systems, but would rather involve training and institutionalization of the systems developed previously. If this does not prove to be the case, the Directorate's ability to implement additional facility conversions could be jeopardized. An alternative scenario envisions financial support for the CRHP Directorate coming from the cost recovery facility revenues, in a manner similar to the arrangements at CCO.

TABLE 7
Internal Rate of Return for Cost Recovery Health Project
($ 000)

FYR	Investment Cost	Increase Operating Cost	Increase Revenues	Net Revenues	Net Cash Flow
92	2,130	0	0	0	(2,130)
93	11,544	0	0	0	(11,544)
94	12,112	0	0	0	(12,112)
95	5,849	489	847	287	(5,562)
96	5,533	1,507	2,231	579	(4,954)
97	4,584	2,710	4,199	1,191	(3,393)
98	690	4,330	7,043	2,171	1,481
99	654	6,051	9,995	3,155	2,501
0	654	7,767	13,231	4,371	3,717
1	654	9,483	16,467	5,587	4,933
2	654	11,199	19,703	6,803	6,149
3	654	12,915	22,939	8,019	7,365
4	654	14,631	26,175	9,235	8,581
5	654	14,781	26,156	9,100	8,446
6	654	14,764	27,254	9,992	9,338
7	654	14,764	27,254	9,992	9,338
8	654	14,764	27,254	9,992	9,338
9	654	14,764	27,254	9,992	9,338
10	654	14,764	27,254	9,992	9,338
11	0	14,218	26,481	9,810	9,810
12	0	13,327	25,026	9,359	9,359
13	0	12,012	22,652	8,512	8,512
14	0	10,296	19,416	7,296	7,296
15	0	8,580	16,180	6,080	6,080
16	0	6,864	12,944	4,864	4,864
17	0	5,148	9,708	3,648	3,648
18	0	3,432	6,472	2,432	2,432
19	0	1,716	3,236	1,216	1,216
TOT	50,290	235,279	427,376	153,677	103,387
IRR					10.24%

Assumptions
- Add 3 medium hospitals a year without additional capital improvements.
- 1st year increase cost and revenues is 50% of original projection, 2nd year 65%, 3rd year 80%, 4th year 100%.
- 41 additional hospitals results in an IRR less than 10%.

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The analysis assumes that, as stated by technical staff, although the demonstration hospitals require capital improvements to make cost recovery effective, other hospitals exist which can effectively implement cost recovery systems without such improvements. In the absence of other projections, the analysis was forced to assume that these facilities can achieve net increases in revenues equivalent to those projected for hospitals receiving significant capital improvements. If these facilities achieve a lower level of revenues, or the revenue stream does not last for 10 years as the equipment is older even if it has not been heavily utilized, then more hospitals than predicted would have to be converted. If net increased revenue is in reality 80% of that projected, conversion of a total of 30 small to medium hospitals without capital improvement requirements would be needed to achieve a IRR over 10% (see Table 8).

Finally the Project assumes that the Egyptian population is willing and able to pay for medical care in MOH facilities (they are presently paying in private facilities) if the quality is improved. This is a hypothesis the Project will have to prove.

f. Conclusions

The analysis indicates that if key assumptions hold, it may be possible to find a mix of hospitals for conversion that would result in a IRR over 10%. As the projections are highly speculative, the risk that several of the key assumptions will not hold is high. There are however, mitigating factors. The population of hospitals available for conversion is large, making it possible, based on a careful analysis of the results of the demonstration hospitals, to select the facilities with the highest probability for success for conversion. Such an approach would favorably impact the results. In addition the assumption of only three conversions a year may be conservative. If four to six facilities could be converted each year the impact on the IRR would be positive and significant.

This is a high risk endeavor from a financial standpoint, but there is a reasonable chance of success. Even if a favorable financial rate of return is not achieved, significant improvements in Egypt's health care delivery system could be achieved.

3. Economic Analysis for Component One

a. Introduction and Proposal

Egyptian national policy has stated for many years that the government has a duty to provide health services free of charge to all the people. In recent years, policy makers have realized that

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TABLE 8
Internal Rate of Return for Cost Recovery-Health Project
($ 000)

FYR	Investment Cost	Increase Operating Cost	Increase Revenues	Net Revenues	Net Cash Flow
92	2,130	0	0	0	(2,130)
93	11,544	0	0	0	(11,544)
94	12,112	0	0	0	(12,112)
95	5,849	977	1,694	717	(5,132)
96	5,533	2,640	3,754	1,114	(4,419)
97	4,584	3,859	5,817	1,958	(2,626)
98	690	5,194	8,233	3,038	2,348
99	654	6,585	10,795	4,211	3,557
0	654	7,957	13,384	5,427	4,773
1	654	9,330	15,973	6,643	5,989
2	654	10,703	18,562	7,859	7,205
3	654	12,076	21,151	9,075	8,421
4	654	13,449	23,739	10,291	9,637
5	654	13,255	23,073	9,818	9,164
6	654	12,895	23,524	10,629	9,975
7	0	12,022	22,286	10,265	10,265
8	0	10,925	20,495	9,570	9,570
9	0	9,610	18,122	8,512	8,512
10	0	8,237	15,533	7,296	7,296
11	0	6,864	12,944	6,080	6,080
12	0	5,491	10,355	4,864	4,864
13	0	4,118	7,766	3,648	3,648
14	0	2,746	5,178	2,432	2,432
15	0	1,373	2,589	1,216	1,216
TOT	47,674	160,305	284,967	124,662	76,988
IRR					10.34%

Assumptions
•Add 3 medium hospitals a year without improvements, increased revenues and expenditures are 80% of medium hospitals with capital improvements.
•30 additional hospitals result in an IRR over 10%.

the government will not be able to accomplish this policy goal due to inadequate budget resources. Indeed, there is a growing conviction that unless those who can afford to pay for some health services do so, there will not be enough government funding available to provide an acceptable bundle of health services to those people at the lower end of the income distribution who have no alternative way to secure health services. A cost recovery strategy by government hospitals attempts to address this problem. To the extent that those who can pay for curative services provided by these facilities do so, there will be more government resources available to provide adequate health care to the medically indigent, particularly at the primary level.

Hospitals consume the major share of the government budget for health. Consequently, the hospital sector is the most likely source for finding additional funding for primary health care and public health measures. It is the expectation, and hope, of this Project that significant cost recovery by government hospitals will facilitate the diversion of some public funding that otherwise would have gone to the hospital sector to the primary health care sector, especially to public health services. This element of the Project purpose implies that there will be some reduction in government subsidies to these hospitals.

Component One of the Project will attempt to convert five Ministry of Health (MOH) facilities to cost recovery facilities such that by marketing services they will recover a substantial part of their costs. The Project proposes to accomplish this by making changes in the configuration of the prospective cost recovery facilities -- notably, those changes necessary to promote more efficient production of higher quality services. More particularly, these changes include some refurbishing of physical plant and equipment, changes in organization formats (enhanced management incentives and authority), training for facility staff, and increased reliance on more extensive fees for patient hospital services.

The hospitals will improve their prospects for successful cost recovery by being responsive to consumer preferences and producing what consumers regard as a high quality product for which they are willing to pay. In this way, the consumers of services provided by these facilities will enjoy the benefit of suppliers who seek to respond to their preferences. In Egypt at the current time, government hospitals comprise about 80 percent of the capacity of the hospital sector. This Project will attempt to establish and enhance cost recovery in some of these hospitals, thereby increasing the relative share of private resources in bearing the cost burden for hospital services.

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There are three phases to the Project, two during the life of the USAID Project and a third after USAID participation terminates. The first five hospitals are the Phase A hospitals. Toward the end of the USAID Project, another five hospitals (Phase B hospitals) are expected to come on line as cost recovery facilities. The hope of this Project is that it will be so successful that Egypt decides to adapt many other government hospitals to cost recovery (Phase C). While Phase C is beyond the scope, resources and control of the USAID Project, it is essential for the ultimate success of the Project.

b. Methodology

Given the demonstration nature of the five Phase A facilities and given the low rate of return projected for the demonstration units, the analysis in the previous section concludes that conversion of a minimum of 21 additional Phase B and C facilities by the GOE will be required to achieve an internal rate of return (IRR) over 10%. Building on that analysis, this section analyzes the impact of the Project on government expenditures. An assumption of the Project is that the conversion to cost recovery facilities will reduce the needs of these hospitals for budget allocations under *Babs* 1,2 and 3. These budget reductions or savings also are a benefit of the Project and should be added to the other benefits, i.e. net patient revenues, in order to complete the analysis. To the extent that these savings are used for primary health care (public health measures) as the Project assumes, the benefits will be larger than the budget savings.

c. Budget Savings

The Project is designed to result in a major benefit other than the stream of new net patient revenues. This benefit is the reduction in budget allocations for hospitals as they adopt cost recovery methods. The two problems with this approach are:

- Determining what the savings might be; and
- Being confident that they will occur.

The *Babs* 1 and 2 allotments for the five hospitals in Phase A were £E 6.5 million for FY 92/93. These allotments are expected to continue based on the Pro Forma statements. The most likely benefit is that the allotment in real terms will not increase. It is possible that hospitals which have positive net income, even

after depreciation, will have their allotments reduced. The five Phase A facilities are projected to have net income of £E 2.8 million in 1997/98. Although these amounts are already included in the IRR analysis, diversion of these funds back to the MOH could create larger benefits if they are spent on public health measures. These activities generally have a very high rate of return, but estimating what the reduced allotments would be and assuming that these funds will be used for public health measures is too speculative to quantify. Nevertheless, it is a major justification for the project.

Savings on *Bab* 3 also could occur because the Project design assumes that cost recovery facilities will finance their capital needs from revenues. The current five year plan calls for half of the hospitals to receive £E 146.4 million during the five year period or £E 1.171 million per hospital. This works out to £E .234 million per year per hospital receiving funds, or £E .117 million if every hospital received funds. Table 9 uses this figure to calculate the cost savings for all the hospitals covered by the Project. The NPV amounts to £E 17 million or about $5.0 million. This figure is optimistic because some of the Phase B and C hospitals may receive *Bab* 3 allocations during the transition period even though the assumption was made that no renovations, equipment etc. would be necessary during the conversion process.

d. Indirect Benefits

There may also be certain indirect benefits that can occur due to the Project. At the macro level, the Project is expected to enhance efficiency in the Egyptian health system by extracting resources from the more expensive but less cost-effective curative health settings, or limiting their growth, and using these resources to fund less-expensive, more cost-effective, and wider-impact interventions in public health. This of course depends on whether the GOE uses the extra resources for this purpose as opposed to building more hospitals, increasing salaries or the like. At the micro level, the Project may lead to greater operational efficiency in each of the individual cost recovery hospitals. A prudent application of user fees (undertaken in hospitals with well-defined autonomy in the generation, retention, and use of such fees) yields a number of supply-side benefits such as: savings from shifting expensive inpatient care to less expensive outpatient care; greater staff productivity engendered by better incentive structures in these hospitals; less wastage from bureaucratic bottlenecks and delays that characterize the current situation; better budgeting and financial planning; and greater flexibility in responding to local conditions such as epidemics, catastrophes, and emergencies.

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Aside from its beneficial supply-side effects, the cost recovery program in hospitals may help rationalize demand for and utilization of hospital services. User fees prevent the problems of overuse often caused by free health care. They are also effective instruments to prevent over-extended confinement. If all things remain constant, the Project may help reduce hospitalization rates and average lengths of stay in the selected facilities as the fees become an effective barrier to unnecessary inpatient care.

The health sector is especially vulnerable in times of economic crisis. User fees help insulate health services from contractions in government budgets during recessionary periods. A carefully designed cost recovery program can thus cushion the impact of economic downturns on the poor. Cost-sharing among those who can afford partial payment for services can improve equity in access through cross-subsidization of the poorest.

Cost recovery programs in MOH hospitals can play a complementary role in the development of third-party payment systems. For instance, health insurance cannot evolve until fee schedules, billing systems, and claims payment systems inherent in the development of user fees and other cost recovery schemes have been established and are functioning. At the same time, health insurance schemes can increase the probability of hospitals being paid for their services.

If Phase A cost recovery facilities are successful demonstrations, it is likely that the Project will attract funds from other donors willing to assist health sector reform.

e. Conclusions

The savings from *Babs* 1,2 and 3, when combined with the benefit-cost analysis of the operations of cost recovery facilities, qualify the Project as one that can be justified marginally on economic grounds. The Project feasibility would decrease significantly if revenues grow more slowly than projected after a hospital converts to a cost recovery basis or if increased operating costs exceed increased revenues in the early years. It is essential that the CRHP Directorate and hospital administrators concentrate on avoiding these possibilities. The potential for higher costs for Phases B and C also exists because it may be essential to carry out some renovations or purchase some equipment. Thus, additional revenues would be necessary to offset higher costs.

As laid out in the previous section of this analysis, the major barrier to improving the economics of the Project is the high

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investment cost that occurs in the early years of the Project. The annual benefits that build up slowly do not exceed the annual costs until after the PACD. Given the effect of discounting and the relatively small margin of revenues over costs after year 10, these net benefits cannot offset the large initial investment costs until a significant number of additional facilities have been converted by the GOE following the PACD.

Even though the Project is marginally attractive economically, there are clear risks. The costs of conversion for Phases B and C could be more significant than proposed. It is possible that budget allocations will not be reduced as forecast and the savings do not materialize. It is possible that the demand for higher quality hospital services on a fee-paying basis in MOH facilities may not be effective. That is, the population of Egypt may not be sufficiently affluent to support this many cost recovery hospitals. The economic analysis of the original Project Paper examined this issue and concluded that the Project's fees were payable, if and only if the fee-paying patients were covered by insurance schemes or other social financing mechanisms. Therefore, it is essential that hospital insurance coverage reach at least 20-25 percent of the population in order to provide the patient base for these hospitals as well as the others in Egypt which already charge and collect relatively high fees.

A favorable factor is that the Government might be forced by economic circumstances to reduce its support for hospital care. In that situation, the systems would be available to convert even more hospitals to cost recovery facilities and the pressure for revenues might accelerate the pattern of revenues. Hospitals might also be able to match their additional costs more closely with the payments they receive so that the initial outlays on O&E are smaller than the revenues. In fact, it probably will be necessary to do so because the hospitals will not be able to finance these large expenditures from the GOE budget, A.I.D. or their own cash flow. The possibility of matching O&E expenditures with revenues during Phases B and C is the main reason for going ahead with the Project.

TABLE 9
SAVINGS *Bab* 3
(£E million)

REAL 92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13
PHASE A HOSPITALS	0	0.585	0.585	0.585	0.585	0.585	0.58	0.585	0.585	0.585	0.585	0.585	0.585	0.585	0.585	0.585	0.585	0.585	0.585	0.585
PHASE B HOSPITALS	0	0	0	0.585	0.585	0.585	0.58	0.585	0.585	0.585	0.585	0.585	0.585	0.585	0.585	0.585	0.585	0.585	0.585	0.585
PHASE C 1st 3 HOS.	0	0	0	0	0.351	0.351	0.35	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
PHASE C 2nd 3 HOS.	0	0	0	0	0	0.351	0.35	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
PHASE C 3rd 3 HOS.	0	0	0	0	0	0	0.35	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
PHASE C 4th 3 HOS.	0	0	0	0	0	0	0	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
PHASE C 5th 3 HOS.	0	0	0	0	0	0	0	0	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
PHASE C 6th 3 HOS.	0	0	0	0	0	0	0	0	0	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
PHASE C 7th 3 HOS.	0	0	0	0	0	0	0	0	0	0	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
PHASE C 8th 3 HOS.	0	0	0	0	0	0	0	0	0	0	0	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
PHASE C 9th 3 HOS.	0	0	0	0	0	0	0	0	0	0	0	0	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
PHASE C 10th 3 HOS.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.351	0.351	0.351	0.351	0.351	0.351	0.351
PHASE C 11th 3 HOS.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.351	0.351	0.351	0.351	0.351	0.351
PHASE C 12th 3 HOS.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.351	0.351	0.351	0.351	0.351
PHASE C 13th 3 HOS.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.351	0.351	0.351	0.351
PHASE C 14th 3 HOS.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.351	0.351	0.351
TOTAL	0	0.585	0.585	1.17	1.521	1.521	1.52	1.872	2.223	2.574	2.925	3.276	3.627	3.978	4.329	4.68	5.031	5.382	5.382	5.382

DISCOUNT AT 10% = 16.97

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E. BENEFICIARY ANALYSIS

15 MAY, EL KANTARA GHARB, SHARK EL MEDINA, AND EMBABA HOSPITALS AND KAFR EL DAWAR POLYCLINIC

1. INTRODUCTION

The Cost Recovery for Health Project (CRHP) is to develop and test model cost-recovery systems in five Ministry of Health (MOH) facilities. These facilities are expected to be able to market their services so that they will recover a substantial part of their costs. They are to be able to offer services to people too poor to be able to pay for them as a result of a combination of continued, but perhaps reduced, government subsidies and some cross-subsidization from those able and willing to pay for their services. To market the services of the facilities to those able to pay will require an improvement in the quality of the services offered.

The purpose of this analysis is to provide a profile of each of the communities in the catchment areas of the five facilities (15 May Hospital/ Cairo Governorate, El Kantara Gharb Hospital/Ismailia Governorate, Kafr El Dawar Polyclinic/El Bahira Governorate, and Shark El Medina Hospital/Alexandria Governorate, and Embaba Hospital/Giza Governorate), that are to be included as CRHP pilot facilities. In addition, information is provided about the services offered by each facility and about other facilities in the area of each which may compete for patients.

2. METHODS AND DATA SOURCES

The data on which this analysis is based were collected from various sources. The data on the socio-economic background of the population of the catchment area of each of the facilities were collected from the 1986 Egypt Arab Republic population census reports, through interviews conducted in September 1992 with governorate personnel, and community members. In February and March 1992 the CRHP, with the assistance of the Health Financing and Sustainability Project (HFSP) and Integrated Development Consultants (IDC), collected detailed information about the community around Embaba Hospital, including competing health service providers.[1]

[1] Integrated Development Consultants, "Economic Surveys for Health Financing and Sustainability", Abt Associates Inc., Giza, Egypt, May 1992.

Information on the background and patients' utilization of each of the currently operating health facilities was obtained from reports prepared by the staff of the CRHP. These reports were based on data provided by the management of each facility to CRHP. This information was supplemented by interviews with the management and personnel of each facility (except in the case of Shark El Medina Hospital) as well as by reviewing some of the records of these facilities. The information on the facilities, communities, and competitors is reported in the section entitled "Brief on Each Hospital and Catchment Area."

Information on the determinants of individuals choice of particular health facility was collected through informal interviews with selected groups of patients who patronize these facilities, community member, and with health providers. The section entitled "General Observations," covers comments and conclusions about consumer behavior.

The final section called "Conclusions and Recommendations," summarizes the findings from this analysis and recommends steps to be taken in converting the cost-recovery facilities.

3. BRIEF ON EACH HOSPITAL AND CATCHMENT AREA

This section provides information on the catchment areas of the five CRHP pilot facilities. The section is divided into five subsections. Each subsection is devoted to the discussion of the community within the catchment area of the facility, a brief on the facility, and a brief on potential competitor public and private sector health facilities in each catchment area.

a. EMBABA HOSPITAL (Giza Governorate)

(1) The Community of Giza - Embaba Hospital's community is located a 10-minute car ride from downtown Cairo. It is a densely populated urban area. There is a wide variation in types of employment and in levels of household income. The population includes both long-time residents and recent arrivals.

The population of the catchment area around Embaba Hospital is estimated to be around 860,000. The survey conducted by the CRHP Directorate[2] provides rich and detailed information about the beneficiary population in the Embaba catchment. Summary information from the survey is provided here.

[2] Integrated Development Consultants, "Economic Surveys for Health Financing and Sustainability", Abt Associates Inc., Giza, Egypt, May 1992.

The distribution of employment by household heads is shown below:

Muwazzafs	18 percent
Professionals	18 percent
Skilled workers	30 percent
Unskilled workers	21 percent
Agriculture	<1 percent
Shop owner/merchant	7 percent
Other	5 percent

The survey found that the highest three quintiles of households in terms of the distribution of reported expenditures, reported annual expenditures of more than US$ 1,440. This is regarded as enough to be able to pay for hospital services, if aided by social financing systems. All of the households headed by muwazzafs and professionals and most of those headed by skilled workers and shop owners or merchants are expected to be able to pay for hospitalization insurance, as well. Thus, it should be expected that the majority of the population served by Embaba could pay cost-recovery charges.

(2) Embaba Hospital - Embaba Hospital is a general hospital which provides both inpatient and outpatient services. It has 355 beds and employs 322 doctors. The hospital performs about 500 deliveries and sees 12,000 outpatients per month and has a bed-occupancy rate of about 60 percent.

The outpatient clinic charges lower fees from 8:00 to 11:00 AM (£E 0.60[3] in February-March 1992) than in the 11:00 to 12:00 AM period (£E 1.00).

(3) Other Health Service Facilities in Embaba - The CRHP survey identified a large number of competitors for Embaba for both inpatient and outpatient services. Households identified 131 alternate inpatient providers they had used and 403 alternate outpatient providers. The survey also revealed that Embaba is the most important provider of both types of services, with 16 percent of inpatient admissions and 6 percent of outpatient visits. Agouza Hospital is the second most important source of inpatient care in the community, with 7 percent of admissions. A private voluntary organization (PVO)[4] is the second most important provider of outpatient services, with 2.4 percent of visits. The large number of competitors for meeting the health needs of the Embaba community is indicated by the share of admissions and visits accounted for by

[3] US$ 1.00 = LE 3.31.

[4] The survey results preserved the anonymity of private providers.

the ten most-frequently mentioned hospitals other than Embaba, 18 and 11 percent.

The following are the numbers of beds in the most-frequently mentioned competitor hospitals to Embaba:

Public hospitals:

- Tahrir General 168 beds
- Boulaq General 275 beds
- Galaa Maternity 450 beds
- Agouza 533 beds

Private hospitals:

- Hospital A 25 beds
- Hospital B 22 beds
- PVO A 70 beds
- PVO B 6 beds

b. 15 MAY HOSPITAL (Cairo Governorate)

(1) The Communities of 15 May and El Tebeen - 15 May town is located 50 kilometers south of Cairo City in Cairo Governorate. The town was developed during the last ten years. It consists of low-priced condominium-style buildings. Because of its relatively low-priced dwellings it attracted many residents from other parts of Cairo, as well as Egyptian emigrants who invested in property in the town. It is estimated that only 30 percent of the dwellings are currently occupied. This is mainly due to the fact that the town is still considered "far" by many people despite the existence of public transport (bus and metro) system that links the town with other parts of Cairo City.

The population of 15 May town is estimated to be around 50,000. Of the adult population of the town (people who are 15 years or older) 61 percent are economically active. The occupational distribution of the economically active adults is as follows[5]:

Professionals	34 percent
Clerks & Administrators	20 percent
Traders	2 percent
Services Workers	3 percent
Workers (skilled and unskilled)	31 percent
Unclassified	8 percent

[5] CAPMAS, Census of Population of Egypt Arab Republic: Cairo Governorate, Cairo, 1990.

The relatively high proportion of professionals, clerical and administrative occupations, and workers among the town's adult population is due to its proximity to Cairo, the administrative center of the government, and to Helwan, the site of a major industrial complex.

The physical appearance of 15 May town conveys an image of prosperity and homogeneity in the standard of living of the population. However, as shown by the above data and information collected through interviews with community members, there are large variations in the standards of living among the town's population. The group of professionals represents the top of the economic and social ladder, followed by the group of high ranking administrators, and skilled workers. The group of petty traders, clerks, service workers, and unskilled workers represents the poorest segment of the community's population.

Adjacent to 15 May town is the community of El Tebeen. El Tebeen area is composed of four subsections (El Tebeen, El Giblia, El Tebeen Social Housing Units, Medinat El Solb, and Hekr El Tebeen). The total population of El Tebeen is estimated at 40,000-45,000 people. The majority of the population is poor.

The proximity of the area to Helwan industrial complex, coupled with the crowded housing conditions in the area, significantly affect environmental conditions in the area. Air pollution caused by factories' smoke emissions constitutes a major public health problem to the population of the area, particularly for children.

The occupational distribution of the economically active adult population of El Tebeen is as follows[6]:

Professionals	14 percent
Clerks & Administrators	6 percent
Traders	3 percent
Services Workers	6 percent
Farmers and Fishermen	3 percent
Workers (skilled and unskilled)	54 percent
Unclassified	16 percent

There are 22 public-sector and 11 private-sector industrial establishments in the 15 May, El Tebeen, and Helwan areas. The public-sector establishments employ 241 to 26,586 employees per factory. The private-sector establishments employ between 28 to 817 employees per establishment. Steel, textile, car, and cement factories represent the major industrial activity in the area.

[6]CAPMAS, Census of Population of Egypt Arab Republic: Cairo Governorate, Cairo, 1990.

Based on the occupational profile of the economically active population and the general economic structure of the 15 May and El Tebeen communities, it is estimated that about 54 percent of the population are in the middle-income and above category and 46 percent are in the lower-income category.

(2) 15 May Hospital - 15 May hospital was built in 1987. The hospital is a 174-bed (137 free and 37 pay) facility that was designed to provide general medical and surgical services to the community. Out-patient, in-patient, and emergency services are important components of the hospital's mission. Despite the fact that the hospital is relatively new, the building appears to be in need of extensive renovation.

The hospital offers medical services that include general surgery, internal medicine, OB/GYN, ENT, orthopedics, pediatrics, and urology. In addition, there are specialized services for burns and plastic surgery.

Among the out-patient services offered by the hospital, internal medicine, ENT, surgery, ophthalmology, orthopedics, and OB/GYN are the most popular.

The number of out-patient visits and admissions to the facility has been consistently declining over the past three years. Out-patient visits declined from 74,739 in 1989 to 60,701 in 1991. Admissions declined from 3,280 in 1989 to 2,979 in 1991.

The hospital charges a registration fee of £E 1.10 for consultation with a general practitioner, and £E 2.20 for consultation with a specialist. Charges were also levied on small operations (£E 3.00), dressings (£E 1.10), and for different types of diagnostic analyses.

The revenues raised from these charges (called the Maintenance Fund) amounted to £E 82,549 during 1990/91. This revenue represented 57 percent of the operating budget during 1990/91. However, the revenue generated from the hospital charge declined to £E 81,147 during 1991/92. The decline in hospital's revenue was due to the increase in the registration fee from £E 0.60 to £E 1.10. The increase in the fee led to a decline in patients visits to the facility.

The social worker at the hospital estimated that 5 percent of the patients who reported to the hospital are medically indigent. Those patients are mostly are mostly burn victims. Burns usually occur in poorer households which use kerosene for lighting and cooking.

(3) Other Health Services Facilities in 15 May - 15 May Hospital faces the following competitors in its catchment area:

Public Sector Hospitals:	
Helwan General	70 beds
• New Helwan General	150 beds
El Tebeen	23 beds
Private Sector Hospital:	
• Dar El Shefa	beds
Public Sector Polyclinics:	2
Private Sector Clinics:	
• There are a number of private clinics in 15 May and El Tebeen areas. There is also a private clinic operated by a voluntary organization affiliated with a mosque in 15 May town.	

c. EL KANTARA GHARB HOSPITAL

(1) El Kantara Gharb and Its Surrounding Communities - El Kantara Gharb is a thriving small trading town that is located 28 kilometers north of Ismailia in Ismailia Governorate. Most of the trading activity in the town involves wholesale and retail trade of commodities bought from the free trade area of Port Saeed that are resold to merchants from other parts of Egypt.

The occupational distribution of the economically active adult population of the area reflects the importance of trade to the economy of the town[7].

rofessionals	9 percent
lerks & Administrators	percent
Traders	33 percent
armers and Fishermen	percent
orkers (skilled and unskilled)	percent
nclassified	percent

El Kantara Garb is surrounded by a number of small villages that constitutes the catchment area for El Kantara Gharb hospital.

[7] CAPMAS, Census of Population of Egypt Arab Republic: Cairo Governorate, Cairo, 1990.

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These villages are El Kantara Shark, El Ryah, El Rowda, Abu Khalifa, and Kilo 17. The villages of Abu Swayer El Balad, Abu Swayer El Maharaa, and Wasfia, that are stated to be within the catchment area in fact closer to Ismailia town. It is unrealistic to consider them part of the catchment area of El Kantara Gharb.

The population of El Kantara Gharb and its surrounding areas is estimated to be 88,000 persons. Farming represents the main economic activity for the villages' populations where 60 percent of the economically active adults are farmers, followed by workers (16 percent) and traders (6 percent).

The major crops grown in the area are fruit (mangos), sorghum, sesame, groundnut, and hops.

Among the population involved in farming activities almost 60 percent are sharecroppers and wage labor. The sharecropping arrangement is such that the owner of the land provides all the agricultural inputs in return for three-quarters of the output, while the sharecropper and his family provides all the labor requirements in exchange for a quarter of the output. The sharecropper usually uses his share of the output for his family's consumption needs. To generate cash for other food and non-food needs, the share cropper cultivates small plots of groundnuts and sesame. The yield from the sale of these crops is estimated to amount to £E 1,000-1,200. The farm workers and sharecroppers represent the poorest segment of the population in this area. Almost two-thirds of the population is estimated to be in the low-income category (65 percent), while the remaining 35 percent are in the middle- and high-income category.

(2) El Kantara Gharb Hospital - El Kantara Gharb hospital is a 218-bed secondary care facility servicing El Kantara Gharb, El Kantara Shark, Ismailia, rural areas between Ismailia and El Kantara Gharb, and the area of Sinai near Kantara. The hospital is yet to function.

The hospital will provide general out-patient and in-patient care to adults, with significant levels of pediatric and obstetric care.

(3) Other Health Services Facilities in the El Kantara Area - El Kantara Gharb Hospital faces the following competitors in its catchment area:

Public Sector Hospitals:

- El Kantara Shark Hospital 12 beds
- Ismailia General Hospital
- Suez University Hospital (under construction)

Company Owned Hospitals:

- Suez Canal Hospital

Public Sector Health Units:

- El Kantara Gharb Health Unit
- El Ryah Health Unit
- Abu Khalifa Health Unit
- El Rowda Health Unit
- Kilo 17 Health Unit
- Suez University Family Health Centre (Abu Khalifa)

Private Sector Health Facilities:

- One private hospital in El Kantara Gharb 6 beds
- Three private clinics in El Kantara Gharb
- Nine pharmacies in El Kantara district

All of the competitor health units provide out-patient care. All of the health units, with the exception of El Kantara Gharb Health Unit, are staffed by a physician, a nurse, and a lab technician. The physician of the health unit doubles as a pharmacist. El Kantara Gharb Health Unit is staffed by three physicians who also have private practices during the evening hours. There are an average of 15 patients per day for El Kantara Health Unit and an average of 40 patients per day for Abu Khalifa Health Unit.

The health units charge a registration fee of £E 0.50 between 8:00 AM and 2:00 PM. All lab analysis and prescriptions are provided free of charge. However, the unit physician stated that the free prescription issued the patient does not necessarily match the patient's ailment. This practice is made to make the patient 'happy'. After 2.00 PM the consultation fee is £E 3.00. The evening patients have to pay for medication and diagnostic tests.

Almost all the patients who patronize the health units are drawn from among the poorest segment of the population.

The Suez University Family Health Center provides out-patient treatment. It charges a fee of £E 3.00 for consultation with a general practitioner and £E 7.00 for consultation with a specialist. The Center also runs a family health insurance plan that is priced at £E 35 every three months. All family members are eligible for treatment with no additional charge and for as many visits as necessary. Currently there are 275 families enrolled in the plan. The number of enrolled families is declining, however, because some families preferred to pay for each visit instead of paying a lump-sum amount that they might not get to use[8].

The private hospital charges a fee of £E 3.50 per visit. The patient pays for medicines and diagnostic tests. The private clinics charge £E 5.00 per visit.

The major health problems in the area are schistosomiasis, skin diseases, and malnutrition.

Many patients from El Kantara Gharb and its surrounding villages travel to Ismailia town for consultation with public and private sector health providers. This is because of the perceived superior quality of health services in Ismailia compared to those offered in the El Kantara area.

d. KAFR EL DAWAR POLYCLINIC (El Bahira Governorate)

(1) The Community of Kafr El Dawar - Kafr El Dawar is located 22 kilometers west of Alexandria City. The estimated population of the area is 625,000. It is mostly rural--62 percent of the population lives in rural areas.

[8] N.B., it is well recognized that outpatient visits often are not "insurable" events, since charges for them are relatively low and the need for them fairly regular. By contrast, charges for hospitalizations often are high and the need for them highly variable, making hospitalization quite "insurable".

The economy of the area is dominated by agricultural and industrial activities. There are 12 large industrial establishments (mostly textile factories) and 46 other light industrial establishments. The largest single employer in the area is the Misr Fine Textile Factory which employs around 35,000 workers. The occupational distribution of the economically active population of the area is as follows[9]:

Professionals	7 percent
Clerks & Administrators	5 percent
Traders	2 percent
Services Workers	4 percent
Farmers and Fishermen	37 percent
Workers (skilled and unskilled)	35 percent
Un-classified	10 percent

Approximately 40 percent of the population is in the middle-income and above category, while 60 percent is in the low-income group.

(2) Kafr El Dawar Polyclinic - The Kafr El Dawar polyclinic was constructed to be a part of a general hospital. The construction of the polyclinic was completed by 1979. The rest of the hospital has yet to be finished. The polyclinic provides out-patient services in the areas of internal medicine, dentistry, dermatology, orthopedics, pediatrics, ENT, ophthalmology, gynecology, general surgery, and urology. The facility is generally well organized and clean and the staff appear to be well motivated.

The polyclinic attracts patients from Kafr El Dawar as well as from other surrounding areas. Patients come from villages as far as 20 kilometers from Kafr El Dawar. The main attraction is that most services, particularly diagnostic tests, are available in the facility. This reduces both the money and time the patient has to spend to have the required tests performed and to consult with the physician.

The polyclinic provides services in two sessions. The morning session (8:00 AM-11:00 AM) and the evening session (12:00 PM-3:00 PM). The fee charged to patients of the morning session is £E 1.00. The evening session patients are charged a fee of £E 1.50. In addition to the registration fee, patients pay for all surgical operations, diagnostic tests, and medication. The fee for minor surgical operations is £E 10.00, it is £E 1.00 for large dressings and £E 0.50 for small dressings. The diagnostic-test charges have been raised steadily to reach a level of £E 4.00 for routine tests and £E 9.00 per X-ray.

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[9] CAPMAS, Census of Population of Egypt Arab Republic: Cairo Governorate, Cairo, 1990.

The increase in charges for diagnostic tests has led to a decline in the use of these services from an estimated daily level of 150 tests to 30 tests. This decline may be attributed to a decline in unnecessary tests. However, part of the decline may be because some patients elect to go without the tests if they cannot afford to pay, especially if the treating physician does not insist on performing the test.

The director of the polyclinic, however, can exempt indigent patients from paying registration and diagnostic-test fees, based on the recommendation of the polyclinic's social workers. According to the polyclinic's records only 89 patients declared their inability to pay for treatment during 1991. Most of these patients were housewives, children, or retired and elderly people.

(3) Other Health Service Facilities in Kafr El Dawar Area - Kafr El Dawar Polyclinic faces the following competitors in its catchment area:

Public Sector Hospitals

- Kafr El Dawar District Hospital. This is an old hospital that provides overlapping services with that of Kafr El Dawar polyclinic. Some patients from the polyclinic are referred to the District Hospital for hospitalization. The hospital also refers patients to the polyclinic for diagnostic tests, mainly for X-rays.

Health Insurance Organization (HIO):

- El Mubara hospital 80 beds

Company Hospitals:

- Misr Textile Company Hospital (50 beds). This hospital serves mainly the company employees. The company also operates an outpatient clinic that serves the company employees and their dependents.

Private Sector Hospitals, polyclinics, and clinics:

- 2 small private hospitals
- 2 polyclinics
- 200-300 private clinics

The consultation fees are between £E 2.00-3.00 for general practitioners, and £E 5.00-12.00 for specialists at the private clinics.

e. SHARK EL MEDINA HOSPITAL (Alexandria Governorate)

(1) The Community of Shark El Medina - Shark El Medina hospital is located in El Montazah section of Alexandria City. The total population of El Montazah area is estimated at 610,091.

Like other parts of Alexandria, El Montazah is mostly a summer resort area. The area surrounding the hospital consist of high rise apartment buildings. However, most of the patients who patronize the hospital come from other parts of Alexandria and surrounding villages (e.g., Sidi Gabir and El Awaied).

Approximately 60 percent of the population can be considered middle-income, while 40 percent of the population can be classified as low-income.

(2) Shark El Medina Hospital - The hospital has been operating as an outpatient facility since 1979. The rest of the hospital building is still under construction. The completed hospital is expected to accommodate 200 beds.

The hospital provides a variety of medical services. The most patronized services are pediatrics, dermatology, internal medicine, dentistry, and OB/GYN.

Services at the hospital are provided in two sessions. The morning session (8:00 AM-12:00 PM) and the evening session (12:00 PM-5:00 PM). The morning session patients are charged £E 1.00. Diagnostic tests and medicines are provided free of charge whenever available. During the afternoon session, patients are charged £E 1.50 for registration and are expected to pay for diagnostic tests and medication.

The patients of the hospital share a common feature with patients of other hospitals: they are overwhelmingly women and children. They are mostly drawn from households headed by a clerk, a worker, a small trader, or a farmer.

The facility is well patronized. During 1989 there were 496,387 out-patient visits to the hospital. The number of visits declined, however, during 1990 to 393,431 before it rebounded again to 437,260 visits during 1991. The number of patient visits during 1991 were still lower than during 1989, however.

(3) Other Health Facilities in the Shark El Medina Area - Shark El Medina Hospital faces the following competitors in its catchment area:

Public Sector Hospitals:

- Abu Kir General 60 beds
- Maamoura Chest (specialized) 550 beds

Private Sector Hospitals:

- There are at least 16 private hospitals in the catchment area of the hospital. These private hospitals range in size from 4 beds (Siklam and Dr. Farouk Abrah) to 195 beds (Smouha Medical Center).

4. GENERAL OBSERVATIONS

The following represents general observations about consumer behavior with respect to the CRHP facilities, declining utilization of the facilities over the last three years, social financing possibilities, and how the poor are treated by the facilities.

a. Consumer Behavior

The patients who patronize the five facilities under consideration can be grouped into four categories:

- Those who are satisfied with the type of care they receive at the facility and continued to patronize the facility every time they experience a health problem.

- Those who had a bad experience with other public sector facilities and believe that they are receiving a better care in these facilities compared to other public sector facilities.

- Those who wanted to get as many 'free' medicines and diagnostic tests as possible and then move to a private practitioner to complete medical treatment. This type of patient aims at reducing the total cost of treatment by saving on the supplies they obtain from public sector facilities. However, this type of patient may actually end-up incurring more expenditures per episode

because the private provider may insist on repeating the tests and prescribe a new set of medications.

- Those who would rather consult a private practitioner but cannot afford the charges. Public sector health care facilities represent the last resort for treatment for this group.

b. Declining Utilization of CRHP Facilities

As shown by Table 1 three of the health facilities under consideration are experiencing a downward trend in patient visits.

Table 1

Number of out-patient visits to 15 May Hospital, Kafr El Dawar Polyclinic, and Shark El Medina Hospital, 1989/91.

Name of Facility	1989	1990	1991
15 May Hospital	74,739	62,583	60,701
Kafr El Dawar Polyclinic	73,529	52,584	45,293
Shark El Medina Hospital	496,387	393,431	437,260

Source: Cost Recovery for Health Project. Cairo. Unpublished reports.

15 May Hospital also experienced a decline in the number of admissions, from 3,230 during 1989 to 2,979 during 1991. For Kafr El Dawar polyclinic the number of out-patient visits reached its peak during 1986 (142,591 patient visits). This was due to the fact that during the period 1986-88 Kafr El Dawar District Hospital was closed for repairs. When the hospital reopened its regular patrons stopped visiting the polyclinic.

The reasons behind the consistent decline in patient visits to the three facilities can be inferred from the interviews with patients and non-patients:

- Physicians do not spend enough time with the patient to perform the necessary diagnosis. This is particularly evident during the morning "free" session of these facilities. Since there are more patients during this session, the amount of time the physician can devote to each one is extremely limited. This leads some patients to opt for private care to receive the required attention from the doctor.

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- Poor treatment by physicians and other hospital staff. Patients wait for long periods of time and are sent back and forth between offices before they start to receive the consultation and diagnostic tests.

- Physicians are not always available when needed. This is particularly true for 15 May Hospital. Patients often elect to go to an alternative facility after finding care providers absent.

- Unavailability of medicines, supplies, or diagnostic-test facilities. Many patients prefer paying a higher price for the convenience of obtaining these services in a single place rather than to receive consultation in one place, have diagnostic tests performed in a second place, and fill the prescription in a third place. All of the three health facilities under consideration is experiencing a shortage in at least one of these services.

- Accessibility of the patient's relatives and neighbors to the hospital, in the case of in-patient care. This is to reduce transport cost for the visiting relatives and neighbors to the hospital.

- Some patients are familiar with a particular provider based on previous encounter(s). They generally follow that provider to a public or private facility.

- The hours of operation of the facilities (during the evening session which targets the working members of the community) are inconvenient. People are still at work or just got off work when these facilities close (Kafr El Dawar closes at 3:00 PM, Shark El Medina at 5:00 PM). However, even if the facility is still open there may not be a physician to receive patients (15 May hospital).

c. Social Financing

Patients of all three facilities pay for medical treatment on an out-of-pocket basis. This is because none of these facilities, with the exception of 15 May hospital, has a contract with an HIO company. 15 May hospital has contracts with two companies (Nasr Car Factory, and The Oil Pipes Company). However, most of the employees of these two companies elect to go for treatment to other HIO facilities because of perceived better quality compared to care they would obtain from 15 May.

It is also important to note that the health insurance that is offered by public and private sector employers covers only the employees and not their dependents. Further, insurance plans offered by employers specify the health facility the employee may consult for treatment. Some workers' syndicates offer health insurance to workers' dependents, however, the facilities contracted by them often may not be near where the families live.

d. Treatment of the Poor

All the patients who patronize public sector medical facilities pay for care, even when they are supposedly receiving 'free' medical care. Hospitals records showed that only a small fraction of patients claimed to be indigent. The three currently operating hospitals have developed mechanisms to handle these cases. 15 May hospital requires blood donation in exchange for exemption from payment. However, if the patient does not comply he/she is referred to the social work department to determine the authenticity of the claim. Some who are not declared indigent cannot afford to pay for tests, and some people elect to go without the service if they cannot afford to pay for it. Sometimes, especially in case of accident victims or patients who need expensive operations, neighbors and relatives collect donations to meet the charges.

5. CONCLUSIONS AND RECOMMENDATIONS

The management of these health facilities should be given more autonomy in pharmaceutical and supplies procurement as they see fit to meet the requirements of quality performance of these facilities. Availability of supplies and medicines is a determining factor in attracting patients to a facility.

The system of incentives to personnel should be tied to performance. This is to ensure the effectiveness of incentives in increasing productivity and improving quality of care to patients.

The level of user charges should be competitive with other health providers. This is not to attract patients away form private providers, but to ensure quality treatment at relatively low prices to patients of both CRHP facilities and private sector facilities. The user charges should be implemented after the facility establishes itself as a "quality" health care facility. As the experience of 15 May Hospital shows, a small increase in registration fee (from £E 0.50 to £E 1.10) that is not accompanied by quality improvement resulted in a decline in total revenue.

Approximately 40-65 percent of the population in catchment areas if each CRHP facility may require some form of subsidy to be able to

meet the charges of treatment in the CRHP facilities. The amount of subsidy needed may be determined by the general socio-economic characteristics of each of the catchment areas' population. The proportion of indigent patients may be higher than those who currently declare their inability to pay. Many now may not declare indigence because of ignorance of existence of administrative procedures for exception from charges in case of real need, or lack of assertiveness. It may also be the case that indigent patients simply resort to self-treatment or other cheaper providers. Further, some of the current patients, who are able to afford the current treatment charges, may not be able to afford the cost of treatment offered by these facilities in the future, particularly when the user charges are fully implemented. The groups that should be targeted for subsidy are households headed by unskilled workers, farm workers, small traders, and low-level clerical and administrative staff.

The system of exemption from payment for treatment should be clearly outlined and should not be left solely to the discretion of the social workers.

More efforts should be made to attract insured patients, particularly workers. This task might be easier after the anticipated improvement in quality of care following the implementation of cost recovery. The system of health insurance offered by employers should be expanded to include employees dependents.

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F. ADMINISTRATIVE ANALYSIS

1. HOST COUNTRY COUNTERPART AGENCIES

The Ministry of Health (MOH) is the lead GOE agency for implementing this Project. The MOH has seen considerable decentralization during the past five years, with the twenty-six Governorates becoming increasingly autonomous from day-to-day direction from the national MOH. Figure 1 presents the current administrative structure of the Ministry of Health.

The Ministry of International Cooperation (MIC) is the signatory on behalf of the Government of Egypt to the Project Agreement and any subsequent amendments to that Agreement. In 1987, the Minister of Health, in collaboration with the Minister of International Cooperation, issued a Decree establishing the Cost Recovery for Health Project Executive Steering Committee and the Component One Cost Recovery for Health Project Directorate (CRHP Directorate) as semi-autonomous units under the Ministry of Health. The Project Directorate is semi-autonomous, with distinct administrative, personnel, financial, and operational responsibilities, including planning, implementing, monitoring and evaluation activities.

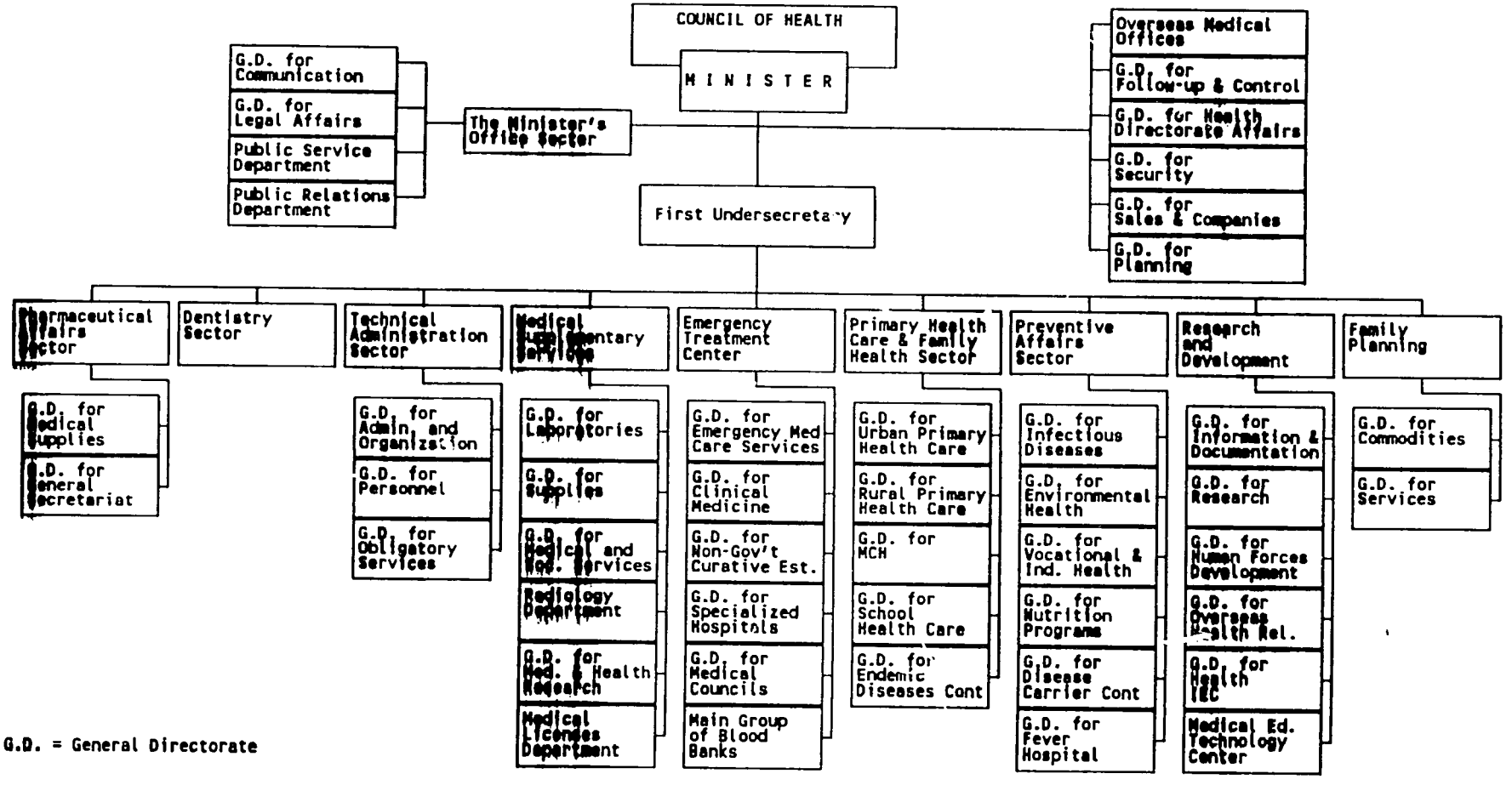
2. PROJECT MANAGEMENT - EXECUTIVE STEERING COMMITTEE

The Executive Steering Committee of the Cost Recovery Programs for Health is expected to provide policy, advisory, and coordinating assistance for Project Implementation. The Steering Committee was first organized in 1984 to participate in the development and design of the Project. The Steering Committee was restructured in July 1987, due to the diversity of the components of the Project and the changed role of the Committee from design to policy dialogue. The Committee was also asked at this time to explore the future development of cost recovery initiatives.

The membership of the Steering Committee is comprised of Director General rank or the equivalent, and consists of representatives from the MOH, the MIC, the Egyptian Credit Guarantee Corporation (CGC), the Health Insurance Organization (HIO), the Curative Care Organization (CCO), the Medical Syndicate, a private health care provider, and a USAID/Cairo "observer". Each member serves for a three year term, and no more than two terms are allowed. The Director of the Steering Committee is selected among its members for a one year term. A member can serve up to two years as Director. The public member will be selected by the members.

Figure 1

Organization Chart: Ministry of Health



G.D. = General Directorate

The duties of the Executive Steering Committee are:

- Establish Project policy
- Recommend and oversee law changes, decrees and similar technical documents required for the implementation of cost recovery in the selected MOH facilities
- Institute and oversee policy dialogue both within the GOE and the private sector
- Review and approve plans for the initial conversion of GOE/MOH health care facilities to fee for service operations
- Maintain liaison with the CGC regarding the availability of credit or other financing mechanisms (e.g., group and private medical practices and HMO-style organizations)
- Review and approve initial and subsequent guidelines (at least bi-annually) for the provision of CGC guaranteed credit to individual and group physicians through the Egyptian banking system
- Initiate and review evaluations of all Project activities
- Review and approve Project funding proposals for the HIO, CCO, and CRHP activities.

The Executive Steering Committee is supposed to meet at the call of the Director, or at the request of any of its members or implementing agencies (including USAID/Cairo). USAID/Cairo is granted observer status at all meetings. Formal minutes of each meeting should be prepared and distributed to the members and the implementing agencies.

The Executive Steering Committee should also serve an important public relations function, particularly in relation to the Egyptian public, the various legislative bodies and government officials. This role will focus on the changes in the health care system which will result from cost recovery, but can include other informational messages as well at various times.

3. ADMINISTRATION - CRHP Directorate

In 1987, the MOH established the Cost Recovery for CRHP Directorate with sufficient responsibility and authority to plan, develop,

implement, monitor, and evaluate the operational and financial activities designated as part of Component One. A separate office and staff was needed for the implementation of Component One because the amount of research, development and activity to be done could not be easily incorporated into the work of an existing office of the MOH. Figure 2 presents an outline of the structure of CRHP Directorate.

The CRHP Directorate is the lead agency for planning, implementing, and evaluating the Project's activities. Authority has been delegated to it from the MOH to implement the Project and to administer host country contracts for technical assistance, facility renovation, commodity procurement and training. An assessment of the CRHP Directorate is in process to determine whether its host country contracting procedures are up to standard and whether or if the CRHP Directorate should receive host country contracting certification.

The CRHP Directorate is managed by a Project Director reporting to the MOH Undersecretary overseeing the project activities. The Project Director is delegated the authorities of an MOH Undersecretary. He has primary responsibility for all aspects of the project including, but not limited to:

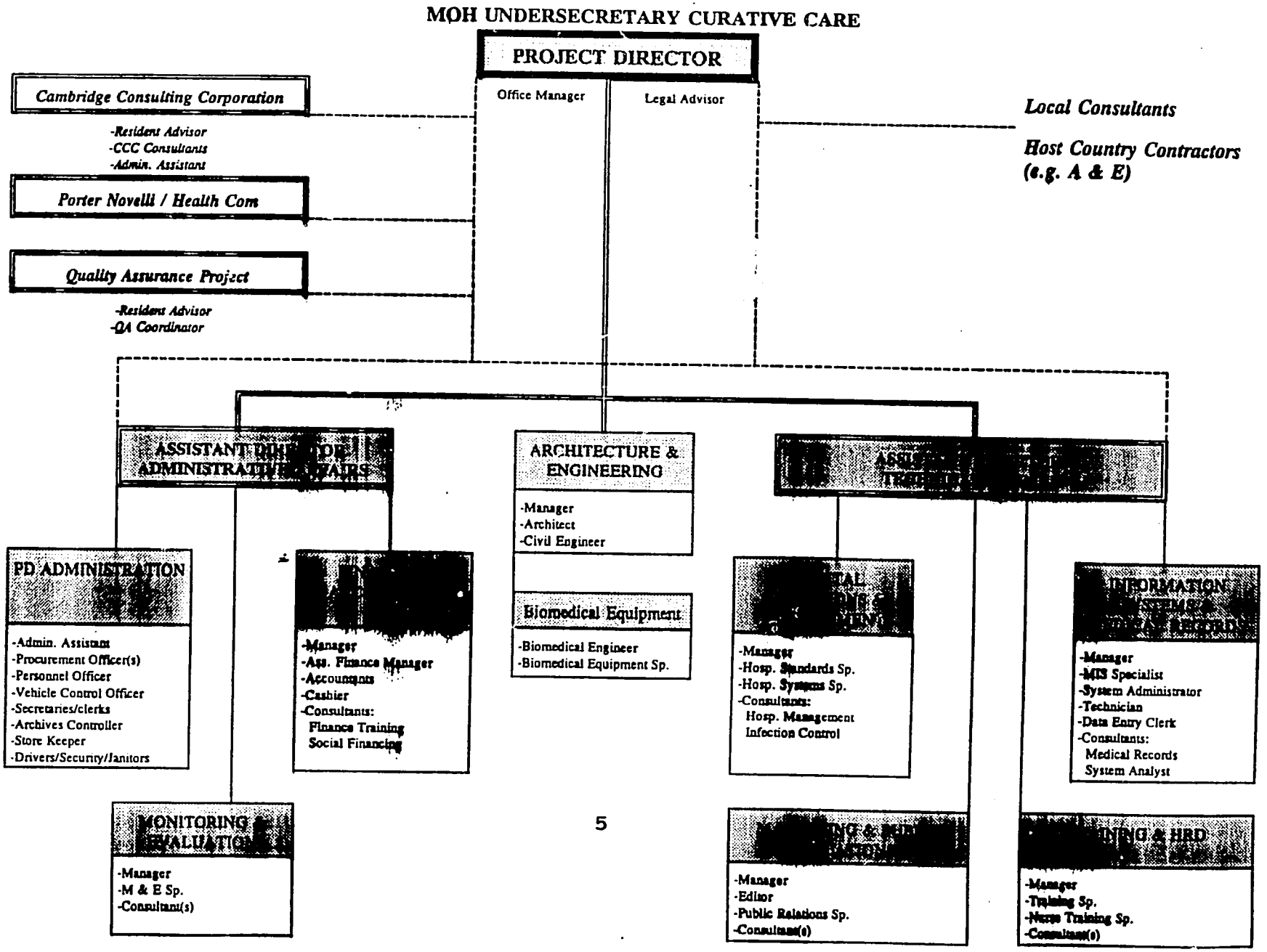
- Planning, monitoring and implementation;
- Host country contracting for technical assistance, facility renovation, commodity purchases and training; and
- On-going communication with the MOH, USAID, CCO and HIO. These relations are furthered by periodic meetings with each of the organizations.

The CRHP Directorate is responsible for:

- Implementing policies established by the Project Agreement and the Project Steering Committee.
- Monitoring activities of the CRHP components, participating regional health authorities, and other health agencies.

Figure 2

Organization Chart: CRHP Directorate



- Facilitating coordination and collaboration between components of the CRHP; coordinating Project activities and outputs among the various participating agencies and contractors.

- Timely implementation of Component One Project activities; supervision and monitoring the work of the contractor, in coordination with USAID, for Component One.

- Liaison activities with USAID and other appropriate institutions.

If the Phase A and B pilots are successful, the CRHP Directorate will have a future role in replication. The exact institutional positioning should be determined at the end of the Project. Possible options include absorption into the MOH before or on the Project completion date, establishment as a separate GOE agency for cost recovery and quality assurance oversight, continuation under an A.I.D. or World Bank project.

4. CRHP Directorate FUNCTIONAL DEPARTMENTS

The CRHP Directorate is organized in the following functional departments:

- Hospital Operations and Management - This Department has primary responsibility for developing and implementing the Hospital Operational and Management Systems which will govern the institutions participating and desiring to participate in the Cost Recovery Project. Specific responsibilities include: assessment and selection of facilities feasible for future conversion; development and refinement of minimum standards for personnel and technical operations for participating institutions; developing, implementing, and evaluating new hospital administrative/operational systems and PPRGS, inclusive of but not limited to personnel, admissions, inventory, materials management, and operations management.

- Training & Human Resource Development - This Department's goal is to develop the knowledge, skills and attitudes of medical, paramedical, administrative and support staff of the participating facilities, in management, financial, technical and clinical disciplines through: training needs assessment;

training planning; training curricula design and training material development in conjunction with technical specialists; administering training courses; coordinating training activities; and monitoring and evaluating all training programs.

- Architecture & Engineering - This Department is responsible for: conducting baseline physical assessment of the selected facilities; preparing avant projects (preliminary architectural designs and drawings) necessary for the renovation of the participating facilities; contracting with A & E Consulting Firms for preparation of facility renovation tender documents and cost estimates; reviewing designs/drawings and projected costs presented by the A&E companies to assure appropriateness in relation to predetermined requirements and specifications; contracting with Construction Contractors for the execution of construction; and monitoring the execution of all A&E designs by the Construction Contractors within predetermined implementation schedules and cost projections.

- Biomedical Equipment - This Department is responsible for: assessment of the current biomedical equipment within the participating facilities, the operational status and utilization rates of this equipment and approaches to upgrade/ repair, when necessary; determining biomedical equipment requirements for upgraded health facility operations and quality of care and the setting of specifications for this biomedical equipment; coordinating with the Procurement/logistics specialist of CCC, monitoring the offshore procurement process and overseeing equipment receipt and installation; and development and implementation of a general and facility-specific equipment maintenance plan.

- Directorate Administration and Supportive Services - This Department has the primary responsibility for personnel records, logistics, vehicle control, commodity (whether supplies or services) management, including procurement and contracting, and inventory management of the CRHP Directorate. It is also responsible for supervising all service/ supportive functions of the PD, including security, archives, library, secretarial/translation services and consultant support.

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Market and Public Relations - This Department is responsible for: promotion of the Cost Recovery for Health Project through production of the CRHP Newsletter and other promotional material (brochures, profiles); conducting advertising campaigns, seminars and workshops; approaching societies and affinity groups; development of a marketing capability in the participating facilities so as to promote the services of the cost recovery facilities to potential markets (consumers and organizations) through market research, marketing strategy development, planning, conducting marketing training for cost recovery facility staff; implementing marketing activities; and evaluating marketing programs.

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G. ENVIRONMENTAL CONCERNS

The original Project Paper identified the Project as qualifying for a categorical exclusion under AID Environmental Procedures set forth in 22 CFR 216.2 (c)(2)(viii). The regulations state that these procedures apply to all new projects, programs or activities authorized or approved by AID and to substantive amendments or extensions of ongoing projects, programs, or activities. The purpose of this current action is to (1) clarify the overall rationale and strategic objectives for the Project; (2) clarify the specific objectives and scope of activities, and refine and recost the inputs for Component One; and (3) recost the inputs for Component Two. This will be done within the framework of the activities already included in the original Project design. Therefore, this Project Paper Supplement does not constitute a substantive change from an environmental impact perspective. As such, no additional procedures need to be applied.

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