AFGHANISTAN HEALTH SECTOR SUPPORT PROJECT

FINAL REPORT

MANAGEMENT SCIENCES FOR HEALTH

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List of Abbreviations

ABC	Value analysis for inventory classification
ACBAR	Agency Coordinating Body for Afghan Relief
ADS	Afghan Demographic Studies
AHC	Alliance Health Committee
AHSSP	Afghanistan Health Sector Support Project (MSH/U.S.A.I.D.)
AID	Agency for International Development, Washington, D.C.
AIG	Afghan Interim Government
AMEG	American Manufacturers' Export Group
AMI	Aide médicale internationale
APO	Afghan Programme Office (UNICEF)
ARI	Acute Respiratory Infection
AVICEN	Afghanistan Vaccination and Immunization Center
BCG	Bacillus of Calmette/Guérin (tuberculosis vaccine)
BHC	Basic Health Center (staffed by nurses or health technicians)
BHP	Basic Health Post (staffed by a Basic Health Worker)
BHW	Basic Health Worker (three month trained community health worker)
CCT	Cold Chain Technician
CDD	Control of Diarrheal Diseases
CHC	Comprehensive Health Center (staffed by M.D.s plus nurses and health technicians)
CMC	Coordination of Medical Committees
CMCEP	Combined Midlevel Continuing Education Program (refresher training)
DICP	Drug Inventory Control Packaage
DPTP	Diptheria, Pertussis, Tetanus, Polio (vaccine)
DPU	Data Processing Unit (MSH)
EPI	Expanded Programme of Immunization
FHW	Female Health Worker
FIC	Fully Immunized Child (Children)
FIW	Fully Immunized Woman (Women)
FO	Field Operations (MSH Health Services Implementation Department)
GAC	German Afghanistan Committee
GLP	Good Laboratory Practice
GMP	Good Manufacturing Practice
HCCA	Health Committee of Central Afghanistan
HCPP	Health Committee of Paktya and Pakteka
HHS	Household Surveys (MSH conducted surveys in Afghanistan)
HIM	Harakat-e Islami (Mohsini),Central Afghanistan based Shia party
HSD	Health Services Department/Directorate (MOPH)
ICD	Italian Cooperation for Development
IMC	International Medical Corps
IPH	Institute of Public Health (MOPH)
IPV	Injectable Polio Vaccine

MCH	Maternal and Child Health
MCHO	Maternal and Child Health Officer (one year trained supervisor)
MCI	Mercy Corps International
MDM	Médecins du monde
MIS	Management Information Systems
MOPH	Ministry of Public Health (Afghanistan)
MSF	Médecins sans frontières
MSH	Management Sciences for Health
MTA	Medical Training for Afghans
NASR	Central Afghanistan based predominantly Shia party
NCA	Norwegian Committee for Afghanistan
NGO	Non-governmental Organization
OPV	Oral Polio Vaccine
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PDPA	People's Democratic Party of Afghanistan
PHC	Primary Health Care
PHCH	Primary Health Care Hospital (10 to 20 bed facilities)
PHRS	Provincial Health Resources Surveys (joint MSH/WHO surveys)
PMD	Preventive Medicine Department/Directorate (MOPH)
PPHO	Provincial Public Health Officer
PVO	Private Voluntary Organization
RHA	Regional Health Administration (i.e. the SCNA, SSWA, HCCA and HCPP regional health services programs)
RHE	Relative Health Expenditure
RHO	Rural Health Officer (one year trained BHW supervisor)
RONCO	U.S.A.I.D. contract procurement agency
SCA	Swedish Committee for Afghanistan
SCNA	Supervisory Council of the North Area
SSWA	South and Southwest Area
TA	Technical Assistance
TT	Tetanus Toxoid
UN	United Nations
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Fund
UNIFEM	United Nations Development Fund for Women
USAID	United States Agency for International Development
USG	United States Government
VEN	classification of drugs as Very essential, Essential and Nonessential
VHS	Volunteer Health Sister
VSF	Vaccine Storage Facility
WHO	World Health Organization

I. INTRODUCTION

William D. Oldham, M. D., Team Leader

Origin and Design of the Project

The following is, what I hope will be, a brief history and overview of the structure and function of the components of the Afghanistan Health Sector Support Project (AHSSP). A detailed presentation of each major activity of the Project will be given by the responsible department directors in the text that follows.

In 1985, elements of the United States Government began to express an interest in contributing a significant level of humanitarian assistance to the destitute and terribly mauled non-communist Afghans. It was estimated that eight to ten million Afghans were living in the basically rural areas of Afghanistan not occupied by the communists and their Russian masters. A full set of interventions were considered, i.e. health, primary education, rehabilitation of agricultural and rural infrastructure, and distribution of food and other essential commodities to the deprived rural population.

Because of the extensive experience that Management Sciences for Health (MSH) had in assisting in the development of primary health services in rural Afghanistan in the 1970s, U.S.A.I.D. asked if MSH had an interest in designing and providing the technical assistance for implementation of the AHSSP, the health component of U.S.A.I.D.'s program. After some internal debate about the propriety of providing services to the participants of a war, MSH decided that the project was strictly humanitarian in nature and indicated its interest. A design team was sent to Peshawar in early 1986. Initially, the design emphasized emergency casualty care but due to large number of civilians unserved by health services in rural Afghanistan, the design shifted also to the development of primary health care,immunization programs, and other basic health services. The priority of emergency casualty care was retained but shared the design with the basic primary health care components. It was important that there be rapid development of these services and that they be delivered by well trained and well-supplied health workers and facilities. Another important facet of the Project was the development of health management systems to plan, manage and supervise health delivery systems inside Free Afghanistan.

Getting Started - Project Development

A cooperative agreement was signed between U.S.A.I.D. and MSH in October, 1986 and

the technical assistance team mobilized. The first round of expatriate advisors were on site by February, 1987. In January, 1987, the first productive meetings between the Chairmen of the Health Committees of the Seven Parties Alliance and MSH took place. Finally, four of the political parties agreed to join the Project; three decided that they could not deal with a non-Muslim donor. The four participating parties decided to form the Alliance Health Committee (AHC) which MSH would support with grant funds from U.S.A.I.D. Later, one of the non-participating parties reconsidered its decision and joined the AHC.

Initially, MSH started with a very small program working out a small suite of rooms in a local hotel. We moved to our permanent offices in February. We assisted the AHC in getting established at their first headquarters in the University Town section of Peshawar. The curriculum for the Basic Health Worker {BHW) course was developed by the AHC (with strong technical assistance from our Training Department). The AHC decided that the training should take place in four camps, each belonging to one of the four political parties and were located adjacent or in four large mujahideen training camps located along the border. The Training Department got busy buying tents, teaching aids, cots, blankets, mattresses and all of the other commodity requirements for the four BHW training camps. The training program got underway in April, 1987.

A warehouse was leased, (actually, it was a large residence a few doors from U.S.A.I.D/Peshawar), but it was soon swamped with supplies and we began to rent space in empty buildings around town. Finally, we located a large warehouse in an industrial zone outside of Peshawar. Eventually two additional warehouses were built and the central vaccine storage facility was added to this complex before our warehousing space and vaccine storage requirements were met.

The MSH Warehouse soon became a bee hive of activity with the graduation of the first classes of BHWs deployed to staff health posts in Afghanistan. Also, more and more mid-level health personnel (medical technicians and nurses) and doctors were recruited and assigned to clinics and, later, small hospitals established in the field. Kit lists were compiled by our two Medical Advisors (Laumonier and Ickx) and by the Training Department under Dick Johnson. Orders were placed with AMEG, the procurement services agent for all of the cross-border projects funded by the AID/Representative's Office. The AHC selected site assignments of the new personnel and passed the list to the MSH Field Operations Department for their review and documentation.

When the supplies were received by the Warehouse, kits for each level of facility were prepared, packed and stored until the time for shipment to border depots for temporary storage. Later, the supplies were picked up by the Afghans being resupplied and shipped inside Afghanistan on caravans going to the worker's post of assignment. Initially, procurement and warehouse oversight was the responsibility of Dr. Laurence Laumonier of the Field Operations Department but it soon became evident that this was too much work to ask of such an enormously busy individual.

Laurence retained responsibility for oversight supervision of the Warehouse and management of the border depots. She passed the job of procurement over to Dr. Paul Ickx, our Preventive Medicine Department Director. Paul performed the procurement role until Vimal Diaz, our procurement and supply management specialist, was free to accept a long term assignment in Peshawar in 1989. We had been particularly lucky in having recruited at the start of the Project a recently retired Pakistani colonel who was a senior and highly experienced manager of logistical services in the Pakistan Air Force. He provided excellent hands-on management of the personnel and warehousing operations of the large Warehouse Service.

The Financial Management Department was busy recruiting qualified personnel and setting up their financial management procedures. Qualified personnel were hard to come by, particularly among the Afghans. We clearly wanted to employ Afghans if possible, since it was felt that we would move into Kabul as soon as the communists collapsed. Unfortunately, most of the qualified Afghans had taken off to Europe or the United States and there was a dearth of experienced financial management candidates. We had to settle on some excellent Pakistani accountants who stayed with us until the end of the Project.

The Structure of the AHSSP and the Function of Its Components

The AHSSP is composed of the MSH managed technical assistance and program support components funded by the U.S.A.I.D. grant and our Afghan counterparts. The grant is administered by the U.S.A.I.D. Project Manager and the Contract Officer.

The MSH Project Office was made up of nine departments, namely, Training, Health Services Implementation (Field Operations), Child Survival and Disease Control (Preventive Medicine), Maternal and Child Health, Procurement and Supplies Management, Financial Management, Health Services Planning and Development, Management Information Systems, and Liaison and Program Support. All reported to the Team Leader, who was the Director of the MSH component of the Project. The management of the MSH component was collaborative in nature, with frequent free wheeling staff conferences in which all participated. No department was compartmentalized but had close interrelationships program and management-wise with a number of the other departments. I will try to briefly describe the function of each department and its interrelationship with other offices and with our Afghan counterparts.

Training

As discussed under "Getting Started", the need for well trained health manpower to staff the health system to be developed by the Project in Afghanistan was critical. One of the first activities undertaken by MSH after the AHC had been established was to emphasize the need for training of primary health care workers who would support the emergency casualty

requirements of the mujahideen and still provided essential basic health services to the community. The AHC came forward rapidly with a proposed organizational structure which included a Training Division.

The MSH Training Department, led by Dick Johnson, immediately made contact with the embryonic staff of the AHC Training Division and began providing whatever technical advice requested and essential commodity support required. Very soon a close collaborative relationship was established and continued throughout the life of the Project. The BHW curriculum was developed by the AHC training staff and the training of BHWs begun, as related previously. The Training Center developed refresher programs, training of female maternal health officers, and a number of innovations that will be described in detail in the nex section.

Later, when the political parties had established Regional Health Administrations (RHA) in their catchment areas, the same support was extended for the development of training centers inside Afghanistan.

At the MSH staff level, close coordination and exchange of ideas always took place between Training and the other departments. In the early days, Field Operations had to work hard with its counterparts from the MOPH to select candidates from a wide distribution geographically instead of mainly from the eastern provinces where most of the staff had come from. On the whole, good candidates were chosen who were interviewed and tested by the AHC Training Division, at this stage called the Training Center and later the Institute of Public Health (IPH). MSH Training was always asked to participate in reviewing the results of tests, the test vehicle, etc.

The other departments such as Financial Management, Planning and Health Services Development, Procurement and Supply Management, MCH, Preventive Medicine and MIS all worked and coordinated with Training in support and development of their various counterpart organizations.

A far more detailed and complete discussion is given by Dick Johnson in Section II.

Health Services Planning and Development

In February, 1989 the Cooperative Agreement was amended and a health services planning and development advisor was recruited. Dr. Jonathan Quick, an experienced planner, came to Peshawar in early 1989 to fill the position for a two year period. The objective of his assignment was to create a capacity for planning and development of a primary health care system. A computer based model was developed, called "SUSPLAN", and was used by Dr. Quick in a series of workshops with the MOPH and the RHAs on health planning for Primary Health Care systems. The lectures and workshops were enthusiastically accepted. There was no question but that the basic concepts of health planning of sustainable services were understood by the decision makers attending the workshops. However, the participants

were cautious about utilizing SUSPLAN for planning in their own regions, indicating that perhaps the system was seen as too advance for their computer skills at that time and the data too sparse to adequately utilize the system.

Dr. Quick was succeeded in 1991 by Mr. John Eaton, who carried on a series of management training workshops for the senior managers of both the MOPH and the RHAs. They were asked to develop annual health plans which they did handily, demonstrating an understanding of the precepts of health planning which was encouraging. Another outgrowth of the teaching by the SUSPLAN model was the Five Year Health Plan written by the senior staff of the MOPH in 1991 without outside help. The plan was presented to WHO/Geneva and was acclaimed by senior WHO staff as a very good piece of work. Some minor changes were suggested and the plan was accepted as the official health plan for Afghanistan.

Primary Health Care was accepted by the leadership of the MOPH and the RHAs. Again, it is felt that the SUSPLAN, as well as frequent discussions by MSH advisors, has resulted in this acceptance. Dr. Sayed Mohammad Amin Fatimie, the current Minister of Public Health is particularly enthusiastic about the concept, in part because of the exposure he has had in Pakistan and Afghanistan and in part due to the concepts he received during participant training at the summer of 1988 at Boston University School of Public Health.

The development of a primary care delivery system in the eastern Afghanistan by the MOPH through establishment of Provincial Public Health Services was a failure. The major reason for this is felt to be the failure of the MOPH to appoint local physicians as the Provincial Public Health Officers instead of friends from Kabul or other centers. The RHAs were successful in establishing such services since the leadership was local personnel.

Health Services Implementation (Field Operations)

Throughout the life of the Project, the Field Operations Department was an immensely busy department. It was composed of two sections, the Field Operations Section and the Monitoring Unit. Field Operations interfaced with the Health Services Department of the AHC, the Ministry of Public Health (MOPH) and later with the Liaison Offices of the RHAs.

The design of the Project was unique. Millions of dollars worth of commodities and currency were dispatched inside Afghanistan without on site monitoring and technical assistance by expatriate Project personnel. It was essential to develop mechanisms which would provide the maximum amount of accountability possible. The Field Operations Section maintained detailed records on health services field personnel and facilities supported by the AHSSP and provided technical assistance and advice to supervisory and liaison personnel of the MOPH and the RHAs posted in Peshawar.

Exhaustive records and data were maintained on all aspects of the field assigned personnel. Data on location, time of last resupply and date of salary payment, amount of salary, etc. Pictures of the field personnel and their signatures were kept for comparison with receipts of salary payments, monitoring reports, etc. A detailed presentation of the Field Operations Department's activities is made in Section IV.

The other half of the department was the Monitoring Unit which provided comprehensive, on site information and pictures of field facilities and personnel obtained by regular visits through out Afghanistan by trusted Afghan MSH employees who inspected all aspects of the health services covered by the Field Operations Department. Pictures and signatures of all personnel inspected were brought back to Peshawar and filed on the individuals personnel card. MCH and immunization services were covered by the Monitoring Section . The Training Department monitored the field activities of their counterpart services separately since the facilities were fewer in number and Training wanted technical assessments performed.

Close coordination with other departments of MSH was essential and was open and collaborative. Receipts for advances on salaries, freight and supplies were obtained, checked for validity and forwarded with the individuals personnel card to Financial Management for clearance. Refresher training was provided by the Training Center when the individual returned to Peshawar and later by the Field Training Centers of the Institute of Public Health. Close coordination and technical assistance was provided the Peshawar-based supervisory personnel of the MOPH and RHAs. Field Operations files on Afghan personnel were always available to the supervisors in the MOPH and the RHAs.

Maternal and Child Health

When the Maternal and Child Health (MCH) program was initiated in 1989, the conventional wisdom of the local NGOs working cross-border was that no one would be able to establish services for women in the conservative rural Afghanistan. There were just too many cultural obstacles, i.e., *purdah*, a male operated health system, etc., etc. By February 1993, 63 MCH facilities had been established by the health services, all staffed with at least one woman health worker and spread over the northern, eastern and central provinces of Afghanistan. The demand continued to grow but unfortunately, U.S.A.I.D. had to phase out its support to all of its programs in Afghanistan and the MCH program was just one of many that were affected by the withdrawal.

The first MCH development other than the primarily male operated immunization and oral rehydration programs was the introduction of training the BHW in the basics of good maternal and child health practices with the objective of the BHW passing these basics on to the traditional birth attendants, called dais. This was followed by the establishment of the MCH Department in the MOPH in 1989 and the arrival of Mrs. Linda Tawfik, the MSH MCH Advisor, which mobilized the movement toward the establishment of effective MCH services inside Afghanistan.

MCH clinics were established in the field, utilizing at least one female nurse or female doctor. Initially these were established in existing health clinics. Later, some free standing MCH clinics and MCH posts were established. The MCH Post was an unsuccessful endeavor because it was difficult for a single female to work by herself.

An important category of health worker, the training of female health workers (FHW) was established first in Takhar Provincial Hospital using four female nurses to set up an MCH department and start the training of dais in the basics of sterility and other good MCH practices. The graduates of this training were called female health workers (FHW). Other MCH clinics were set up by female doctors and female nurse midwives, an in-service refresher trainingcourse was set up, using male trainers with training in MCH, to make the rounds of MCH clinics to upgrade the knowledge of female staff.

The training of FHWs led to the establishment of an innovative program, the training of volunteer female community health promoters, called Volunteer Health Sisters (VHS). Again, it's unfortunate that the shut-down did not allow the expansion of the program but an indepth survey demonstrated that there was retention of knowledge about good health and sanitation practices among the family and friends of the volunteers.

The MSH MCH Department worked closely and effectively with the MCH program of the Ministry and the RHAs. There was strong support for the program from other departments in MSH also. The Maternal/Child Health Officer (MCHO) training program was developed with the Training Department jointly, the MCH Department providing the technical inputs and the Training Department the training expertise. The MCHO course was administered by Training and the technical inputs again from the MCH Department. The same relationship existed between Field Operations and MCH. MCH decided on the placement of MCH clinics, etc., and Field Operations managed the deployment and resupply of the facility.

Considering the pervasive opinion that such a program was not possible in rural Afghanistan at this time in its history, the MCH program was a remarkably successful undertaking. Far more detail and discussion has been given by Linda Tawfik in Section V of this report.

Child Survival and Disease Control (Preventive Medicine)

The Preventive Medicine Department provided the technical and commodity assistance given through MSH to counterpart Afghan organizations in Child Survival and Disease Control Programs. Initially an immunization program was drafted with the AHC according to the guidelines developed in the UNICEF for the Expanded Program of Immunization (EPI). The plan was accepted and a Preventive Medicine Department (PMD) was established in the AHC to develop the immunization program as well as a tuberculosis control and a malaria program. The PMD had a strong staff that stayed with the department even when the AHC became the MOPH of the Afghan Interim Government (AIG).

In 1988, the RHAs of the north, west and central Afghanistan requested the development of immunization programs in their regions and this was agreed upon. The MSH EPI program was developed in coordination with UNICEF, who initially supplied the required vaccines. MSH ordered cold chain equipment and established nine Vaccine Storage Facilities (VSF) managed by the RHAs inside Afghanistan and one central VSF at the MSH Warehouse complex which resupplied the VSFs and AHC vaccination teams directly from the central VSF.

An extensive training program was required by both the AHC (later the MOPH) and the RHAs. The first class of vaccinators of the AHC were trained by AVICEN, a PVO specializing in immunizations programs. After that, they were trained by MSH. The RHAs had trainers trained by MSH, then trained all of their own vaccinators after this. Cold chain technicians and VSF supervisors were trained at the central VSF in Peshawar by the engineer in charge of the storage unit.

Cold chain equipment meeting UNICEF's specifications was ordered and vaccines granted by UNICEF. Later, MSH bought the vaccine through UNICEF when they ran short of funds.

Reporting was believed to be fairly accurate even though greatly delayed due to the distances and isolation of the districts where EPI activities were carried out. It was difficult to determine the impact on disease in children where the EPI was mobile and free standing. Those attached to fixed facilities were felt to have a definite effect on child health, particularly since the vaccinations were often mixed with other health interventions such as ORT, etc., offered by the facility. Immunization of women with tetanus toxoid was difficult to carry out for male vaccinators since adult women were in *purdah*. It was found that the most effective approach was to immunize the female before puberty. If possible, it is ideal to give a booster to the adult woman later but this would be obviously difficult.

MSH and its Afghan counterparts joined WHO-UNICEF and several NGOs in presenting CDD (Control of Diarrheal Diseases) and ARI (Acute Respiratory Infection) training programs. Oral rehydration salts were widely distributed in all supply kits and programs to instruct health workers on oral rehydration were carried out.

A small scale pilot program on the diagnosis and treatment of tuberculosis was established in five centers. TB is a serious disease in Afghanistan and the results of the pilot centers were good but the nature of the cross-border program and restricted resources did not allow a larger effort.

No malaria spray programs were possible but the system was well supplied with anti-malarial drugs.

The relationships between the Afghan counterparts was always close and collaborative. The same can be said of the relationship that the PMD had with other departments of MSH.

As with all other departments, Financial Management had to have a major, almost daily contact with PMD for accountability and financial support of the program. Field Operations provided monitoring services and PMD provided regular support and technical advice to MCH. The Procurement Department was closely affiliated due to the procurement of cold chain equipment, vaccines and other supplies. As with the other Department Heads, as the Team Leader, I was Paul Ickx's supervisor.

Procurement and Supplies Management Department

As noted previously in "Getting Started", procurement was first handled in the early days of the Project by Laurence Laumonier as another duty of the Field Operations Department but it was soon realized that she was overloaded and the task was assumed very capably by Paul Ickx. Paul covered this job for a year and a half, until Vim Dias, an experienced procurement and supply management specialist, was able to come to Peshawar and take over procurement and the supervision of the Warehouse Service. Group Captain (Col.) Bajwa continued his excellent job as Warehouse Manager.

By the time of Vim's arrival in 1989, we had entered the rapid expansion phase of the Project. The number and diversity of personnel and facilities in the field had increased dramatically. The quantity of supplies that had to be procured had grown astronomically and the variety of kits that had to be prepared had also greatly increased, leaping to at least 25 separate types and over 600 line items had to be stocked. For many reasons we found the kit system the only practical way to supply the field, the reason for which are recounted very succinctly in Vim' presentation in Section VII.

We were told by U.S.A.I.D. that we had to use AMEG as our procurement agent, a circumstance that was unpleasant to MSH since we were considered an authority on drug procurement and management. Our experience with the first procurement agent was unsatisfactory but a short later, they were replaced with RONCO who performed its procurement services to our satisfaction. We determined "what","when", and "how much" and selected a list of satisfactory producers whom we had surveyed by an expatriate industrial pharmacist who audited them at least every two years for Good Manufacturing Practice (GMP) and Good Laboratory Practice (GLP). We had a total of 45 prequalified suppliers to whom the bidding was restricted.

Vim describes in detail in Section VII the number of various computerized forecasting and inventory control programs which were developed by the Procurement and Supplies Management Department to handle the heavy load supplies processed through the Warehouse. Over the life of the Project, over 1,700 metric tons of medical supplies were shipped inside Afghanistan from our warehouses in carefully packed kits.

In 1991, U.S.A.I.D. requested MSH undertake a price comparison study on a sample of high value drugs commonly procured by MSH and two other U.S.A.I.D. funded NGOs, International Medical Corps (IMC) and Mercy Corp International (MCI). It was found that

the price we paid was significantly lower, probably due to the size of purchases and because we went directly to the supplier rather than buying on the local market. MSH was to make a combined procurement of purchases timed on the quarterly cycle we use. It worked to everyone's mutual satisfaction and did not greatly increase the Procurement Department work load.

One of the innovations proposed by Field Operations and accepted by Procurement was the establishment of 10 sub-depots inside Afghanistan located in the regions of the four RHAs. Kits were prepositioned in these depots and issued to all qualified BHWs and facilities, even when they did not belong to the particular RHA health committee administering the warehouse. This took a considerable load off the warehouse because they could issue in larger lots and save on transportation, etc.

There is a dearth of well trained managers in Afghanistan at the present time and Vim has found the training of warehouse men for the depots a difficult task. Nevertheless, the depots were staffed and the performance of the depot staffs was apparently satisfactory. He does not believe that a bulk storage and issue would work at present and the kit issue is the only answer.

There has been a satisfactory relationship between the Procurement and Supplies Management Department and its counterparts in the MOPH and the RHAs. Most of the staff of the Warehouse has been Afghan but many of the senior positions have had to be filled with trained Pakistanis. The relationships that the Procurement Department had with the other departments of MSH was good. Procurement has had a particularly close working relationship with the Field Operations Department. Field Operations set the schedule for issue of supplies and gave forecasts for future requirements. The two departments had to work very closely together. Procurement has had the same relationship with Training and to a much lesser extent with PMD who manages most of its own logistics. Vim is a particularly pleasant person to work with, so this has done much to make the wheels move smoothly.

Health Management Information Systems

This department evolved from the initial efforts of Anibal Mejia, our first Management Advisor, who became involved with the difficult task of adapting the MSH office to the rapidly expanding use of computers to manage a mass of data being generated by the Project. He formed the Data Processing Unit (DPU) which supplied and serviced the equipment, software and training required He was followed by Dr. Jonathan Quick in 1989 who came on board as our Health Services Planning and Development Advisor but also had responsibility for directing the DPU and for developing Health Management Information Systems (MIS). Finally, in 1991 Paul Ickx took over MIS (and Operations Research) in addition to his responsibility for directing the Preventive Medicine Department. Each advisor was liberally supported by TDY consultants from the MSH/Boston MIS office and

in the case of Operations Research, he was supported by the part-time services of Dr. Youssef Tawfik for several years.

I will not attempt to abstract his activities in broadening the role of the MIS Department. His activities in MIS are succinctly presented in Section VIII. Particularly interesting are a number of studies and surveys in which his MIS Department was responsible, namely the Provincial Health Resources Survey, the Greenbook Analysis, and the completion and analysis of the Household Surveys. In addition, he was responsible for program support provided by the DPU for the extensive number of computers and data management programs used by the MSH office.

The MIS Department had close relationships with the other departments of the MSH program, particularly in providing program support for computers and data management activities of the other departments. His department also offered limited but significant support to our Afghan counterparts in computer training and equipment maintenance. The DPU gave twelve, two week training courses, both for MSH and counterpart employees on software programs and computer maintenance.

Financial Management

Section IX presents a short and comprehensive review of the activities of the Financial Management Department. I will not attempt to abstract Mary Gasper's comments about the complicated nature of Financial Management's activities, she does this very adequately in her presentation but I will make a few comments as background.

One of the most important activities that had to be set up immediately on the start of the program was a comprehensive financial management system. This Project was designed to infuse significant resources across the border to Afghanistan, but the MSH expatriates could not make on site inspections. Nevertheless, the Financial Management Department working with other MSH departments, did all it could to have accountability.

From the start, the Financial Management Department had a very difficult job since they have had to deal primarily in cash; Pakistani rupees converted from dollars and Afghanis converted from rupees. Both the rupee and the Afghani are reasonably volatile currencies and the implication of keeping track of the frequently changing exchange rates was complicated and arduous. The big headache, however, maintaining accountability of advances by obtaining valid receipts from health personnel spread all over Afghanistan. This was done remarkably well considering the amount of cash tied up in salaries, etc. received by people who often didn't have the slightest understanding for the need to maintain accountability.

Financial Management relied on the operational departments to get receipts, time sheets, etc. This often was frustrating for both parties but tempers rarely rose and everyone worked on the common cause -accountability. The Financial Management Department worked most

closely with Field Operations, PMD, Training and with the Liaison and Project Support Office but eventually, everyone had to deal with Financial Management sooner or later.

Financial Management had frequent contact with the Liaison Officers of the RHAs and with the Finance Department of the MOPH. Frequent attempts to train MOPH in better financial management were made but these offers were all politely turned down. The Financial Management Department regularly sent some of its personnel to the Ministry (later called the Peshawar Liaison Office) to stand by during salary distributions on pay-days. Otherwise, close contact was limited.

II. TRAINING

Richard E. Johnson, Advisor

1. INTRODUCTION

The overall goal for this section of the Final Report is to describe the evolution and accomplishments of the MSH Afghan Health Sector Support Project (AHSSP) training program from its inception in November 1986 to 28 February 1994. As implementation of the AHSSP training program involved developing technical assistance activities through MSH Training Department and program activities through Afghan counterparts, description of activities will be divided into program and technical assistance components.

Over the past seven plus years, it has been a great pleasure for me to work with both Afghan and Pakistani counterparts on implementing the AHSSP training program. The accomplishments of this program, without doubt, are in a large part due to the dedicated work of so many Afghan and Pakistani colleagues, who through hard work, understanding of the local situation, and personal efforts, able to remove many constraints impeding implementation of the training program. It should be mentioned that implementation was complicated due to the *jihad* and further constrained by the very complex and difficult Afghan political environment. It is praiseworthy to note, that in spite of hazardous and or dangerous security situations in Afghanistan, our Afghan colleagues, both staff and program, were willing to carry out field trips in Afghanistan to further the objectives of the training program.

Many counterparts have made significant contributions toward achieving training program goals and objectives, but due to limitations of this report, Dr. Sayed Mohammad Amin Fatimie, Minister of Public Health, Islamic State of Afghanistan and Director General, Institute of Public Health and Dr. Mubarak Shah, Deputy Training Advisor of MSH, are selected for special mention. Both Dr. Fatimie and Dr. Mubarak Shah were involved with the training program right from the early days to present and through their tireless and dynamic leadership, they can certainly be identified as the symbolic representatives of all program and technical assistance training staff. It should be mentioned however, that it was team work, not any single individual, that enabled us to achieve AHSSP training objectives.

There is a very regretful or discouraging aspect to report from a development point of view. After so much was expended, both in human and material resources, a very competent technical and managerial training organization was created, i.e. the Institute of Public Health (IPH). It took several years to develop such an organization, with a cadre of highly trained staff working together with a common purpose and objective. Now, due to, probably a temporary unstable political situation in Afghanistan and lack of immediate funds, this organization, the Institute

of Public Health, most likely will disintegrate. Based on experience, it can safely be said that it could take years of effort to again reach the present technical and managerial level for training health manpower in Afghanistan.

2. OBJECTIVES

The purpose or goal of the AHSSP, as stated in the Cooperative Agreement (1986), was "to provide technical, financial and humanitarian assistance to expand and strengthen health services inside Afghanistan as rapidly as possible and strengthen the capability of the health committee of the Seven Party Alliance to plan, operate, and monitor expanded health services in Afghanistan". The stated objective related to training was "improving the capability of the Alliance Health Committee (AHC) in planning and managing expanded health activities and in the training of first-aiders, nurses and doctors".

The Cooperative Agreement was amended in February 1989. The revised Project purposes were: 1. Improve first aid and emergency services including medical and surgical care for war casualties, phasing down as the need subsides. 2. Expand general health care services for civilians including women and children as well as mujahideen (Afghan "freedom fighters"). 3. Enhance the capability of the Alliance Health Committee, other organized Afghan entities (private or public) and/or organized areas to plan, organize and manage expanded health care activities. Training Department strategy for this revised strategy was to increase efforts on institution building, setting up training programs in Afghanistan and develop training programs that would directly benefit mothers and children.

BACKGROUND: The AHSSP was specifically set-up in 1986 to provide humanitarian support for mujahideen controlled areas, i.e. most of rural Afghanistan. After the December 1979 Russian invasion, the rural health care delivery system for all practical purposes had collapsed. (According to *Managing Health Systems in Developing Areas, Experiences from Afghanistan*, Edited by Ronald W. O'Connor, Management Sciences for Health, 1980, "By the time meaningful rural work was suspended, the Basic Health Services Department had grown considerably. The number of BHCs increased by 45 percent, from 95 to 138 by 1979.") Due to warfare waged by the communist government in Kabul against the mujahideen throughout rural Afghanistan, all government support for health facilities and services in those areas stopped. Health professionals and paramedical staff working in mujahideen controlled areas found themselves without support (salaries and medical supplies), and as a result of this lack of support became refugees in Pakistan where employment opportunities were available or migrated to other countries. Also, training of health professionals was centralized in Kabul and other major cities and most students from such programs escaped from the communist dominated system at the time of or just before graduation.

In response to the severe shortage and need for health care providers/services in rural Afghanistan, a variety of private voluntary organizations set-up training programs in Pakistan

and Iran. However, based on estimates, the production of trained manpower by the PVOs was not sufficient to meet the needs. Each PVO or training organization defined training according to their own requirements, resulting in a confusing array of health workers with wide variations in skills and knowledge, all, however, commonly referred to as nurses.

In view of the physical geography and demographic characteristics of Afghanistan i.e. a population scattered among hundreds of small villages often separated by mountains, rivers or other natural barriers, plus the fact that most villagers had limited or no access to trained health care providers, a training strategy needed to be developed which could rapidly meet some of the health care needs of the mujahideen and civilian population. A training strategy, based on primary health care principles, was developed for training a high volume of community or primary health care workers designated as Basic Health Workers (BHWs) who, during a short training course, could acquire a defined level of skills and knowledge needed for safely providing basic preventive, promotive and simple curative services including first aid within their own community. The strategy was further defined to focus on developing training skills and knowledge within Afghan organizations so that when peace was restored, a core of experienced trainers and training administrators would be available to assist with the reconstruction of the health care system.

3. ACCOMPLISHMENT AND OUTPUTS

INTRODUCTION: The organization identified for implementing the AHSSP, with potential for establishing and coordinating health manpower development training programs for Afghanistan, was the Alliance Health Committee (AHC). In early 1987, intensive efforts were initiated with the AHC leadership to begin setting up an AHC training capability. Although it was a seven party political alliance only four *tanzeems* (political party) participated actively in the newly established AHC, i.e. Afghan National Liberation Front (ANLF), Harakat Inqilab-e Islami Afghanistan (HIIA), Jamiat-e Islami Afghanistan (JIA) and National Islamic Front of Afghanistan (NIFA). The AHC leadership agreed with the proposed training strategy, including rapidly training a high volume of Basic Health Workers for service in their own villages in Afghanistan. The first step in this process was to form an AHC sub-committee on training to define training objectives, develop training materials, recruit and train trainers, and establish training facilities. From these early efforts the training program gradually expanded from a sub-committee on training to a fully operational Institute of Public Health, including establishing five Regional Health Administration (RHA) training centers. (Regional Health Administrations refers to local and non-formal Afghan organizations responsible for administration and other traditional governmental activities within a defined geographic area.) A summary description for each major component is presented separately, although training activities were integrated and occurring simultaneously.

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A. BASIC HEALTH WORKER (BHW) TRAINING

As mentioned above, BHW training was the first major Training Department activity. This involved working with and explaining to professional staff (doctors) of the AHC sub-committee on training the concept of primary health care, including the rationale for community based health workers. This was followed by developing a competency based curriculum focused on skills and knowledge appropriate for a community health worker. This was a very difficult task as the sub-committee members were anxious to include more and more complex tasks, simplified, but like they had learned in medical school. After many meetings, long discussions and compromises, an appropriate curriculum for BHWs was accepted and agreed to by the AHC.

The leadership totally disagreed with running a combined training program, rather AHC leadership insisted that such training must be conducted separately for their own *tanzeem* members within their own Peshawar based mujahideen camp. Trainers/trainees from one *tanzeem* would not be allowed to enter training facilities in another *tanzeem*. This was the level of trust that existed in early 1987! (Actually or so it seemed, it was through the AHC that professionals from one *tanzeem* began talking with professionals from another *tanzeem*.) While training materials were underdevelopment, hectic preparations were underway to set-up training camps within the mujahideen camps. This involved procurement of training supplies/materials and everything needed for a residential camp. To assist with the local procurement a recently retired Pakistani Air Force Officer (Logistical Division) was recruited. With his assistance and knowledge of procurement, the task of acquiring the goods within a short period of time was accomplished. Simultaneously, a training of trainers workshop course was developed and carried out, while each *tanzeem* was actively recruiting trainees.

The following presents the BHW trainee selection criteria as developed by the AHC. Trainees were to be literate, have a minimum equivalent of sixth class education, as well as:

i. be willing to participate in the *jihad* in Afghanistan after completion of the BHW training;
ii. be a Muslim who had participated in the *jihad*;
iii. have immediate family members residing in Afghanistan;
iv. be at least 16 years old, preferably 20 to 30;
v. be a resident of the locality of the assigned work location;
vi. not be employed in Pakistan and;
vii. agree to live in the training camp during training.

Four BHW training camps were set up and classes, with 25 trainees in each camp, started in April 87. As U.S.A.I.D. mandated a policy of aggressive implementation, the second training session class size was increased from 25 to 60 trainees per camp, along with a corresponding increase in training staff.

In August 1988, Ittehad-e Islami Afghanistan decided to take an active part in the AHC and started a BHW training camp within the jurisdiction of their own mujahideen camp. This brought the total number of participating *tanzeems* to five. The remaining two *tanzeems*, Hezb-e

Islami (Hekmatyar) and Hezb-e Islami (Khalis) did not become active either in the AHC or the Peshawar-based Afghan Interim Government (AIG), Ministry of Public Health (MOPH). They, however, sent a few of their *tanzeem* members for BHW training to other *tanzeem* BHW training camps.

Following the completion of each training session, theoretical and practical examinations were administered by external examiners including staff from MSH Training Department. BHWs only after successfully competing both parts of the final examination were certified and eligible for referral to MSH Field Operations for receiving material and financial support.

Trainers from each BHW training camp after each training session participated in a review and, as appropriate, a revision of the curriculum. Although both Dari and Pushto are official languages of Afghanistan, it was found that classes had to be conducted in Dari for Dari speakers and Pushto for Pushto speakers.

During the early phase of BHW training, MCH topics were taught but, as training was conducted in mujahideen camps, practical MCH training experience had to given elsewhere. For this practical MCH training, BHW trainees were bussed from the training camps to various AHC hospitals (MCH out-patient) in Peshawar beginning in August 1988. During a U.S.A.I.D. project review of the AHSSP in January/February 1990, Merrill M. Shutt, MD, MPH, Team Leader. In the Executive Summary (page xi) B. MOPH Training Programs. "By anyone's assessment, MCH care is the major health need in Afghanistan. The MOPH and MSH have begun slowly and carefully to train health workers to meet this need. With the inclusion of MCH training, the training programs which MSH assists seem to meet WHO standards with regard to curriculum and training."

The IPH published the following BHW training materials:

* BHW Training Manuals (Theoretical) Dari & Pushto;
* BHW Training Manuals (Practical) Dari & Pushto;
* BHW Training Manual (Theoretical & Practical) English;
* BHW Training Manual Drug Dosage Calculations, Dari.

BASIC HEALTH WORKER TRAINING IN AFGHANISTAN: As security conditions improved in Afghanistan, efforts were made to organize training facilities to cover the main geographic areas in Afghanistan. The strategy of MSH/IPH was to encourage decentralized training programs under, wherever possible, local administrations. A decentralized training has many advantages e.g. greater involvement of local leadership and village elders in recruitment and non-technical supervision of the graduates, enhanced opportunities for trainers to observe and assess the product (graduate) of their training program in their working environment, and tailor training to focus on health problems in the area.

IPH TRAINING CENTER FOR NORTH AND SOUTHEASTERN PROVINCES: It was concluded that IPH should cover the eastern provinces with a training center in Wardak for the

northeastern provinces and another site for the southeastern provinces. Wardak was selected for northeastern provinces because of the relatively stable security situation and easy access from the surrounding provinces. A reconnaissance was carried out in September 1990. After agreements with community for local support was secured, a training center was set-up and the first class of BHWs was started in November 1990. Following the establishment of an IPH satellite training center in Jalalabad in October 1992, the Wardak Training Center was discontinued and materials shifted to the IPH office in Kabul.

Establishing a training center for the southeastern provinces, however, was not an easy matter. The events and activities associated with trying to set-up this center are illustrative of the difficulties and problems encountered working in an unstable political environment.

Initially there was enthusiasm for setting-up the center in Spin Boldak, Kandahar Province. Reconnaissance found, however, that an insufficient number of families were living in the area for the kind of community training needed. The city of Spin Boldak, located just across the Pakistan border, according to reports, was more of a mujahideen headquarters/camp than anything else. It was concluded that Spin Boldak would not be appropriate for meeting the training requirements.

Next, reconnaissance teams were sent to investigate potential sites in Zabul Province. A good location was found, several meeting were held with the local leadership, agreements for protection/support were signed and a building for the training facility obtained. Trainers were prepared and all equipment, materials and supplies needed to run and accommodate trainers/trainees was dispatched by truck from Peshawar to Quetta, Baluchistan province for crossing into Zabul Province, Afghanistan. The truck and staff were literally on the way between Quetta and the Afghan border when MSH was informed by U.S.A.I.D. that, due to kidnapping of some international aid workers in Zabul, U.S.A.I.D. was imposing a ban on support to Zabul Province. Messages were immediately sent and luckily the truck and staff could be informed before crossing into Afghanistan. Meanwhile a commander in Ghazni Province took two American hostages employed by a PVO which resulted in U.S.A.I.D. declaring a ban on all cross-border assistance in July 1991.

Six months later, when the ban on cross-border assistance was lifted a new reconnaissance team was sent to Tirin Kot, Oruzgan Province which had recently been liberated and needed support. It was from, a geographic point of view, an excellent location, but the members of the reconnaissance team were kidnapped at gun point and their vehicle stolen. The team was deprived of all valuables and left during the night along an isolated road in the desert. The kidnappers however told them they would find a road side hotel a few kilometers further and that they were lucky not to be killed, but if they came back to Tirin Kot they would be killed. Obviously that location was crossed off the list of possible locations for a training center. Investigations were carried out in Kandahar, actually several trips, and agreements were reached with the Kandahar leadership and governor for space in the damaged Mirwais Hospital for the IPH training center. Supplies, equipment and staff were sent and several rooms in a section of

the Mirwais Hospital were rehabilitated for the IPH training center. An inauguration was held with the Governor of Kandahar as Chief Guest, but before activities could be well established, fighting broke out in Kandahar and all activities had to be suspended for an indefinite period.

REGIONAL (OR AREA) TRAINING CENTERS: With the expansion of the AHSSP, MSH Field Operations had established dialogue with commanders/organizations responsible for local government in defined geographic locations. The principal organizations with whom training became involved were: Supervisory Council of North Area (SCNA or Shura-e Nazar), Health Committee of South and Southwest Area (Ismail Khan, Herat), Health Committee of Central Afghanistan, (Harakat-e Islami Afghanistan, HIA, Mohsini) and Health Committee for Paktya and Pakteka (HCPP of Commander Jalaluddin Haqani). Discussion with RHA representatives in Peshawar were initiated to determine whether the organization would be interested in setting up a training center, mainly for BHW training and technically linked (curriculum, teaching methodology, training of trainers) with the Institute of Public Health, within their area of control.

The first organization to develop a Plan of Action for implementation of a training center was the Shura-e Nazar in Takhar province. Trainers were recruited and a special training of trainers program was organized by MSH and IPH. The first BHW training class was launched in Takhar on 15 July 1988. Similar actions were followed for establishing such a training center for HCPP. The first class started in Miram Shah in 8 November 1988. The Miram Shah Training Center was moved to Khost, Paktya Province in December 1992, where training activities such as BHW Continuing Education Program (BHWCEP), management training, and Primary Health Care (PHC) seminars took place.

The Health Committee of SSWA expressed interest in such training. There was definitely an acute need since the far western provinces were at the end of the line for Peshawar supported programs. A Plan of Action was developed following a similar pattern as for the SCNA and HCPP training centers. Trainers were recruited and trained by IPH/MSH. The training center was set-up and training of BHWs started on 21 March 1990. Due to complex administrative problems, only one training program was completed. The problem was that the SSWA Health Representative in Peshawar, it seems, did not have the authority to implement financial and administrative procedures needed by MSH for justification of funds provided by MSH for operation of the training program under the control of SSWA in Herat. Agreements for accountability were reached between MSH and SSWA in Peshawar but subsequently not implemented. In this regard, many meetings were held to try to solve the administrative and management problems but to no avail. The Health Committee of SSWE, for whatever reasons, did not implement basic accountability procedures for either technical or financial matters.

The health committee (HIA, Mohsini Group) representing central Afghanistan or the Shia population requested support for setting-up a training center in Behsud, Wardak Province. This was agreed to and like the other RHA training programs, they were linked technically to the IPH. The first BHW training session began on 20 November 1990. The responsible officials for this program were not active or could not manage the training program. Accountability was

unsatisfactory and for reasons unclear to the MSH Training Department, the health committee officials in Peshawar were unable to reach a mutually satisfactory resolution of the problems. As a result only two BHW training session could be certified by MSH Training Department.

TABLE II - 1

BHW OUTPUT PER TRAINING CENTER

CENTER	ORGANIZATION	DATE ESTABLISHED	NO. TRAINING SESSIONS	TOTAL TRAINED
Jamiat (Dara)	AHC/IPH	14 April 87	9	435
Harakat (Cherat)	AHC/IPH	18 April 87	8	402
ANLF (Shagai 1)	AHC/IPH	1 May 87	10	390
NIFA (Shagai2)	AHC/IPH	1 May 87	9	399
Ittehad (Pabi)	AHC/IPH	13 August 88	4	197
Takhar	SCNA	15 July 88	6	176
Miram Shah	HCPP	8 November 88	6	102
Herat (Zendajan)	SSWE	21 March 90	1	15
Wardak (Central)	IPH	10 November 90	2	12
Behsud (Shia)	HIM	20 November 90	3	49*
Balkh	SCNA	22 December 90	4	65
Jalalabad	IPH	31 January 93	1	1

Total [illegible] *Includes 19 trainees of session 3 not certified

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B. THE INSTITUTE OF PUBLIC HEALTH

OVERVIEW: Part of the strategy evolved for developing the capacity of the AHC to plan and manage their own training programs was to create a technical and managerial support unit, an AHC Training Center, for MSH sponsored training programs.

With the backing of the AHC leadership a Training Center was established in August 1987. The tasks and duties envisaged for the Training Center were to develop curricula and implement training programs, train trainers, conduct seminars, workshops and refresher training, certify competency of health workers, develop and publish training and other health education materials, provide audiovisual support, maintain a reference library and coordinate training activities with the AHC and outside organizations.

Gradually the AHC Training Center was set-up with each participating *tanzeem* allocated equal number of staff positions, as demanded by the *tanzeems*. For example, there were four *tanzeems* participating and whenever new staff were required, four positions had to be created. This had advantages as well as disadvantages. Recruitment was by the *tanzeem* and in certain cases the candidate was not qualified for the position. Whenever an unqualified candidate was recommended, MSH declined to provide salary support for that candidate. This political patronage system caused some problems, even when the staff member was qualified for the position. In the long run however, the fact that the organization had a balanced and strong political base was a definite asset.

With the creation of the Afghan Interim Government's Ministry of Public Health in 1989, the Training Center was redesignated as the Institute of Public Health (IPH). Prior to the formation of the AIG , BHW training camps were mostly under the technical and managerial supervision of the *tanzeem* where the camp was located. But, with the authority of the AIG, the IPH was able to obtain full responsibility for technical and administrative control of all AHC established training camps.

Under the leadership of a highly qualified and dynamic Director General, the IPH/Training Center made rapid progress with organizing and staffing the various components of the organization. IPH, based on the principles and concepts of primary health care, took the leadership in developing a number of training programs, described elsewhere in this Report.

One of the important goals of the IPH was to promote decentralized training through other Afghan organizations. For this (decentralized approach) IPH provided technical and administrative support to the RHA for training programs, as described above. It is worth mentioning the IPH was instrumental in preparation of the Masterplan for Rehabilitation and Reconstruction of the Health System in Afghanistan in 1991.

Following the departure of the Russians in February 1989, there was great optimism that soon the entire AHSSP would be moving to Kabul. Prior to that event however, the Training Department worked on setting up decentralized training centers in Afghanistan, as previously

stated.. As the requirement for training a high volume of BHWs was reduced, (the AHSS Project Review from 15 January to 9 February 1990 recommended a ceiling of 1700 BHWs, a projection of one BHW to six to seven thousand post-war population, be applied. This recommendation was adopted by U.S.A.I.D.), activities were consolidated into one facility in Peshawar in late 1990 and the remaining BHW training camps surrounding Peshawar were closed. The last initial BHW training class in Peshawar was completed in April 1991.

On 1 October 1991, U.S.A.I.D. imposed a ceiling of 1,326 BHWs, i.e. the number of BHWs in active service, according to MSH Field Operations records, on 30 September 1991.

As a first step for reestablishing in Afghanistan, the IPH created a satellite training center in Jalalabad. The *Shura* (assembly) of Nangahar allocated space for this satellite training center in the Jalalabad Nursing School building. Most IPH staff were transferred to Jalalabad beginning October 1992 and completed the move by December 1992. A few staff remained in Peshawar to liaison with MSH and safeguard materials. The remaining staff positions and all materials were shifted to Afghanistan by June 1993.

After the IPH set up a satellite training center in Jalalabad, plans were made for establishing IPH in Kabul. The MOPH allocated certain rooms within the Intermediate Medical Institute in Kabul for IPH activities. Training equipment such as photocopier, VCR, overhead projectors, microscopes were air lifted by the First Deputy Minister of Health, Dr. Fatimie, to Kabul and secured in the offices allocated for the IPH in late 1992.

COURSE DESIGN AND CURRICULUM DEVELOPMENT: A section within the AHC/IPH was created to work on designing training programs, including curricula for programs to be implemented by the IPH. The training programs, developed by IPH, are as follows: Basic Health Worker Initial and Refresher; Buddy Care (First Aid); Rural Health Officer (RHO); Maternal and Child Health Officer (MCHO); Field Microscopist, Doctor Refresher; Nurse/mid-level (medical technician) Refresher.

BASIC HEALTH WORKER (BHW) TRAINING: Initial BHW training was described previously, therefore, only BHW Continuing Education Program (BHWCEP) will be described in this section.

All BHWs eligible for resupply kits and salary whether supervised by MOPH or Regional Administration are, as a condition for resupply, required to attend a BHWCEP training program.

The training objectives were to:

i. review core skills defined for BHW and ensure BHW could through demonstration and role play correctly use skills and knowledge;
ii. strengthen community development skills e.g. influence of social/cultural and environmental factors on health status, working with village elders and community leaders;

iii. strengthen home visiting skills, particularly on recognition and attention to child survival interventions;
iv. discuss and review procedures on implementation of preventive and promotive health services in the community;
v. introduce dai training (harmful microbes & hand washing, oral rehydration therapy).

Initially BHWCEP training was conducted in Peshawar training facilities, however, as training centers were set-up in Takhar and Balkh (SCNA) and Khost (HCPP), their trainers were trained by IPH for this activity. With the closing of Peshawar facilities and improved security in rural Afghanistan, the BHW CEP training strategy was changed. Rather than classroom, trainers were assigned to carry out this program at the district level for the BHWs active in that area. Trainers first conducted a field assessment of each BHW which was followed by training for the group in one of the villages where a BHW was working. By dealing with real life problems and situations, trainers were able to focus on the actual training needs of BHWs rather, than through simulation.

As BHWs, following the completion of the AHSSP, would no longer receive salary support, a strategy for privatization or indigenization, which means building on traditional or natural ways in which community support people who provide a service, needed to be developed and implemented. A seminar sponsored by IPH for this purpose was held in April 1993. Invitations were sent to Area Representatives, MOPH health officials and senior IPH trainers. A Task Force was created to expand on the ideas and strategy proposed at the seminar. Field investigations were carried out and based on experiences, the topic of indigenization was included into BHW refresher training.

For the last resupply, a large group of BHWs were requested by Field Operations to present in Peshawar. Training Department was informed that up to 462 were expected. Since it was impossible to manage such a large group in Peshawar (all training facilities closed), IPH organized the training in Jalalabad. This training was conducted in two sessions for 141 BHWs who had reported on schedule in Peshawar, followed by a second group of 71 for a total of 212 BHWs.

ASSESSMENTS: One of the important steps in training is follow-up and assessment of trainee to determine whether the training prepared trainee to perform the tasks and duties as specified and, among other aspects, was the training appropriate for the job. This is a normal activity in any training program, however, in the AHSSP, special attention had to be devoted to this activity. First, expatriate staff were not allowed to cross into Afghanistan because of security and other political factors. Afghan trainers, new to the job, were not experienced in assessing health workers in the field and needed on the job training. It was equally hazardous, in the early Project days, for Afghan trainers to travel to districts/provinces other than their home district/province.

For this assessment, a comprehensive proforma was developed and field tested in six different provinces in November 1989. Following the development of the proforma, including data

tabulation, trainers, on a rotation basis, were assigned to carry out field assessments on a regular basis in accessible provinces. Accessibility varied depending on security and weather conditions e.g. roads block due to snow (*see* Appendix II-2, Management Sciences for Health, Training Department Facts and Statistics for copy of Assessment Proforma)

Based on observations, tabulation of data, BHW curriculum was revised or modified. A major benefit was having the trainers learn first hand about problems BHWs were expected to manage. These trainers could then modify their teaching plans to include real problems.

BUDDY CARE TRAINING: As specified in U.S.A.I.D. documents Buddy Care or first aid training was one of the activities to be implemented by MSH. As soon as a training structure was in place planning for Buddy Care was initiated i.e. late 1987. Agreements were reached with the AHC in early 1988 to implement this training in the mujahideen training camps (these camps were used by mujahideen for their activities and not related with refugee camps). As the war inside Afghanistan was creating many casualties, it was a priority to train as many mujahideen as possible in basic, lifesaving first aid measures. A two-day training program, patterned on the International Committee of the Red Cross (ICRC) model, was developed by the Training Center. Ten paramedical staff were recruited and trained as first aid trainers and assigned to conduct full-time training for the mujahideen who were rotating thorough the military camps around Peshawar. The training, primarily in trauma stabilization, was designed to enable a mujahed to provide lifesaving measures for his "buddy" in the field. At the end of the training, each mujahed was given a sterile compress to carry in his kit. By the time this program was discontinued in July 1991, over 36,000 mujahideen had been trained in Buddy Care. The training was discontinued because, military activities were subsiding in Afghanistan, 2078 BHWs, well qualified in first aid measures, had been trained and fielded through out Afghanistan, donor organizations had opened many health facilities in rural areas where war casualties could be treated, very few mujahideen were coming to the camps around Peshawar and finally the MOPH/IPH decided that this program was no longer a priority and should be discontinued for the reasons mentioned above. In the January/February 1990 U.S.A.I.D. Review of the AHSSP it was stated "that any accurate evaluation of their (Buddy Care) worth appears impossible.".

RURAL HEALTH OFFICER (RHO) COURSE: By late 1989 considerable progress had been made toward providing some health services through BHWs in rural Afghanistan. With over 1000 BHWs trained and fielded in all 29 provinces, attention was focused on developing a system for technical supervision of these BHWs. A review of the literature, regarding community health programs worldwide, categorically stated the need for regular organized supervision of field staff, e.g. Strengthening the performance of community health workers in primary health care, "Report of a WHO Study Group, Technical Report Series 780", WHO 1989; "The Community Health Worker, Guidelines for training", WHO 1987; "Community Involvement in Health Development: Challenging Health Services, Report of a WHO Study Group", "Technical Report Series 809", WHO, 1991; Ronald W. O'Connor, *Managing Health Systems in Developing Areas, Experiences from Afghanistan*, 1980; Doris M. Storms, *Training and Use of Auxiliary Health Workers: Lessons From Developing Countries*, American Public

Health Association International Health Programs Monograph Series No. 3, Funded by The Agency for International Development, 1979.

Following extensive discussions with Afghan counterparts, it was concluded that a new cadre of worker needed to be deployed to provide, not only technical supervision of the BHWs, but to strengthen community involvement with implementation, PHC activities and non-technical supervision of the BHW. The MOPH decided to designate this new cadre as rural health officers. Trainees would be selected from among the ranks of BHWs who had: a 10th class educational level, been active in assigned location, a good working relationship with community and verifiableability (skills/knowledge) to carry out the tasks and duties of a BHW. RHOs were to be selected from those provinces where Provincial Public Health Officers (PPHO) were to be assigned, as these RHOs should work under the supervision of the PPHO. After completion of training the graduates will be assigned back to their home province/district.

Following U.S.A.I.D.'s approval, trainees were selected according to the criteria stated above. Course and training materials, focused on supervised field practice, were developed and the first class (20 trainees) started in July 1991 and was completed in June 1992. Due to development work this first class ran for 11 months but, through refinements and field testing, the course was redesigned to be completed in six months. Supervised field practice (four weeks) was held at the Wardak Training Center, Wardak Province, Afghanistan. After testing, practical and theoretical, the trainees were certified as Rural Health Officers and assigned, as previously agreed, to their respective districts. The IPH in March 1993 held a CEP for the RHOs in Jalalabad. During this CEP, the RHOs prepared reports on their activities. After completion of CEP, experienced IPH trainers carried out assessments and field supervision of the RHOs. This is a regular and continuing IPH program activity. The last CEP was held in February 1994.

MATERNAL AND CHILD HEALTH OFFICER (MCHO) COURSE: Concomitantly with the development of the RHO training program an MCHO course was planned as health care services for women and children were, for all practical purposes, non-existent. Due to social and cultural factors effecting women in Afghanistan, establishing such a training program necessitated a very cautious and careful approach. Leadership was anxious to avoid any possible misunderstanding or incorrect impression regarding the recruitment and training of females, as adverse rumor could have a long term negative effect and even stop future training of female health workers.

A section within the IPH was set-up for MCHO training. Female trainers (doctors and trained nurse midwives) were recruited. A building exclusively for females was hired and equipped. Both MCHO and MCH Department female staff were accommodated in this building.

The course was planned for two phases (three and nine months respectively). The first phase prepares the trainee as a BHW. The reasons for this are: to allow the trainee to achieve a recognized certification (BHW) in the event she is unable to continue to phase 2; and to assess

whether or not the trainee is capable for successfully learning, within the specified time period, advanced and more complex topics.

Curriculum was designed to emphasize application of skills and knowledge in a rural setting, particularly, e.g. home visiting, home delivery, dai training. The first course, conducted in Peshawar for trainees selected as a first preference from Afghanistan and secondly assurances by family that the trainee upon successful completion of the training be allowed to return to her home district. U.S.A.I.D., based on the strategy of provincial public health offices, approved in advance the districts from which trainees may be recruited. Following this approval the first course started on 6 April 1991 and was completed 12 April 1992.

Following the completion of this first course and under the leadership of IPH, the curriculum was reviewed and standardized by representatives from MSH, IMC, MCI, IPH and WHO. The revised curriculum, English, was translated into Dari. One trainee and one instructors' manual have been printed both in Dari and English. The MCHO training, along with all other training activities, was relocated in Jalalabad. This necessitated obtaining classrooms and sites for clinical and field practice, which took time and considerable effort on the part of the IPH leadership to reorganize. Some of the experienced trainers were unable to move to Jalalabad so new trainers had to be recruited and trained. As the training was in Jalalabad, trainees were recruited from the surrounding provinces. Careful selection process was followed to find trainees with sufficient educational background to handle the course content, and each family was interviewed to be sure the trainee was from the chosen area. After U.S.A.I.D. approval was obtained, the second MCHO training class began with 16 trainees in April 1993. Thirteen trainees successfully completed the didactic phase on 7 February 1994. MCHO kits were prepositioned in Jalalabad and will be issued accordingly. During the MCHO training in Jalalabad, four trainers, two females from Balkh and one married couple (both doctors) from Takhar province, were given a comprehensive orientation for setting up a similar MCHO training program in their home, if ever funding becomes available.

FIELD MICROSCOPIST TRAINING: With the expansion of clinical services through comprehensive care clinics and small hospitals, basic laboratory technicians or field microscopist needed to be trained to fill vacant positions. For such training the IPH developed in cooperation with other field microscopist training programs in Peshawar and WHO, established a field microscopist's training program using the standardized 20 weeks WHO curriculum, including WHO approved external testing and competency certification.

The first field microscopist training which began in September 1990 certified 10 trainees as field microscopists followed by a second training starting in May 1991 for 10 trainees who were also certified as field microscopists by an external examining board. During the intervals between training the trainers field assessments were carried out. Since October 1993, IPH worked with IMC on laboratory training in Jalalabad.

REFRESHER TRAINING FOR DOCTORS AND NURSES: The leadership of the AHC was, because of the war situation in Afghanistan and lack of continuing educational

opportunities, anxious to establish a refresher training program for doctors and nurses serving in clinics and hospitals in Afghanistan. A section within the IPH was set-up for this activity and to work on the refresher training course content. A Professor of Surgery and retired Army Medical Officer, Dr. Douglas Lindsey was invited (February 1988) to review the progress on developing the course content and offer suggestions for improvement. As it was impossible to gather more than one or two trainees at a time in Peshawar, due to the need for their services in Afghanistan and times for resupply in Peshawar. Therefore the strategy was changed so that a doctor or nurse, in consultation with the IPH staff assigned for this duty, design a program to meet his specific requirements, e.g. a doctor wishing to improve knowledge of orthopedics was assigned to work under the supervision of a specialists in one of the AHC hospitals in Peshawar. In addition there were certain core subjects on PHC taught by staff of IPH. This program was discontinued in December 1990 when U.S.A.I.D. withdrew funding except for combined refresher training or CMCEP.

SEMINARS AND WORKSHOPS: The IPH throughout the life of this Project organized and conducted numerous seminars and workshops, depending on the requirements of the program. For example, on curriculum review, conducting field assessments, doctor & nurse refresher training, RHO and MCHO training, dai training and BHW indigenization to mention a few.

IPH scheduled, on a regular basis, workshops/seminars for two major activities, i.e. introduction of primary health care concepts and to the strategy adopted for rebuilding the health care system in Afghanistan to health professionals as well as community leaders, and training of trainers.

SUPPORT SERVICES: To provide technical and administrative support for the various training programs the following departments were created and equipped: (a.) an audio-visual section, including graphic arts and calligraphy capability; (b.) library containing copies of most books and documents commonly referred to for development of primary health care services and training of paramedical staff. In addition, a selection of the common medical text books available for medical practitioners and students in Pakistan; (c.) a publications and printing sections completely equipped with photo offset printing capability. A number of publications and manuals were prepared by the IPH such as for example, the MCHO manual and several health education pamphlets, newsletters, etc.; (d.) administrative and finance section was responsible for receiving, distributing and accounting for all funds provided by MSH and overall management of facilities, equipment and supplies issued by MSH.

TRAINING COSTS: An important aspect and consideration for all training activities was keeping the training cost as low as possible. This objective (low cost) was kept in view when planning training so that it would be feasible, after the AHSSP, for the government to continue these programs with their own resources or be in a better position to attract donor support.

All training was implemented by Afghan training staff at the salary rate established for Ministry of Public Health. These relatively lower salary rates helped keep training costs down. It is recognized, however, that salary rates established by Peshawar organizations were significantly

higher than the Afghan government rates, but given present political and inflationary situation in Afghanistan, who can predict what will transpire. When ever possible, existing Afghan institutions were utilized for training at no additional cost for the AHSSP. For example, BHW training conducted within mujahideen camps, MCHO training in Afghan OB/GYN facility, CMCEP conducted by IPH in the AIG hospitals in Peshawar. Start up costs e.g. training equipment like projectors, VCRs, printing press, furniture were incurred but most materials have potential for use over a long period. Total program costs for training supported by AHSSP was 3.1 million U.S. dollars (estimated) or 8.6% of the budget.

As BHW training was one of the major Training Department outputs, a recurring cost analysis was made between IPH costs and RHA costs per BHW trainee. It was found, based on the BHW training model for staffing and allowances, that it cost U.S. $113 per month per trainee or U.S. $341 for one trained BHW by IPH and U.S. $106 per month per trainee or U.S. $319 for one trained BHW by a Regional Health Administration.

C. MEDICAL CERTIFICATION

Certification of competence of professional staff for MSH supported clinics and hospital was managed by MSH Field Operations up to mid 1991, when Training Department was requested to oversee this activity. This was an essential activity, because there were so many different training programs, each setting their own training objectives. (It was impossible to determine the level of competence either from the title of the worker or duration of training.) In July 1991 Training Department requested RHA committees to form an ad-hoc committee to work on upgrading testing and certifying procedures for professional and technical staff and develop written and practical examinations for mid-level medical technicians based on the CMC/WHO skills check lists, plus define qualifications for doctors (general practitioner and specialist) before and after changes were made by the communist government in Kabul. A doctor from each of the participating organizations was assigned for this purpose. The IPH managed this activity for AIG Ministry of Public Health facility staff.

The new testing and certification system for professional and technical health staff was implemented in December 1991. Up to June 1993, a total of 364 health workers were screened to determine level of competence.

D. COMBINED MID-LEVEL CONTINUING EDUCATION PROGRAM (CMCEP)

In December 1990 U.S.A.I.D. informed that financial support for mid-level continuing education activities would be provided to U.S.A.I.D. funded organizations only if they worked together to implement a standardized combined mid-level continuing education program. For this purpose a Core Group with a technical representative from each of the participating organizations i.e., International Medical Corps, Institute of Public Health, Management Sciences for Health, Mercy Corps International, Swedish Committee for Afghanistan, and World Health Organization, was formed.

The objective for this Core Group was to prepare a standardized mid-level continuing education curriculum for training active mid-level health workers to a uniform standard of skills and knowledge. The Core Group developed an 18 week course to which mid-level health workers supported by the participating organization would be eligible for admission. Materials were prepared in Dari, Pushto and English. It was decided that IMC, IPH and MCI would be responsible for conducting the first CMCEP classes with a maximum of 25 trainees in each class.

The first CMCEP class was conducted by IMC in Thal, and MCI in Quetta, with IPH trainers participating, as required. During the second CMCEP training session two new sites were added: IPH in the MOPH clinical facilities in Peshawar and IMC at Nasir Bagh. After the completion of the second CMCEP session, support for MOPH clinical facilities was discontinued and facilities were closed. As a result IPH did not directly operate another CMCEP training session but rather participated with IMC in Jalalabad. MCI conducted one session in Kandahar. The following Table presents the output per training site to which trainees were sent by the participating organizations as noted above.

TABLE II - 2

CMCEP

CLASS	DATES	ORGANIZ.	LOCATION	GRADUATES
FIRST	28/7/91-7/11/91	IMC	THAL	24
		MCI	QUETTA	23
SECOND	23/2/92-25/6/92	IMC	THAL	19
		IMC	NASIR BAGH	20
		IPH	PESHAWAR	22
THIRD	29/7/92-26/11/92	IMC	NASIR BAGH	17
		MCI	QUETTA	20
FOURTH	12/6/93-23/10/93	MCI	KANDAHAR	13
	15/3/93-7/7/93	IMCC/IPH	JALALABAD	19
FIFTH	15/8/93-15/12/93	IMC/IPH	JALALABAD	21

E. PARTICIPANT TRAINING

Since the beginning of the *jihad* (1979), few Afghan professional were exposed to or had an opportunity to learn about current developments in delivery of health care services in developing countries. Between the 1979 Alma Ata conference and the beginning of this Project, primary health care came into being as the main strategy for delivery of health care services. The Afghan professionals with whom MSH came in contact were almost exclusively focused on medical care, i.e. hospitals and clinics, as the best means for providing health coverage even in rural areas. Obviously such an approach (medical care) would not be affordable, sustainable or have impact on health status of the population scattered in hundreds of small villages.

To increase knowledge and understanding among health professionals about various approaches to development of health services, it was determined that a small participant training program would be beneficial for the promotion of the goals and objectives of the AHSSP. The Boston University Certificate Program, 12 week courses designed primarily for health professionals from developing countries was chosen, as the course description and reputation of the Director suggested that the program would be very good indeed. Two participants were selected for the 1989 Summer Certificate Program, Health Care in Developing Countries, one of whom is now the Minister of Health of the Islamic State of Afghanistan. Up to summer 1992, the last course to which participants were sent, 14 attended Health Care in Developing Countries, three Management Methods for International Health and one Financing Health Care in Developing Countries. All, except two (one official migrated to the US and one whereabouts unknown), are working in some capacity on health services for Afghanistan.

F. MANAGEMENT TRAINING

INTRODUCTION: This section of the Final Report was drafted by Mr. Sabir Latifi, Deputy Health Services Development Advisor, and covers the period from January 1990 to 28 February 1994.

The leadership of the RHAs and MOPH in early 1990 requested Management Sciences for Health (Health Services Development Department) to assist with:

i. developing an administrative structure;
ii. reducing red-tape administrative system;
iii. developing trained and skilled administrative personnel;
iv. encouraging a decentralized health services system; and
v. understanding MSH's financial requirements;

The Project, in cooperation with the MOPH and the RHAs, developed plans to sponsor and conduct annually (a). Senior Managers Workshops (b). Basic Administrative Workshops and later (c). a Master Management Workshop for personnel of MOPH and RHAs (for health planning workshops *see* Section III. Health Services Planning and Development).

BASIC AMINISTRATIVE WORKSHOP: Based on the above objectives, a training needs assessment was carried out to develop a workshop agenda and training plan. The workshop was conducted on August 19, 1990 in Peshawar for 25 administrators from three RHAs in Afghanistan. This workshop was the first of a series of Health Services and Management workshops conducted by MSH and our counterparts; in fact, it was the first ever management workshops for health managers from Afghanistan in Peshawar. Donors (U.S.A.I.D., UNICEF, WHO, Swedish Committee for Afghanistan, IMC,) were asked to attend the first day of the workshop to meet with actual implementors and field manager. At the end of the workshop participants were able to explain management concepts and health administrative systems, plus participants developed a one year workplan. The participants were provided with office supplies for one year period and left for Afghanistan in late September 1990 to set up administrative centers in their designated catchment areas.

SEPTEMBER 1990 SENIOR MANAGERS WORKSHOP: Based on previously developed plans with the liaison offices of RHAs, MSH sponsored a workshop for 24 senior health officials from three RHAs. This was the first workshop in 12 years where health planners and senior administrators from the areas mentioned above were able to come together to discuss health services development and consider strategies for rebuilding health services in free Afghanistan. The workshop provided the opportunity for exchanging ideas, as well as stimulation to work on developing specific plans for: expanded BHW training, female health workers training, improved personnel management, establishment of health facilities and improving supervision and referral systems . The output of the workshop was the preparation of one year detailed and a three year general workplan for each of the AHSA. These workplans formed the basis for the development of MSH workplan for RHAs activities for FY-91.

Following the workshop, the RHAs Committees together held individual meetings with WHO, UNICEF, CMC, the European Union and the MOPH's IPH. They were also invited by ACBAR Health Sub-committee to present their activities and plans to ACBAR members. These meetings appear to have contributed significantly to the visibility, credibility, and acceptance of the area health committees by the humanitarian assistance and U.N. organizations in Peshawar.

JULY 1991 SENIOR MANAGERS WORKSHOP: Planned and organized a workshop for senior mangers from RHA health committees. Based on a review of 1990 workshop and discussions with RHA liaison officers and IPH, a new curriculum was developed that would complement the material presented in the early workshop and meet the continuing management training needs of senior managers from inside Afghanistan. Emphasis in the curriculum was on basic management skills, using examples and supporting material relevant to the needs of managers in the development of a rural health network. The design was 10% lecture/discussion, 60% small group exercises, 20% small group presentation and 10% discussion and review. The workshop was conducted the last week of July and the first week of August 1991 in Peshawar. Twenty five senior managers attended.

The workshop was evaluated at the conclusion, and a needs assessment conducted to determine management training needs for future workshops. During this process management training for

subordinate staff was identified as an important need. The senior managers felt that to be more effective in introducing management concepts, subordinate staff needed to understand the management process. Discussions on this subject led to a plan to train master Management Trainers for placement at Project supported training centers in Afghanistan.

TRAINING OF MASTER MANAGEMENT TRAINERS: At the conclusion of the 1990 Senior Managers Workshop, the need for large scale management training of health committee's administrative staff and health personnel was identified. Since it was not effective or feasible for MSH staff to train that many personnel, it was decided that MSH would sponsor and conduct a Seven Week Master Management Training Workshop where Master Management Trainers of RHAs and IPH would be trained for conducting regular management workshops inside Afghanistan.

Project staff met, on regular basis with representatives of RHAs and the IPH to develop a plan of action to train Master Management Trainers. A job description, pay scale and curriculum outline was developed. It was required that candidates be from a province where a Project supported training center was operational, and candidates had to serve there to be considered for one of the positions.

A total of 15 candidates were enrolled by the RHA and IPH in Master Management Training course. A curriculum was developed covering basic management skills in 25 subject areas. Each subject or module was supported by background material, case studies, and small group exercise specific to the situation in Afghanistan. The curriculum was translated into Dari, and Pushto.

The 15 candidates were trained for seven weeks in February and March 1992. Their training included a detail review of the 25 management modules, how to conduct a training needs assessment, how to select the appropriate modules for a particular group and how to plan and organize a workshop. Their training , also included practice training in which each candidate was required to prepare and conduct two or three sessions for the other candidates. All 15 candidates successfully completed the training.

Following the seven week course the trainers were divided into five teams and assigned to conduct a series of workshops for a designated category of health worker from various provinces in Afghanistan in Peshawar. This activities, which was carried out under the close supervision of Project staff, proved very effective for their future training workshops. During this phase, the trainers trained a total of 95 health workers in basic management who came to Peshawar for resupply and refresher training. At the end of May the trainers, after developing a one year workplan, returned to Afghanistan and started their work at their posts in each Project supported training center.

MANAGEMENT TRAINING AND MANAGEMENT DEVELOPMENT: One of the Project objectives for 1992 was to straighten management of health services. The plan for this important activity included:

i. training Master Management Trainers as a resource person for management training and management development;

ii. placing the trained Management Trainers at existing training centers in Afghanistan, as a focal point from where management training and management development would be implemented;

iii. for efficiency and effectiveness, integrate management training into the existing training programs at these centers;

iv. assist the administration of Project supported training centers for conducting efficient and effective over all training;

v. Help the administrative set up of Area Health authorities and Project supported Area administrative units;

Due to ethnic fighting the Master Management Trainers were not able to conduct management training in Behsud (central Afghanistan) Training Center. As the Shia population in that area was under siege, even the Project staff were not able to travel to this training center last year.

The training center of the Health Committee of Paktya and Pakteka and the Institute of Public Health, became the center for management training and management development, despite the shifting of IPH from Peshawar to Jalalabad. The IPH management staff were able to conduct over a dozen management workshops and train over 302 health personnel in late 1992 and 1993 .

The Project staff and IPH management trainers conducted the first two management workshops in Kabul in August and November 1993. Over 40 senior staff of Ministry of Public Health were trained in management concepts. For the post workshop evaluation one participant stated "The Master Management Trainers, in addition to conducting training, were playing an important role in, planning, implementing, evaluating, and leading of health services development both in MOPH and the RHAs. The Master Management Trainers will remain as a health services management and management development resource for Afghanistan, an important role in the development of this war-torn country."

MANAGEMENT TRAINING MODULES: An important output of the Project was the development of four management training modules. The four modules will remain as a resource for health services management and management development, as well as provide the base for future management training and development activities.

Based on the training needs assessment, modules on various management concepts and skills were developed. For developing these modules, resource materials from MSH Basic Administration workshops, MSH Senior Managers workshops, and Harvard Business Review reprints were used. These modules were developed specifically for inexperienced managers to help them with managing health services in Afghanistan. Each module has a session guide,

which includes, objectives of the session, time required for session, preparation needed, small group exercises, case studies, and reading material. The modules have been translated into Dari and Pushtu.

The management resource materials have been widely used, e.g. MCH, PHC, administration and management workshops. Materials from these modules have also been used in manuals for BHWs, RHOs, MCHOs, VHSs, local dais and senior managers.

G. MSH TRAINING DEPARTMENT - TECHNICAL ASSISTANCE

INTRODUCTION: In November 1986 Deans Hotel, Peshawar (a British Raj vintage hotel established in 1891) was the venue for launching the AHSSP. Initially the focus was on identifying and getting to know the players with whom we would be working, developing an implementation strategy and budget and establishing the MSH Office in Peshawar.

TECHNICAL ASSISTANCE: The overall goal of the MSH Training Department was to develop and refine the AHSSP training strategy in cooperation with counterpart staff.. Through this approach training programs were planned, designed and implemented. The technical assistance staff of MSH Training Department worked in close coordination with counterparts and were very much a part of the program/implementation team. Because of this approach this report would be incomplete without a description of the MSH Training Department technical assistance activities.

As described above the first training activity was to develop, as rapidly as possible, a cadre of primary health care workers for service in their home districts in Afghanistan. The Training Advisor provided the technical backstopping for this activity in the early stages, however, as the program grew, along with a corresponding increase in workload, it was necessary to add staff to Training Department. The first staff member recruited was Dr. Mubarak Shah in February 1988. Dr. Mubarak was one of the original trainers involved with training the first groups of BHWs. However, as Dr. Mubarak was transferred by his *tanzeem* to hospital clinical duties, the Training Advisor believed that his experience would be very useful background for expanding the scope of work in the MSH Training Department. Prior to Dr. Mubarak's recruitment, the Chairmen of the Health Committee to which Dr. Mubarak was associated gave his consent. Through hard work and a consistently high level of performance, Dr. Mubarak progressed from Assistant Training Advisor to Deputy Training Advisor. During Dr. Mubarak's tenure he was involved with all aspects of providing both technical and administrative backstopping for AHSSP training activities. It is noteworthy to mention that, during the evacuation of expatriate staff from Peshawar during the Gulf War, Dr. Mubarak was one of the principle local staff members responsible for running the day to day MSH operations in Peshawar.

The next technical staff member added to Training Department was Dr. Mohammad Masood in April 1989. Dr. Masood was mainly involved with technical monitoring of training activities in Afghanistan and field assessments of BHWs. Dr. Masood worked closely with counterpart

staff on developing field assessment protocols, training trainers in use of field assessment protocols and helping to provide field information on trainees back into training programs. Due to a reduction in force called for by U.S.A.I.D., Dr. Masood's position was discontinued on 15 November 1992.

By late 1990, the volume of administrative support and financial monitoring had increased to a level which could not be managed without additional staff. For this activity Mr. Karim Rahimi was brought onboard in October 1990 and Mr. Mahammad Wali in February 1992. Both staff members remained with the Project until the end and were responsible for drafting the next section on administrative support.

One of the high priority activities was to provide technical assistance, particularly for practical demonstrations and community health component of the MCHO training. Due to shortage and or availability of trained female health workers, Mrs. Razia Naim, a well qualified and highly experienced Afghan female mid-level health worker, was added to the MSH Training Department staff to work in close association with IPH female trainers. Mrs. Razia contributed significantly toward developing the community health/home visiting component of the MCHO training in one of the Afghan communities near Peshawar. When the IPH moved to Jalalabad, Mrs. Razia work location was transferred to Jalalabad where she remained until the completion of the second MCHO training program in Jalalabad. Her contribution was indeed remarkable and noteworthy given the constraints placed on women.

Following the departure of the Health Development Services Advisor in late December 1992, Mr. Sabir Latifi, Deputy Health Services Development Advisor was reassigned to Training Department to work on management training up to end of program activities.

H. ADMINISTRATIVE SUPPORT

In addition to technical assistance, as discussed above, managerial and administrative support was provided for IPH/MOPH and Regional Health Administrations.

Both technical and administrative support staff of Training Department were involved in developing administrative procedures and orientation of the related staff of implementing organizations in Afghanistan as under:

a. IPH/MOPH
b. SCNA
c. HCPP
d. SSWA
e. HIM

The Area Training Centers (except Miram Shah) received budgets for a certain period of time to implement planned training activities.

Considering the volume of activities, length of time, circumstances and the actual needs of the programs, periodic budgets were prepared in Training Department and sent to the MSH Financial Management for processing. The budgets were released to the authorized representative of the programs and then transferred to training centers for use.

As budgets were issued prior to the commencement of activities, funds released were considered as an outstanding advance. It was agreed that program administrators should send necessary expenditure documents for clearing accounts (advances) prior to release of additional funds.

As IPH was a nucleus technical organization operating in Peshawar, the financial procedure was different than the procedures for area training centers inside Afghanistan.

The procedure for IPH was as follows: IPH sent requests for funds for specific activities (previously planned with the coordination of MSH Training Departmentt). After requests were reviewed and approved, they were sent to the MSH Financial Management for further processing. MSH Financial Management, using a payment voucher system, issued the approved cash amounts to the authorized representative of IPH. This was also an outstanding advance which had to be cleared prior to any expense request for similar activities. In order to obtain new funds, IPH had to send acceptable documents which could clear the outstanding advance. The expenditure documents were carefully reviewed by the Training Department for the accuracy/appropriateness and then sent to Financial Management for clearing the accounts.

To operate the minor daily expenses of the IPH there was also a fixed revolving (petty cash) budget allocation. The Financial Administration of IPH had to obtain approval and authorization for the purchase of the needed items from the Director General of IPH. Following such approval a procurement team was asked to purchase the required items and obtain receipts. Three quotations were required for the purchase of the items costing more than Rs. 1000.

The petty cash expenditure documents, after being certified by the Director General IPH, were sent to MSH for clearance and processing for issuing another revolving amount (petty cash). After a careful review in the Training Department the documents (if considered appropriate) were sent to O/FM for further processing and clearing the advance.

As Miram Shah Training Center (HCPP) was located on the Pakistan-Afghan border, it was agreed that MSH would allocate a monthly expenses fund to implement the training activities.

A bank account was opened in Miram Shah, and a sum of Pakistan rupees was deposited to meet the expenses of the Training Center for one month. By the end of each month, the expenditure documents had been sent to MSH. After review, the documents (if considered appropriate) were sent to O/FM for clearing the account and issuing another check to be deposited in the bank account for subsequent expenditures.

ORIENTATION ON ADMINISTRATION: In order to run the training program administrative and financial affairs smoothly, the administration and finance section staff of IPH

and all training centers were oriented in: administrative and financial procedures; working with budgets, keeping the income and expenses records; procedures for clearing the outstanding advances; preparing accurate financial documents; maintaining filing and logging systems; preparing proposals and reports, carrying out inventories, and maintaining trainees records/data.

MONITORING AND EVALUATION: MSH Training Department staff conducted field visits to monitor and evaluate the office management and administrative activities of the training programs, both in Pakistan and inside Afghanistan. Necessary guidance, recommendations and suggestions were provided for improvement of the programs.

Please see Appendix II - 1 for a list of training manuals developed by the Institute of Public Health and MSH Training Department. A copy of each manual is included with the submission of this report.

Appendix II - 2 Management Sciences for Health, Training Department, Facts & Statistics, because of its bulk is not included with this report but a copy has already been submitted to the U.S.A.I.D.

4. CHALLENGES AND CONSTRAINTS

There were a number of constraints impacting on the overall implementation of the AHSSP e.g. political instability and lack of security for travel in Afghanistan, fighting between political factions, roads, bridges and entire communities destroyed, large number of land mines, communications systems disrupted, destruction of governmental infrastructure such as health facilities and schools. However, in this section some of the constraints which negatively effected training are briefly described.

Among all constraints identified, denial of permission by U.S.A.I.D. for the Training Advisor to carry out regular follow-up field assessments of graduated trainees in Afghanistan was the single most important constraint or challenge. No doubt some of the reasons for this denial for the Training Advisor to travel in Afghanistan are related to the constraints listed above, however, field assessments and feed back of observations into training program for curriculum revision and refinement is an integral part of any training program. Without this element it is difficult to know whether training, as designed, is appropriate or not. This constraint was managed through assignment of, initially MSH Training Department Afghan staff, to work on development of assessment protocols, which in turn were passed on to Afghan counterpart staff. This was a challenge because none of the Afghan staff had experience in carrying out field assessments or designing curricula.

Another challenge was the lack of health professionals having a background or experience in training. Considerable effort and time was needed for building a cadre of competent trainers. In addition to not finding experienced trainers, knowledge of primary health care strategy and

current approaches for delivery of health care services in developing countries was practically nonexistent among Afghan counterparts.

The main counterpart organization, initially, was the Alliance Health Committee (AHC) represented by the Health Committee Chairman from each participating *tanzeem*. This was the umbrella organization upon which the training program was built. As the leadership or president of the AHC rotated between Health Committee Chairmen every four months, maintaining the focus and strategy for development of the training component was a definite challenge. A stabilizing factor was the creation of the Afghan Interim Government when one political party was allocated the health portfolio on a long term basis.

To further complicate matters, training staff were selected according to political affiliation. For example, trainers for BHWs in Jamiat camp had to belong to the Jamiat political party and so on and so forth for all participating *tanzeem* training sites. Within the IPH however, positions were equally divided between the participating *tanzeems*. These positions were not necessarily filled by the most qualified but through political patronage. The positive aspect was the evolution of an IPH with a broad political base. It should be noted that MSH declined to support staff not qualified for the position.

Selection of trainees, particularly BHWs was made according to political, family and tribal affiliations. This lead to an uneven distribution (ratio of BHWs to population) in certain provinces. Instituting controls to improve or smoothen distribution of BHWs to population was a difficult and constant challenge. Training programs implemented through Area Administrations helped to improve distribution but these organizations were also based on political affiliations.

Organizing a female training program was a challenge given the prevalent conservative attitudes and beliefs toward female education. Because of these conservative attitudes, implementation of female training program proceeded very cautiously. It was difficult to identify and recruit female professionals willing to work on a training program in Peshawar, and even more difficult to recruit female trainees in Afghanistan for the initial MCHO training in Peshawar. With regards to recruiting female trainees having an educational background adequate for the course was a major problem. First, families usually do not allow their daughters to live outside the home and secondly, primary as well as secondary education for girls in Afghanistan is practically nonexistent.

Implementation of program activities was significantly constrained during 1991. First because of the evacuation of all expatriate personnel to MSH Boston during the Gulf War (January 1991 to late April 1991) and then U.S.A.I.D. imposed a total ban on all cross-border assistance from July through December 1991. During the evacuation on-going program activities were maintained by MSH local staff who carried out their responsibilities very well indeed. However, no new activities were initiated during that period of time. The Training Advisor was back in Peshawar just over two months when U.S.A.I.D. imposed a total ban on all cross-border assistance. This ban severely restricted Training Department activities.

5. LESSONS LEARNED

The most important lesson learned was that, in spite of the ongoing war in Afghanistan and political fractionalization among the Alliance, it was possible, in cooperation with our counterparts, to build from scratch a completely Afghan managed training program. In the early days of the AHSSP, experienced trainers were not available nor did our counterparts, except in one or two cases, have a working knowledge or understanding of primary health care. This situation completed changed overtime and with the establishment of the Institute of Public Health. The lesson learned was that development work was entirely feasible and appropriate even in the existing chaotic situation. Now that United States Government has decided to withdraw support, one of the benefits remaining is a cadre of Afghan professionals experienced with planning, managing, implementing and monitoring training programs. When political stability is restored such experienced professionals will, ensha Allah, be available to reestablish the health care delivery system in Afghanistan.

Practical experience has shown the value of establishing the Institute of Public Health as a technical and managerial umbrella organization. As a result of this Project, the IPH has a well trained and experienced cadre of trainers and training program managers. Through IPH, training was standardized for implementation by decentralized training centers. Graduates who followed the prescribed standardized course could then be recognized on a national level. This was important given the wide variations of training objectives found among training programs operated by various organizations. Area Administrations requested and received from IPH technical, managerial and administrative support. IPH was the main venue (seminars and workshops) for promoting the concepts and strategy of primary health care, as well as explaining the MOPH plan of action for the reconstruction of the health care delivery system in Afghanistan.

Participant training program (Boston University Certificate courses) contributed significantly toward achieving the overall goals and objectives of the program, particularly for implementation of primary health care principles. Mid-level managers and professionals showing potential for future leadership roles in the health care system were selected. More than 90% of participants are still working in some capacity in the Afghan health care system. The lesson learned is that such participant training should be expanded in future programs.

A decentralized approach to training was evolved, as Afghanistan is composed of many ethnic groups as well as political organizations. Decentralized training avoids conflicts between divergent groups, plus trainees can be recruited in consultation with local leadership and trainers may easily follow-up on there trainees. International experience has shown that health workers trained near their work location tend to remain in that particular area. rather than migrate to urban centers. Decentralized training is a new approach for training in Afghanistan and hopefully this approach can be sustained over time for reasons mentioned above.

One of the weak links in the emerging health care delivery system implemented through the AHSSP was a technical supervisory system, particularly for BHWs as they were a new cadre of primary health care or community health workers introduced in Afghanistan. A training program for supervisors of BHWs was designed and implemented to prepare these supervisors called Rural Health Officers to not only be able to supervise BHWs, but work on community health development activities and support other preventive health workers at the village level like vaccinators, MCHOs, Volunteer Health Sisters (VHS) and local birth attendants. These RHOs became part of the provincial public health administrations' supervisory system.

The need to follow-up on trainees at their work location soon after training and on a regular basis cannot be over emphasized. As mentioned in the narrative, this was a major constraint and the Lesson Learned was that, because of this constraint, it took a much longer period of time to find out what was actually happening, and as needed, implement remedial measures.

The smoothest or most satisfactory operations occurred when local leadership and community member were fully involved, whether it be setting up a training facility, recruiting a BHW, MCHO or RHO trainees. Program implementors or field workers should always keep in mind and observe the cultural traditions in that particular locality. These important principles should not be overlooked when organizing such programs in the future.

Training programs for women can be successfully implemented as evidenced by the MCHO training. This was managed even though a high priority was placed on training and fielding male health care providers in Afghanistan by donors as well as Afghan mujahideen leaders. Essentially, however, 50% of the population and most vulnerable group, mothers and children, were left without benefit of modern medical coverage. As an acceptable and recognized female medical technician program has been established, this training should form the basis for future training of females for community or primary health care services for women and children. The experienced gained should not be lost, because United States Government has withdrawn assistance, at this critical juncture. In fact, a significant portion of BHW training and field responsibility was for MCH and experience has shown (interviews and field assessments) that male workers can indeed provide a certain level of primary health care for mothers and children.

Training of traditional births attendants in simple subjects e.g. hand washing, prevention of dehydration through use of ORS, and distribution of cord cutting kits was introduced through BHWs. It was found, through interviews, that well over 80% of active BHWs could carry out this activity in their home village.

One of the strengths of the training program was the inclusion of Afghan professional as well as non professional staff from all political factions with whom the AHSSP was involved. It is recommended that future programs keep this point in view when setting up activities. Similarly, program managers should be careful to see that an equitable coverage is provided through the districts and provinces of Afghanistan to avoid imbalances in services provided.

Maximum efforts were made to implement training, particularly practical training within existing health facilities under the jurisdiction of the MOPH or RHAs. This approach enable the Training Department to minimize unit cost per trainee.

Experience has shown that training materials must be in the local language i.e. Dari or Pushto. It was found that trainees both mid-level and BHWs generally could not comprehend materials in a second language e.g. Dari for non Dari speakers.

It was found that BHWs who had only ability to read and write and less than a sixth class educational level were unable to keep up with the class and assessments found they were weak in performance. Such BHWs were accepted from areas which traditionally were undeserved and trainees with a stronger educational level could not be identified. The dilemma was whether to try to provide some coverage for that area or not, the never ending cycle of so called backward areas. In future programs it is recommended that two types of community health worker training be implemented, one for those who have the requisite educational background and, one for the non-literate community health worker.

Initially BHW Continuing Education Program was held on a collective basis as BHWs reported to Peshawar for resupply. This proved to be difficult to manage as BHWs came into Peshawar at varying times, depending on resupply schedule and travel conditions in Afghanistan. Then the course was redesigned so that a BHW could enter on any day of a 12 day refresher course, as each day was a complete and independent lesson. However, with establishing training centers in Afghanistan and improved security conditions, plus reduction of primary BHW training, staff were available to carry the CEP in the field. As the field is the natural setting where BHWs work and face various problems, training in the field is far superior to classroom, where trainers try to artificially recreate field conditions e.g. role plays, videos, slide presentations. All the conditions and pathology, and human interactions are there in the field.

Given the fact that United States Government assistance has been discontinued, in retrospect, it would have been much better if BHW privatization or indigenization had started at a much earlier stage in the Project.

The establishment of a Board of Medical Certification was very useful for categorizing health workers according to skill/knowledge level. This was particularly important given the wide variations in training objectives for health workers who often had the same title like nurse or medical technician.

Health planners and administrators working in Afghanistan were essentially following archaic management procedures and had little knowledge of modern day concepts for planning and managing the delivery of health care services. In view of this factor, management training in future programs should be strengthened and expanded.

III. HEALTH SERVICES PLANNING AND DEVELOPMENT

Yusuf I. Ghaznavi, Senior Program Specialist

Based on the work and reports of Jonathan D. Quick, M.D.,
and John Eaton, former Health Services Development advisors

1. INTRODUCTION

Even under normal circumstances, rational planning for delivery of health services for Afghanistan, which has a traditional social system, difficult terrain, limited resources and one of the worst health conditions in the world, would be a challenge. Afghan health prospects never good were made worse by the war. By the mid 1980s, Afghanistan had topped the international listings of highest morbidity and mortality rates in the world with only 700 children out of 1000 born surviving to age five[1]. By the late 1980s the health delivery system had only improved marginally. The internationally recognized pre-war national malaria control program had all but vanished during the war. The immunization coverage was one of the lowest in the world. Tens of thousands of war injured and maimed Afghans needed prostheses and rehabilitation services.

The original goal and purpose of the Afghanistan Health Sector Support Project (AHSSP) initiated in October 1986 was to expand and strengthen health services inside Afghanistan and to strengthen the capability of Afghan health committees to plan, operate and monitor expanded health services. The objective was to provide emergency medical care as quickly as possible. The first major Project evaluation conducted in July and August 1988 concluded that the AHSSP was on target in achieving most of its targets and that health services inside Afghanistan had substantially expanded addressing a significant portion of the major disease and emergency care needs[2]. In February 1989 the U.S.A.I.D. Cooperative Agreement was amended increasing the funding authorization and the life of the Project.

By the late 1980s, to address Afghan health care problems, considerable resources were invested by the PVOs, U.S.A.I.D. funded projects and U.N. agencies to train health workers and establish facilities and services inside rural Afghanistan. Comparing 1985 estimated health data with 1990 WHO / Peshawar health resources database, it would appear that these inputs had resulted in substantial increases in health services inside Afghanistan. For example the number of hospitals increased from none in 1985 to over two dozen in 1990; health centers increased from 50 to over 500. The increase in personnel was even more striking: the estimated number of doctors working increasing from 84 to over 250; along with several thousand first aiders, Basic Health Workers (BHW) and mid-level health workers. The AHSSP alone trained over

2000 BHWs during the life of the Project. In all, over 5,000 health workers were estimated to be providing health services in rural Afghanistan in the early 1990s[3]. In fact it was often claimed that rural Afghanistan in early 1990s was better staffed and better supplied than pre-war years. This growth in the number of health facilities and availability of supplies, however, failed to resolve several health services development issues. First, this growth in the establishment of new facilities, strongly influenced by personal and party politics, resulted in disparity in the availability of health services in different regions. Influential areas tended to be overserved while other areas had no health services. Second, most facilities operated in temporary locations. Third, training of health personnel was mostly done in Pakistan based training facilities without any coordinated planning; while initial training was primarily focussed on war related health issues, subsequent experience indicated the need for more primary health care training. Fourth, there was no effective local supervision structures and no uniform, commonly recognized certification of health personnel. Significantly it was estimated that 75 to 90 percent of health services in rural Afghanistan were directly or indirectly funded by foreign donors, who may not be interested in continuing their support once the war was over. A war ravaged Afghanistan, at best, has a limited near-term prospect for a public revenue base.

By the late 1980s the number of players with a stake in Afghan health had greatly increased in Peshawar. These included the expanded PVO community, the bilateral donors such as the U.S.A.I.D. and the Swedish and German committees, the U.N. organizations, the Afghan party leaders and health professionals and the Afghan Interim Government (AIG) functionaries. Each with its own point of view, some collecting health data according to its own requirement, with their own definitions of what was important as well as different reporting requirements and sponsor interests. There was virtually no effective coordination among the agencies. At the same time it was becoming increasingly clear that inside Afghanistan effective political and operational leadership was focused in local mujahideen commanders who controlled a region. Any local action, including health decisions, required their prior knowledge and approval. The necessity of dealing with the reality of regional controls by the military commanders in the field was clear. The need for area based health planning was also clear. What was not clear was the process for developing health plans. No planning framework existed and the information needed for it was fragmented, incomplete, or nonexistent.

2. OBJECTIVES

With the 1989 amendments, the AHSS Project purpose and goal were modified emphasizing civilian care focusing on delivery of primary health care (PHC) services particularly maternal and child (MCH) health services, including an expanded program for immunization (EPI), and encouraging development of health services in organized areas. A major objective of the Project, therefore, was to create a planning framework for an affordable health delivery system with an ability to achieve the maximum possible impact on health status with a given level of resources. A system which can be maintained and supported by the Afghan counterparts in the

future as donor support is reduced or even completely phased out. Within this broad goal the specific objectives were:

i. Data gathering and verification of data on demographic issues, epidemiology of diseases, current consumption patterns for services, inventory of existing health facilities and health personnel.

ii. Involving Afghan health decision makers, the donors, and the PVO community, in the collaborative health planning process; to sensitize and inform them through discussions about the long term recurrent cost issues and their implications for health planning.

iii. Developing a computer-based spreadsheet model incorporating planning and cost data which will serve as a framework for Afghan decision makers regarding resource allocations for health, with the capability to project alternatives for a given resource base.

3. ACCOMPLISHMENTS AND OUTPUTS

Accepting the political realities of health care organization inside Afghanistan, the AHSS Project operated through two major channels: the Regional (or Area) Health Administrations (RHAs) and the Ministry of Public Health (MOPH --- formerly the Alliance Health Committee). In February 1989, in an attempt to create a basis for planning sustainable health services, the AHSSP formed a working group composed of the MSH team in Peshawar and their colleagues in the home office in Boston. The group included people with skills and experience in public health, health planning, health personnel planning, health financing, system analysis, training and organizational development. The working group outlined a planning process which involved participation of Afghan regional health officials, AIG health leaders, donors, and key PVOs.

Between March and May 1989, available historical, current, and comparative data on estimates of disease-specific morbidity and mortality rates, numbers and types of health facilities and health personnel working in rural Afghanistan, recurrent operating costs by type of expenditure and impact of various health interventions on morbidity and mortality were gathered and organized into an evolving computer assisted planning model called the "SUSPLAN". In June 1989, separate strategic planning discussions were held with representatives of the RHAs and the AIG. Discussions with each counterpart consisted of a three part series of half-day meetings. In the first meeting, Afghan health officials noted the overall planning issues and the decisions facing them. Estimates of rates for major causes of morbidity and mortality were reviewed; possible health care interventions for prevention and treatment of leading health problems were identified; and alternative delivery mechanisms (community, clinic, hospital, etc.) were considered. The second meeting reviewed the short and medium term funding prospects, agreed upon the health system goals and principles and identified the strategic alternatives. In the final meeting the results of the earlier sessions were incorporated into the SUSPLAN model and presented for further discussion.

Discussions were also held with the large PVO community in Peshawar and the leading donors to get their input on the planning environment and constraints and opportunities for development of health services in Afghanistan.

In separate sessions, both the RHAs and the AIG agreed to the following eight principles to guide future Afghan health services development.

A. The ongoing costs of the future health system should be at a level that Afghanistan can sustain, given the funds that are likely to be available.

B. Existing facilities and resources should be utilized and / or renovated where possible, not replaced with new facilities.

C. Health problems which cause the greatest morbidity, disability, and mortality should be emphasized.

D. In general, priority should be given to preventive health care.

E. Plans need to be specific to each province, based on the prevailing disease patterns and population distribution.

F. Resources should be allocated on the basis of population and the cost of health interventions needed in each province.

G. Health service delivery mechanisms should be based on local conditions and values.

H. Health care approaches must reflect the educational level of specific area. This applies to recruitment and training of health workers as well as to planning for public health education activities.

The series of meetings with RHAs and the AIG also produced a problem oriented framework for planning health service interventions which was quite consistent with the approaches taken by progressive Afghan health groups, by some of the PVOs and by the AHSSP (Table III - 1).

This Table categorized major health services in column one, the AHSSP working group assembled morbidity and mortality estimates vetted by the first hand experience of Afghan health staff in columns two and three. These estimates were used to help put war related conditions into perspective and to help in setting priorities. Potential health service interventions, both curative and preventive, were listed against each major health problem in column four. Finally, potential health care delivery mechanisms were considered for each category of health problems and categorized as vertical, community, outpatient clinical, hospital based and / or public education programs. The relative appropriateness of each mechanism was then rated during the planning discussions.

Table III - 1

Health Problem Priorities and Health Services Interventions

Health Problems	Cases per 1000 Population per Year*	Percent of Deaths**	Health Services Interventions (Prevention & Treatment)
Maternal & Child Health Services			
Maternal care (pre-& postnatal)	45 pregnancies	9	1) Risk assessment & high risk referral 2) Folate, iron 3) Tetanus toxoid 4) HE: diet, danger signs
Deliveries (intrapartum)	45 deliveries	6	1) Risk assessment & high risk referral 2) Good delivery practice
Child spacing	200 fertile couples		1) HE: benefits of child spacing 2) Spacing methods: modern, traditional
Immunization/ well child	45 infants & children		1) Immunization[a] 2) Growth Monitoring
Malnutrition	20 cases	2	1) HE: diet 2) Supplemental foods 3) Vitamins & minerals - specific deficiencies
Disability Services			
Prostheses, reconstruction	20 cases		1) Assessment of need 2) Reconstructive surgery 3) Prosthesis design & construction
Rehabilitation	40 cases		1) Physical therapy 2) Occupational & vocational therapy
General Health Services			
Diarrhea / dysentery	600 episodes	17	1) HE: water, food practices, sanitation, breast feeding, available home fluids 2) ORS 3) Selective antimicrobials
Malaria (*see* prevention below)	100 episodes	10	1) Presumptive chemotherapy 2) Surveillance
Acute respiratory	1100 episodes	22	1) HE: signs of severe infection 2) Diagnosis, treatment referral as needed 3) Antibiotics for moderate and severe infections
Trachoma	75 episodes		1) Diagnosis 2) early, complete antibiotic treatment
Tuberculosis (BCG	50 new cases		1) Microscopic diagnosis 2) Early isolation & chemotherapy 3) TB register
Other infectious diseases[b]	250 episodes		1) Diagnosis & drug treatment 2) HE: prevention where possible

Health Problems	Cases per 1000 Population per Year*	Percent of Deaths**	Health Services Interventions (Prevention & Treatment)
Locally prevalent disease[c]	75 episodes	1	1) Diagnosis & drug treatment
Other acute complaints[d]	150 episodes		1) Diagnosis & treatment
Malignancy, hypertension COPD	20 episodes	4	1) Diagnosis & treatment 2) Supportive care
Gynecological problems	100 episodes	1	1) Female clinics for proper evaluation 2) Medical therapy 3) Surgical therapy
War wounds	20 cases	2	1) First aid 2) Assessment & referral 3) Definitive medical & surgical care
Accidents/trauma[e]	200 cases	4	1) First aid 2) Assessment & referral 3) Definitive medical & surgical care
Operative cases	20 cases	2	1) Surgical assessment & surgery
Dental problems	300 cases		1) Assessment & referral 2) Drug treatment as appropriate 3) Extraction 4) Dental procedures
Malaria prevention (for passive detection & treatment *see* above)			1) HE: bed nets for children 2) Active case detection and treatment 3) Vector control: spraying
Water & sanitation			1) HE: hygiene, water, defecation & treatment 2) Provision of wells 3) Latrines (esp. urban population)

HE = Health Education

* estimated from MSH & PVO Greenbook data; comparative data from Asia region

** MSH estimates

[a] Vaccines used: DPT, OPV, measles, BCG

[b] Conjunctivitis, skin disease, urinary tract infection, typhoid, worms

[c] Leishmaniasis, leprosy, goiter, brucellosis, trachoma

[d] Headache, psychological problems, aches, pains, arthritis

[e] Falls, fires,farm work, horses

Population, Morbidity and Health Care Utilization: Data on population distribution, morbidity patterns, and local health care utilization are fundamental to any health planning effort. Afghanistan which never had a complete, reliable census, lacked this vital information. Population and morbidity data estimates varied substantially and were always in dispute. Dr. T. H. Eighmy of U.S.A.I.D. using his previous census related work in Afghanistan, prewar population estimates, UNHCR data on refugees, and allowing for adjustments for war death and internal displacements, produced a district by district estimate of Afghan population which became accepted as the best operational estimates for planning purposes[4].

Similarly by mid-1980s, a standardized patient visit register, the "Greenbook" initiated by the Swedish Committee for Afghanistan (SCA), had been accepted by virtually all of the major Peshawar-based health assistance donors. The Coordination of Medical Committees (CMC) with assistance from AHSSP, coordinated the analysis of data gathered by health workers trained and/or supported by the SCA, MCI, IMC and MTA. The AHSSP routinely entered and analyzed data from the BHWs[5]. A CMC analysis of 10 percent sample of 300, 000 patient visits (1989 - 1991) along with AHSSP data confirmed the growing realization among the health assistance community that even in areas of active fighting war related injuries generally formed less than 10% of the demand on health services. The vast majority of patient contacts recorded through patients registers were for acute respiratory infections, diarrheal diseases, other infectious diseases, other gastrointestinal complaints and nonspecific symptoms[6]. Although the patient register data did not provide community based morbidity profiles, they provided the most comprehensive morbidity data for the first SUSPLAN estimates of health needs. At the same time the need for community based surveys of morbidity patterns as well as health care utilization patterns was clearly recognized.

A review of the past community surveys indicated that only two surveys were conducted in the 1970s, one of which was a joint Afghan Ministry of Public Health and MSH survey of 486 households to determine the health care utilization of households, and none in the 1980s. Building on the survey experience of the 1970s, the AHSSP initiated a program of cross- border household surveys in three culturally diverse provinces- Ghor, Takhar and Wardak- to interview 900 households in 27 villages. Surveys which began in 1990 were completed in 1993 and clearly demonstrated the feasibility of cross-border surveys using well trained Afghan health professionals as field supervisors and local BHWs as interviewers. The surveys also confirmed that acute respiratory infections, diarrheal diseases, other acute infections, and suspected malaria were the main causes of acute morbidity rather than war related injuries.[7]

Although both the ACBAR and WHO maintained databases on health resources in Afghanistan, their usefulness for health services planning and development were limited by differing terminology, inconsistent location information and questions of validity. In early 1990, as a collaborative effort to consolidate health resources information, WHO and AHSSP developed plans and data collection instruments for comprehensive provincial health resources surveys. In a series of separate coordinated activities several U.N. agencies, the RHAs, the MOPH, CMC members and ACBAR health committee members were variously involved in designing and field testing the survey instruments. The survey focused on health facility and health worker

information. The main objectives were to locate health facilities accurately and classify them according to the definitions in Table III - 2; to determine the numbers, types, and source of training for health workers; and to gather additional information necessary to prepare reconstruction plans. To enhance the credibility of survey results, whenever possible, surveys were conducted jointly with the RHAs and AIG provincial health officers, or organizations such as the CMC. The AHSSP Monitoring Unit provided experienced monitors who had a proven record of reliability to lead the teams (for fuller details of the Household Survey and the health resources surveys and their results *see* Section VIII. Mangement Information Systems).

Quantifying Health Needs, Finding Common Definitions: Planning for future health service requirements must begin with a knowledge of what exists today. During most of 1980s the data on health facilities and workers active inside Afghanistan were scattered and unreliable. Moreover, major humanitarian assistance organizations had their own terminologies for facilities established and health workers trained. PHC hospitals, for example, were variously called "field hospitals", "small hospitals" and "district hospitals". A "mid-level" health worker, could be any non-physician health provider with a length of training period ranging anywhere from six months to 24 months.

Working informally, the AHHSP was able to achieve agreement on the basic categories of health facilities shown in Table III - 2. Standardizing definitions for health workers, however, proved much more difficult because of differing curricula and length of training and the great diversity in training programs. To develop a competency based testing and certification process, the RHAs and the AIG (MOPH) with the encouragement of the AHSSP established small certification committees to review each applicant's education and experience and then classify the applicant on training equivalency basis (e.g. "mid-level worker, 12 months"). Although not very satisfactory from the perspective of standards of practice and competency, the initial classification of health workers, particularly the mid-level health workers, by length of training provided a practical basis for a beginning to quantify health personnel resources in Afghanistan.

SUSPLAN Design: The basic planning principles, health problem priorities, and potential health service interventions formed the basis for the conceptual model and its translation into a spreadsheet-based computer model. The computer model was designed to help Afghan health planners i) systematically organize the various data required for long term planning, ii) relate health needs, health services, costs, and impact, and iii) compare and choose strategies.

Information requirements and output reports for SUSPLAN are summarized in Figure III-1. Actual data was used wherever available. Where data were unavailable informal estimates were based on historical data, comparative international data, and local experience. The basic information required by SUSPLAN includes:

* community morbidity pattern (frequency of common illnesses and conditions such as pregnancy and disability);
* likely sources of care (no care, traditional, private, public services);
* location of public care (community, health center, hospital, etc.);

Table III - 2

Classification of Health Facilities *

	DESCRIPTION OF FACILITY	Regional Hospital	Provincial Hospital	Primary Care Hospital	Comprehensive Health Center	Basic Health Center/MCH Health Center	Basic Health Post/MCH Health Post
	TYPE (" CODE ")	H-1	H-2	H-3	C-1	C-2/M-1	C-3/M-2
	EXPECTED COVERAGE	3-8 Provinces	1-2 Provinces	1-4 Districts	30-80,000 Population	10-40,000 Population	1,000-5,000 Population
	HEALTH PERSONNEL						
**	- M.D. Doctors	4-6	3+	1-3	1	—	—
**	- Surgeons	2-4	1+	Maybe	—	—	—
**	- Advanced Mid-level HW	Yes	Yes	Yes	Yes	1+	—
**	- Mid-Level Health Workers	Yes	Yes	Yes	Yes	1+	1
	- Nursing Staff	Yes	Yes	Yes	Yes	Maybe	1
**	- Basic Health Workers	—	—	Maybe	Maybe	Maybe	1
	TOTAL PROVIDER STAFF	16-24	12-16	8-12	4-8	2-4	1-2
	SUPPORT SERVICE (Lab,Pharm,Xray)	4-6	3-4	2-3	1-2	—	—
	HEALTH SERVICES						
**	- Operating Theater	Specialized	Major	Minor	—	—	—
**	- Laboratory	Referral	Supervisory	Field	Field	—	—
**	- X-Ray	Referral	Yes	Yes	—	—	—
**	- In-Patient Beds	50-100	20-50	10-20	3-5	—	—
**	- Immunization Capacity	Freeze point	Freeze point	Cold Boxes	Cold Boxes	Vaccinators	Vaccinators

* Composite of WHO, SWABAC, GAC, MOPH/AIG, MSH and historical government of Afghnistan definitions.

** Key factors in classifying individual health facilities.

* population distribution by locations;
* health worker types, productivity, salaries, other costs;
* health facility types, staffing patterns, operating costs; and
* target for per capita public health expenditures.

From this information, five outputs are produced: i) total health personnel needs by area and type of health workers, ii) total health facility needs by area and type of facility, iii) total recurrent costs, iv) coverage rates, and v) projected impact.

SUSPLAN allows for recurrent costs to be covered by combinations of financing sources, recognizing that preventive services such as MCH are more likely to attract donor funding, while curative health services may be covered through user fees. The relationships among utilization patterns, availability of health personnel, and access to health facilities determine coverage. In turn, the relationships among coverage, efficacy of specific health interventions, and current morbidity and mortality rates determine the projected impact on morbidity and mortality. SUSPLAN is structured to include a set of seven key summary reports and seven background tables. The summary reports are: i) Total Cases per Year and Source of Care, ii) Location of Government Provided Care, iii) Facility Plan by Population Center, iv) Health Worker and Health Facilities Requirements, v) Expenses and Revenue by Health Problem, vi) Health Service Coverage, and vii) Projected Impact.

The background tables contain information on, and allow adjustments of, such factors as types of health workers used to provide various types of health services, health worker productivity and cost, facility staffing patterns, drugs and medical supply costs, and population centers[8].

Using SUSPLAN for Health Planning: The first step in using the conceptual computer model for area health planning is to produce reports for a full service approach, that is, generate SUSPLAN outputs on health staff requirements, health facility requirements, coverage and impact for major health problems in the absence of financial constraints. The staffing, facility, and operating costs of this approach can then be compared with existing staffing and facilities available regional or national funds. Since the full service approach is invariably unaffordable, it can be scaled down and costs reduced to a likely level of available funds. For example, facilities can be reduced or downgraded; staffing patterns altered to relay more on lower levels of staff; salaries adjusted; and assumptions about productivity changed. The impact of these changes on coverage and projected mortality reductions can then be estimated.

Applying this exercise to the Supervisory Council of the North Area (SCNA), the full service option resulted in an annual total cost of US $3.10 per capita. To test the impact of alternative lower cost strategies, two alternatives were generated to achieve a target annual cost of US $2.00 per capita. In one approach, the PHC option, community based care (community health workers and smaller clinics) were emphasized, while hospitals were reduced to meet the budget constraints. In the second approach, preference was given to hospital services and clinic based care, while community services were reduced to meet the budget constraints. For comparisons

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Figure III - 1

Area Planning for Sustainable Health Services (SUSPLAN)

Outputs (Reports)	Information Input Requirements
Health Needs (Report 1)	▸ Morbidity, sources of care, Population
↓	
Health Care Programs (Report 2)	▸ Location & organization of government care
↓	
Health Facility Needs (Report 3)	▸ Population distribution, types of facilities
↓	
Health Personnel Needs (Rport 4)	▸ Types & productivity of providers
↓	
Total Recurrent Costs (Report 5)	▸ Salaries, operating costs, drug costs
Coverage (Report 6)	
51Mortality Impact (Report 7)	▸ Based on interventions, coverage, efficacy

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of the SUSPLAN outputs for these three alternatives see the following figures (Figures III - 2 to III - 5).

The full service option has the largest number of health staff. The PHC alternative has more than twice as many community based workers as the hospital care alternative. The hospital care option has more doctors compared with the PHC option. Total number of facilities is greater in the full service option (Figure III-3); the PHC option has seven fewer hospitals and 10 fewer clinics compared with the hospital care option, but has 73 additional health posts. The results of these differences are reflected in the coverage (Figure III-4) and impact (Figure III-5) figures with the hospital care option providing substantially less immunization cover - 30 percent against 75 percent for PHC option - and maternal care 10 percent against 30 percent for the PHC option. Although the PHC option is based on less than two-thirds of the full service budget, the immunization and maternal care coverage is not reduced by as great a proportion. The projected impact on mortality is shown in Figure III-5. Following the structure of the SUSPLAN model, the percent improvement over current rates for infant mortality, child mortality, maternal mortality, and crude death rate is closely related to the coverage. Again, for the same per capita allocation, the PHC option achieves a far greater impact than the hospital care option.

Two factors which have a major impact on the effectiveness, cost and sustainability of any health system are i) the numbers, types, and locations of health personnel and ii) the numbers, types, and locations of health facilities. For this reason the health management workshops held with the counterparts emphasized personnel and facilities planning. SUSPLAN provided the Afghan decision makers with one definition of health personnel and health facility "needs". To test the reality of these figures comparative international data from three countries and local data from five Afghan provinces were compiled and compared with the SUSPLAN PHC option ratios for health personnel (Table III - 3) and health facilities (Table III - 4).

The provinces of Bamyan, Ghazni, Herat, Takhar and Wardak were selected for comparison because of their cultural and geographical diversity and the availability and perceived reliability of their data. For Wardak and Takhar data were drawn from the provincial health resources surveys. WHO database was used for the remaining three provinces. For international comparisons Iran, Nepal and Indonesia were selected for specific reasons: Iran because it is a conservative Muslim society with some of Afghanistan's ethnic and geographic features; Nepal because it has a similar population size and difficult mountainous terrain; and Indonesia because it is a large Muslim country with a relatively well developed primary health care system.

Figure III - 2

Number of Health Care Providers Needed
Takhar Province - 3 Alternatives

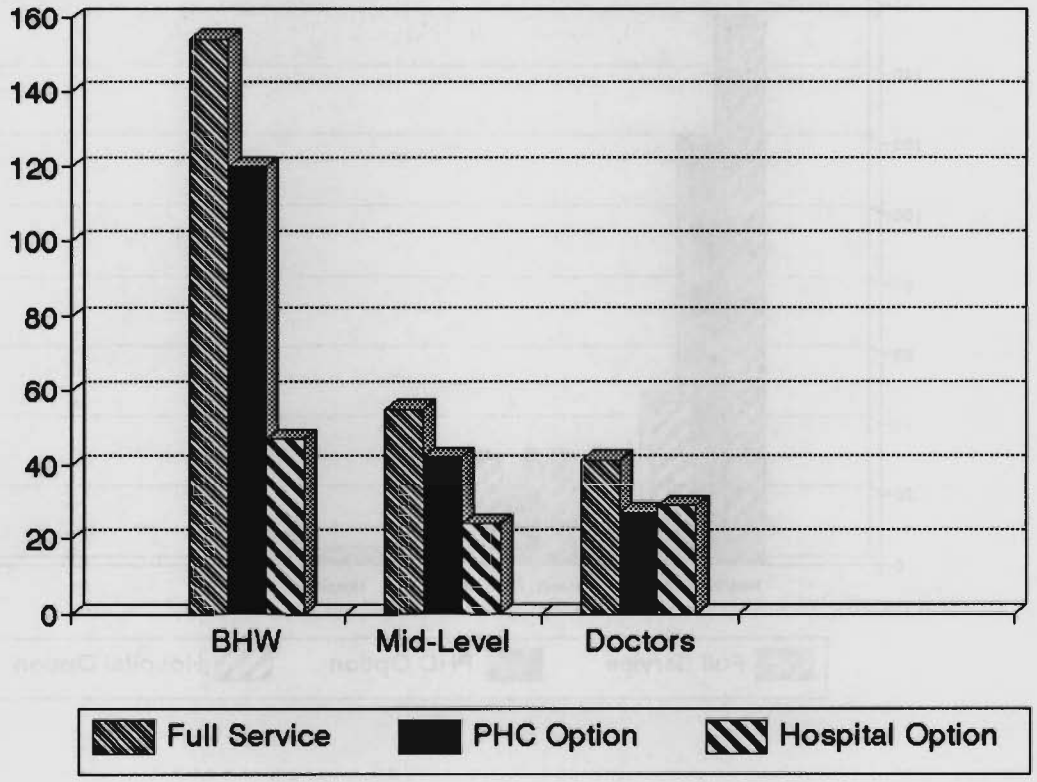


Figure III - 3

Number of Health Care Facilities Needed
Takhar Province - 3 Alternatives

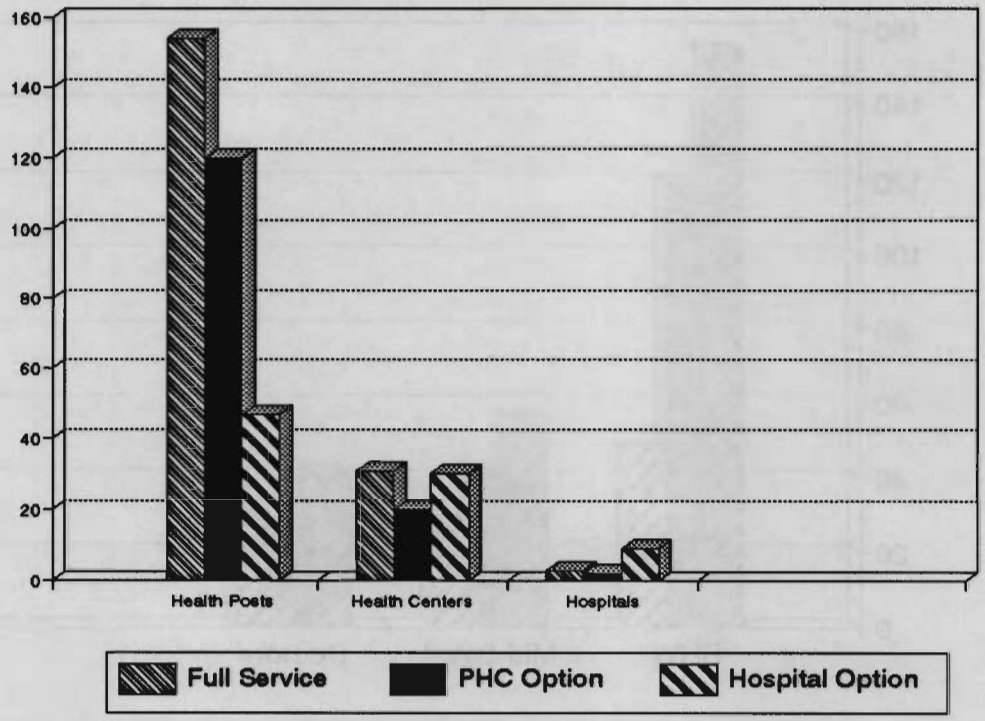


Figure III - 4

Projected Coverage
Takhar Province - 3 Alternatives

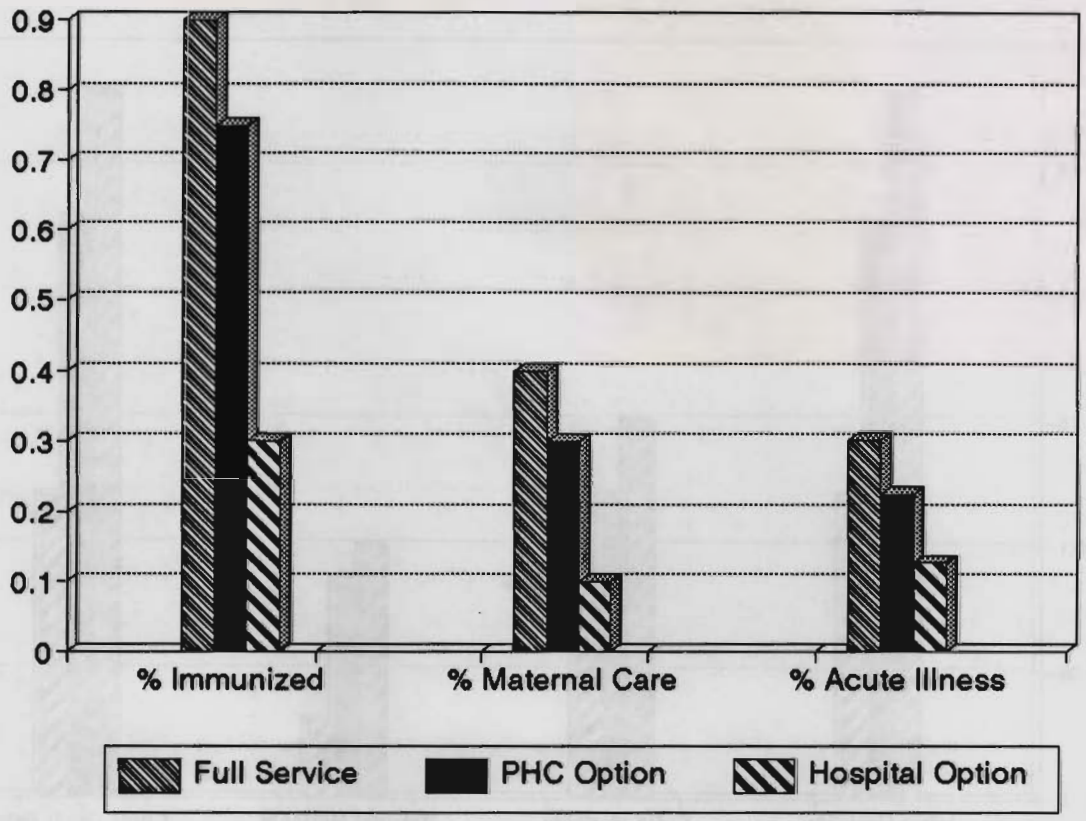
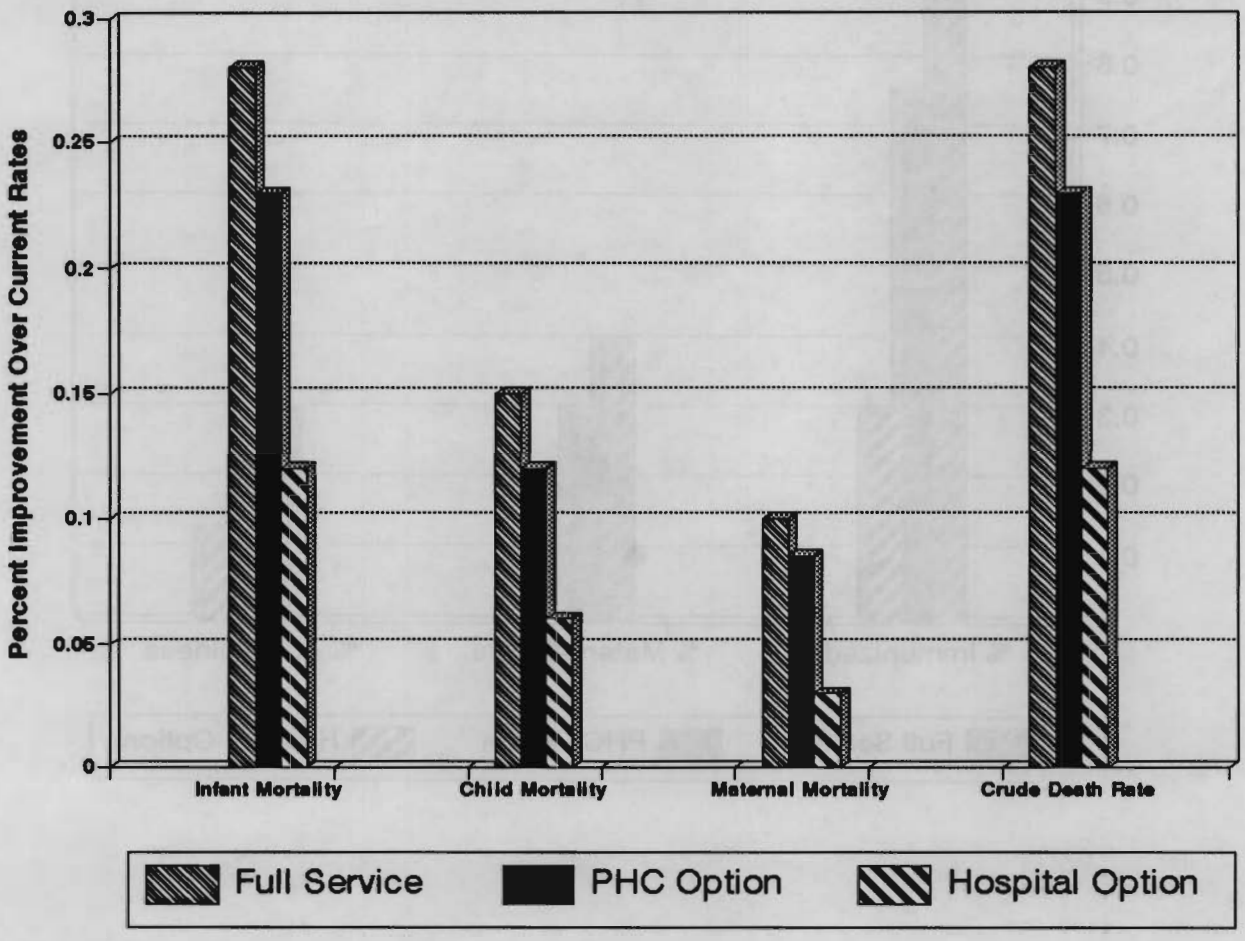


Figure III - 5

Projected Impact on Mortality
Takhar Province – 3 Alternatives



For health personnel planning, comparisons of the population per staff member (Table III - 3) showed a fivefold difference in doctor per 1,000 population between the best served Wardak and underserved Bamyan provinces. This variation narrows between the provinces for the mid-level health workers and BHWs. Seen against the SUSPLAN targets, Wardak was generously staffed while Ghazni was adequately staffed. The remaining three provinces were adequately staffed at the mid-level worker level but showed deficiencies in the M.D. and BHW categories. These comparisons were generally confirmed by the senior Afghan health professionals familiar with health care services in Afghanistan and added validity to the SUSPLAN results.

Comparisons among the three countries chosen also showed considerable variations in the population to health staff. The SUSPLAN PHC option staffing requirements, in general, were more conservative requiring less staff for the three major categories of M.D., mid-level and BHW health services providers.

Comparison of existing health facilities in each against SUSPLAN targets showed a small variation compared with the target staff requirements. With one exception, the number of hospitals in each province was quite close to the SUSPLAN requirements. The exception was Ghazni Province, in which the Kabul regime controlled hospitals were not included although the people who probably received services from these hospital were included resulting in a high population to hospital ratio. For health centers, four of the five provinces surpassed the SUSPLAN target of one health center for every 30,000 people and the fifth province Bamyan was close to the target with a ratio of one health center for every 37,690 people. Again, Wardak and Ghazni were found to be best-served provinces. For basic health posts, where SUSPLAN target was one post for every 5,000 people, Wardak and Ghazni had already met the target while the remaining three provinces needed additional posts.

In common with the health personnel figures, the provincial comparisons with SUSPLAN targets showed relative oversupply and undersupply of services consistent with the subjective impressions of those familiar with the individual provinces involved. In international comparison the SUSPLAN PHC option targets called for fewer hospitals, roughly the same number of health centers and more health posts. For both health facilities and health personnel the international comparisons are crude, because of the differences in terminology, completeness of the comparative data, geography, and population distribution. Nevertheless, they introduced an element of objectivity into the planning process and were useful in tempering the Afghan counterparts over optimistic (i.e. unaffordable) projections of staffing and facility requirements.

The provincial and international data comparisons with SUSPLAN indicated to the health planners that:

Table III - 3

Health Personnel Planning: Comparison of SUSPLAN and Selected Afghan Provincial and International Ratios

	SUSPLAN[a]	Herat[b]	Wardak[c]		Bamyan[b]		Ghazni[b]	Takhar[c]	Iran[d]	Nepal[e]	Indonesia[f]
Number of Health Personnel											
Doctors (medical & surgical)	27	12	30	4	36	10	15000	879		17647	
Mid-level health workers	42	47	145	36	103	44	NA	1773		35679	
Nurses, nurse aides	*	14	45	10	43	19	23000	601		44113	
Midwives, assistant midwives	*						1700	2062		NA	
Community health workers (BHW, CHW)	120	35	127	33	102	62	33000*	6808		NA	
Village volunteers (first aiders)	NA	8	124	12	43	15	NA	1773		35679	
Pharmacist/pharmacy tecnicians	NA	0	4	0	4	3	4700			NA	
Lab technicians (incl. malaria)	NA	2	5	2	6	5	NA	289		NA	
Population (000's)	580	383	372	302	701	539	47000	18000		165000	
Population (000's) per staff member											
Doctors (medical & surgical)	21.50	31.89	12.41	75.38	19.47	53.93	2.73	20.48		9.35	
Mid-level health workers	13.82	8.14	2.57	8.38	6.80	12.26	NA	10.15		4.62	
Nurses, nurses aides	*	27.33	8.27	30.15	16.30	28.38	1.78	29.95		3.74	
Midwives, assistant midwives	*						24.12	8.73		NA	
Community health workers (BHW,CHW)	4.84	10.93	2.93	9.14	6.87	8.70	1.24*	2.64		NA	
Village volunteers (first aiders)	NA	47.84	3.00	25.13	16.30	35.95	NA	3.94		NA	
Pharmacist/pharmacy technicians	NA	-	93.05	_	175.20	179.77	8.72	NA		NA	

[a] PHC strategy outputs for SUSPLAN model. [b] WHO and MSH health personnel databases, July 1990. [c] Joint SCNA-MSH Health Resources Survey, 1990
[d] Reviewing Health Manpower Development, 1987. WHO Public Health Papers No.83, Geneva. [e] 1988 data from Country Health Profile, Nepal, June 1988. Policy Planning, Monitoring and Supervision Division, Kathmandu. [f] *Statistical Yearbook of Indonesia*, Jakarta: Biro Pusta Statistic, 1986

Table III - 4

Health Facility Planning: Comparison of SUSPLAN and Selected Afghan Provincial and International Ratios

	SUSPLAN[a]	Herat[b]	Wardak[c]	Bamyan[b]	Ghazni[b]	Takhar[c]	Iran[d]	Nepal[e]	Indonesia[f]
Number of Health Facilities									
Hospitals -all	2							96	1367
Area (provincial) hospitals	0	0	0	0	0	24			
PHC (district)	2	1	2	1	1	3			
Health Center -all	20 16	34	8	40	19	3710			
Comprehensive (district) health centers	6	3	7	0	9	9	160		
Basic (rural) health centers	14	13	27	8	31	10	2000		
Urban health centers							1550		
Family planning clinics								258	7509
Health posts	120	45	75	42	123	57	5600	816	15134
Hospital beds	20	NA	NA	NA	NA	NA	NA	4153	110426
Population (000's)	580	383	372	302	701	539	47000	18000	165000
Population (000's) per facility									
Hospitals-all	290.23	NA	NA	NA	NA	NA	NA	187.50	120.70
Area (provincial) hospital	—	NA	NA	NA	NA	NA	1958.33		
PHC (district) hospitals	290.23	382.69	186.10	301.53	700.79	179.77	NA		
Health centers - all	29.02	23.92	10.95	37.69	17.52	28.38	12.67	1000.00	30.26
Comprehensive (district) health center	96.74	127.56	53.17	NA	77.87	59.92	293.75		
Basic (rural) health centers	41.46	29.44	13.79	37.69	22.61	53.93	23.50		
Urban health centers	NA	NA	NA	NA	NA	NA	NA	30.32	
Family planning clinics	NA	NA	NA	NA	NA	NA	NA	69.77	21.97
Health posts	4.84	8.50	4.96	7.18	5.70	9.56	8.39	22.06	10.90
Hospital beds per 1000 population	0.03	NA	NA	NA	NA	NA	NA	0.23	0.67

[a] PHC strategy outputs for SUSPLAN model. [b] WHO and MSH health personnel databases, July 1990. [c] Joint SCNA-MSH Health Resources Survey, 1990
[d] Reviewing Health Manpower Development, 1987. WHO Public Health Papers No.83, Geneva. [e] 1988 data from Country Health Profile, Nepal, June 1988. Policy Planning, Monitoring and Supervision Division, Kathmandu. [f] *Statistical Yearbook of Indonesia*, Jakarta: Biro Pusta Statistic, 1986

* The BHW and health post ratio of one post for every 5,000 population derived from Project experience and supported by the SUSPLAN PHC option, was an affordable, defensible minimum target. Given the high population to BHW ratios in many districts, it implied continued training of BHWs in under-served area and efforts to relocate or reassign BHWs in well-served areas.

* The total number of mid-level health workers was close to the estimated needs, but considerable effort would be needed to assure their deployment to areas of need and to develop refresher training programs to foster more consistent skill levels among mid-level workers with widely varying educational backgrounds and work experience.

* The number of doctors was inadequate in many areas, but the longer and costly training period required made the training of doctors a low priority for AHSSP and most other donors.

* The health center ratio of one center for every 30,000 population, again derived from Project experience and confirmed by the SUSPLAN PHC option, was an affordable and defensible minimum target for all districts. As with mid-level staff, the total number of health centers was close to SUSPLAN target, but their distribution and level of service varied widely; some districts over-served while other districts were underserved.

* The number of hospitals was also close to an affordable target number of hospitals in most areas, but as with health centers, considerable attention needed to be paid to location, operational conditions, staffing, and supply of these hospitals.

Limitations of the SUSPLAN Framework: Useful as SUSPLAN was in health planning workshops for senior Afghan counterparts, where it was well received, SUSPLAN also has its limitations. These include limitations in the completeness and accuracy of input data and assumptions about morbidity patterns, sources of care, population distribution, staffing patterns, operating costs and other parameters. Since SUSPLAN was intended to guide the planning of health sector inputs it considers only health interventions ignoring the often substantial impact of non-health interventions such as economic development or decline. It is a static model which assumes that the impact of nongovernmental care remains constant and also assumes that impact is directly proportional to coverage which it clearly is not. As an evolving, computer assisted tool, SUSPLAN required constant revisions and updating of software. The 1991 Gulf War expatriate staff evacuation resulted in the departure of the Health Services Development Advisor responsible for development and application of the model, and his subsequent separation from the Project. His replacement, months later, recognizing the urgency of management training to assist the counterparts manage their health resources, had to devote most of his time to management training and other Project priorities which kept the SUSPLAN from progressing to a menu driven, user friendly model (for a fuller discussion of management training including senior managers workshops *see* Section II. Training. 3. F. Management Training).

Local Health Services Development: Provincial health surveys and comparison of data with SUSPLAN targets were confirming the impression that the number of facilities and health personnel in many areas was close to adequate for affordable basic health care. But these available resources were not being distributed efficiently nor were they being used in an integrated coordinated way. By 1990, in response to the need to reintegrate the Afghan health services, the concept of local health services development began to emerge. Drawing on the positive experience of the RHAs, the basic aim was to identify the series of steps required which will lead to complete reconstruction of the local health services. After discussions with MOPH and RHAs four logical steps were identified; key activities and approximate time frame required to complete these activities were established.

Figure III - 6

Phases for Local Health Services Development

Phase I: Planning (three to six months; occasionally nine months)

* Identification of Local Health Leadership
* Health Resources Survey (health workers and health facilities)
* Local Health Development Plan
* Financial and Local Administrative Support Agreements

Phase II: Early Implementation (Phase I plus six to twelve months; occasionally eighteen months)

* Local Public Health Office and Core Staff
* Primary Care Hospital
* Priority Public Health and Training Programs
* Supervision, Support, and Referral System (district and community)
* Planning and Initiation of Health Facility Reconstruction

Phase III: Expansion (Phase II plus twelve to eighteen months; occasionally up to twenty four months)

* Permanent Local Public Health Office
* Expansion of Public Health Programs
* Expansion of Training/Refresher Training Programs

Phase IV: Complete Reconstruction (after Phase III)

* Full Public Health Programs
* Full Provincial Training/Refresher Programs
* Health Facility Reconstruction Completed

Phase I, Planning, involved identifying responsible local health leaders, participating in health resources surveys, preparing a local health development plan, and achieving financial and local administrative support agreements. Phase II, Early Implementation, included establishment of an administrative office, usually in proximity to the main local hospital. Emphasis was to be on: i) initiating a manageably small number of locally high priority public health programs such as MCH, immunization and T.B. control, ii) beginning to establish appropriate local training and/or refresher training programs, iii) establishing a supervision, support, and referral system particularly for BHWs, and iv) initiating health facility renovation or reconstruction.

Phase III emphasized expansion through broadened public health programs, expanded training capacity, and continued renovation and construction of permanent health facilities. A key element in phases II and III was to be progressively greater responsibility for storage and distribution of drugs and other medical supplies. Phase IV represented complete reconstruction and a full program of public health activities.

In areas in which the MOPH was active implementation took place through appointment of Provincial Public Health Officers (PPHOs) and the establishment of provincial health offices. Five PPHOs were established and at least two provincial offices progressed to Phase II. However, the restrictive political mechanisms of the MOPH and the patronage appointed personnel were the major impediments to MOPH provincial health services development. The MOPH experienced continuing difficulties in gaining the necessary local support, and in enlisting competent, reliable provincial health staff, and in reaching cross border to play a proactive role in health services development. By March 1992, it became obvious that the MOPH could not complete the development and sustain the operation of PPHOs by the planned end of the Project. Consequently Project support for this effort was discontinued in April 1992 and the resources were reallocated to the RHA efforts.

In areas under the control of the RHAs, local health services development fared much better. The close relationship between the central supervisors of the area health development schemes and the peripheral health facilities made it possible to develop responsive management systems. Salaries were paid by area supervisors, medical supplies were warehoused in and issued from central depots and training centers were set up for training of health personnel. Although RHA local health services did not systematically follow the phases outlined above, the basic principles and steps were used; provincial health resources surveys were conducted; survey results were used in health service and facility reconstruction plans; steps were taken to establish supervision, support and referral systems; and the RHAs progressively assumed greater responsibilities for administration of supplies and other resources.

The planning process continued during FY-92 and early part of FY-93 with the appointment of the new Health Care Financing/Health Systems Planning Advisor as the chairperson of the ACBAR Health Subcommittee. The following major areas were targeted:

i. Implementing fees and health care financing

& ii. Logistics and cost reduction
iii. Health programs integration
iv. Manpower planning and salary conformity
v. Social marketing, community education, and community participation
vi. Health services quality of care and pharmaceutical use

A Working Group was formed for each area. Based on their reports the Working Groups' findings and observations were consolidated into several categories. Information in these categories were then divided into tasks for redeveloping the Afghan health system.

4. CHALLENGES AND CONSTRAINTS

Many of the challenges faced and constraints encountered are discussed in the foregoing narrative. Specifically these may be categorized as:

A. Planning in an Uncertain Environment

These included:

i. Planning the development of health services for one country based cross-border in another country; sometimes referred to as planning through "remote control". The absence of a central coordinating body i.e. an effective government, with which to coordinate planning considerably slowed down the planning process as each "player" had to be convinced of the need for planning delivery of viable and sustainable health services separately, and led to duplications.

ii. Continuing armed conflict and the uncertain security environment; above all restrictions on expatriate staff travel to Afghanistan. The 1991 Gulf War evacuation of the expatriate staff and the periodic U.S.A.I.D. ban on assistance to certain districts because of security concerns, delayed and disrupted the planning process.

iii. Convincing the senior Afghan health professionals whose point of reference was the Afghan health system of the 1970s with top heavy emphasis on urban hospital care (in 1977 the system spent 42 % of its budget on hospitals) to plan for rural basic health care services.

iv. Persuading the Afghan counterparts, with an exaggerated expectation of foreign donor assistance, to plan for revenue generation through fees-for-services and sale of drugs to finance an affordable health services delivery system once foreign assistance is reduced or completely phased out.

B. Lack of Reliable Data and Limitations of the Planning Framework

These included:

i. Paucity of reliable, valid data on population distribution, morbidity patterns, and local health care utilization patterns which are fundamental to any health planning efforts.

ii. Limitations of the SUSPLAN conceptual model discussed earlier.

5. LESSONS LEARNED

* Cross border health planning and development is possible in war situation but is costly.

* Computer assisted planning models such as SUSPLAN are useful in decision making process once its limitations are clearly understood. It provides decision makers with a framework to organize health planning information, to identify strategic alternatives for health services development, and to compare these alternatives with respect to their sustainability and potential health impact. It was particularly useful in the planning workshops organized for the Afghan health decision makers where it was used to highlight the various alternatives for a limnited resource base. Computer modelling substantiated and supported the argument for a PHC approach to health system development.

* The Household surveys conducted in three culturally diverse provinces clearly demonstrated the feasibility of cross border surveys using well trained Afghan health professionals as field supervisors and local BHWs as interviewers.

* The planning process and one of the remarkable impact of this Project has been reorienting Afghan health decision makers from a narrow curative medicine approach to a broad PHC based basic health services approach. This change in orientation were reflected in the RHA annual workplans and the AIG's master plan for rehabilitation and reconstruction of health services in Afghanistan submitted to the WHO, both emphasizing a PHC approach.

* Finally, an enduring legacy of the health planning process, the AHSS Project, and the various bilateral and U.N. projects has been the exposure of Afghan health decision makers to the modern concepts of health planning, and the young Afghans to computer technology and its use in planning and management. The number of Afghan youth, most with only a high school education, who have taken to use of micro computers and who had themselves trained and adapted to the use of micro computers is impressive. This

has been a valuable human resources development which may play a positive role if and when real reconstruction of Afghanistan begins.

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   Youssef Tawfik, Omar Bahaand, and Badshah Saleh, "Demographic and Health Household Survey in Afghanistan: Takhar Province" (Boston: Management Sciences for Health, March 1992).

8. Additional descriptive information about SUSPLAN including the methodology employed is detailed in "Planning Sustainable Health Services in Afghanistan: An Approach" (Boston: Management Sciences for Health, Afghanistan Health Sector Support Project, August 1989).

IV. HEALTH SERVICES IMPLEMENTATION

Laurence Laumonier, M.D., Advisor

1. INTRODUCTION

By 1978, the Kabul-based communist government was not able to support the basic health infrastructure of the rural areas. By 1986, more than three millions of Afghans had fled the country, but an estimated eight to 10 million were still living in the rural areas of Afghanistan.

The first objective of the AHSSP was to assist selected Afghan counterparts in rapidly expanding and strengthening a country-wide basic health infrastructure, which could meet the basic health needs of the rural population and be affordable in the future. Careful planning and management criteria for establishing health facilities were essential tools to reach an equitable nationwide health system.

The AHSSP had the peculiarity of providing support to the Afghan rural health services by "remote control" from Peshawar (Pakistan). A comprehensive monitoring system has been one of the essential management tools for the program for regular review of the actual performance of the Afghan counterparts and for meeting audit requirements.

The implementing strategy had to take into account several key issues:

* the war situation, which was excluding the possibilities to use the main roads and the cities/towns to transport medical supplies and medical equipment;

* the complex fragmentation of local solidarity groups (which proved to be more important than the political parties' mosaic) which, by themselves, were drawing some natural, geographical, ethnic areas and were showing ways for feasible implementation;

* the distribution of the health facilities done by other NGOs.

During the life of the Project, the environment of the humanitarian assistance of external donors changed drastically. Before 1986, when U.S.A.I.D. started its funding, very little funding was available from external donors for cross-border humanitarian assistance. From 1988 onwards the United Nations Agencies, Gulf countries, and the European Union (EU) joined and the financial resources going to the health sector reached a peak of approximately US$45 millions in 1992, mainly for cross-border activities. It started to decrease again in 1993 (US$ 35

million)[1]. In 1994, with the close-out of the U.S.A.I.D. funded health programs in Afghanistan, at least US$10 millions are withdrawn from the support to the health sector ; in two years time, the budget of the health sector has been reduced by at least 50%.

To manage the "Health Services Implementation" section of the AHSSP, the Technical Assistance (TA) team under the supervision of one expatriate "Field Operation Advisor"was composed of the following:

- eight Afghan staff for the administrative management,
- 95 permanent monitors and 30 contract-hired monitors, all Afghans, for running the monitoring activities.

2. OBJECTIVES

The goal of the AHSSP, as stated in the Cooperative Agreement, was : "to provide technical, financial and humanitarian assistance to expand and strengthen health services inside Afghanistan as rapidly as possible and strengthen the capability of the health committee of the Seven Party Alliance to plan, operate, and monitor expanded health services in Afghanistan".

For the Field Operations section this was translated into:

A. To assist Afghan counterparts for a rapid expansion of a nation-wide, decentralized and affordable Primary Health Care (PHC) system in the rural (mujahideen controlled) areas of Afghanistan.

B. To strengthen the managerial capabilities of the identified Afghan counterparts, at central level (Alliance Health Committee which became later on the MOPH of the Afghan Interim Government), and at regional level (Regional Health Administrations), including supervisory systems, medical supply systems, health care financing schemes, personnel management;

C. To rationalize the deployment, support and utilization of basic health services inside Afghanistan and in particular to focus on the underserved areas and population groups.

D. To coordinate the development and operation of a country-wide monitoring system that reports:

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1 Agency Coordinating Body for Afghan Relief (ACBAR), "Directory of Humanitarian Agencies Working for Afghans" (Peshawar: 1993).

i) on all aspects of the Project's inputs inside Afghanistan and
ii) the movement of supplies up to and across the border.

3. ACCOMPLISHMENTS AND OUTPUTS

1. RAPID EXPANSION OF HEALTH SERVICES INSIDE AFGHANISTAN.

Most of the health projects funded by other donors were focusing on training first-aiders, mid and advanced level of health workers. There was a consensus among the team that the AHSSP would focus primarily on the deployment of Basic Health Workers (BHWs) posted at the village level. In the meantime a network of basic and comprehensive health facilities that would absorb partly the health workers trained by other programs, would serve as a primary referral system. Only when the base of the health pyramid had been well established, was the support of rural small hospitals as top of the pyramid in rural Afghanistan considered (1989).

1.1. Basic Health Services Implementation

The Field Operations Department has been managing the initial supply and resupply operations for the Basic Health Workers, clinics, hospitals, MCH posts and clinics, administrative centers and medical warehouses inside Afghanistan. Training staff and Child Survival and Disease Control (CS/DC) staff inside Afghanistan was directly managed by their respective departments. CS/DC supply operations, because of its specific cold chain requirements, was taken in charge by the CS/DC Department.

General Outputs: The total counterpart staff supported through F.O. inside Afghanistan during the life of the Project totalled 5,363 persons. This included technical and support staff. Through monitoring activities and the reduction of personnel patterns in the facilities as a part of the phase-down from 1992 onwards, the counterpart staff supported at the end of the program was numbered 1,905 persons.

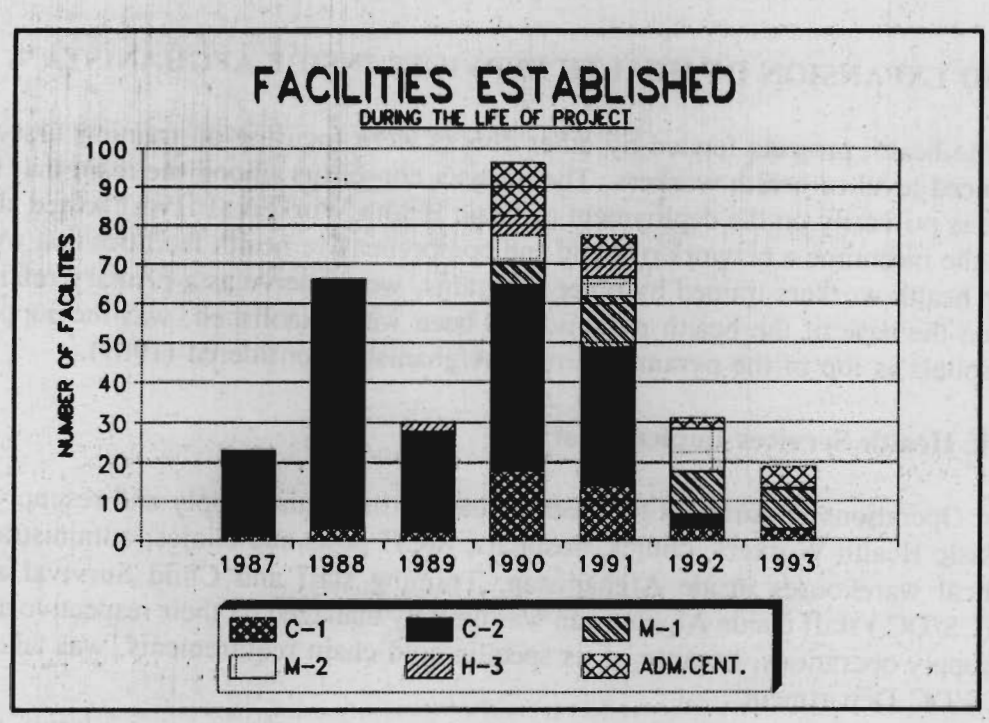
Table IV - 1

AHSSP Supported Facilities and Staff Inside Afghanistan

	Total # Supported	At End of Project
Basic Health Posts	2,271	982
Health Facilities and Admin. Centers	328	176
Staff	5,363	1,905

Evolution of the Implementation and Distribution Through Life of Project (LOP): the following graph, Figure IV - 1, shows the progressive establishment of the different types of health facilities year after year.

Figure IV - 1



* **Basic Health Posts:** the first four years reflects an 'aggressive implementation phase'. The last years reflect the consolidation phase of the program: fielding new BHWs only to replace BHWs lost through attrition, but occasionally shifting from overserved to underserved areas, and emphasizing monitoring and technical evaluation of the BHWs.

Out of a 2,248 BHWs fielded (not including MCH posts), 80% were selected and trained by the Institute of Public Health (IPH) based in Peshawar, and 20% were selected and trained by the RHATraining Centers based inside Afghanistan.

Training the BHWs mainly outside the country (in Peshawar) resulted in a maldistribution of BHWs inside the country: from the total of 1,764 BHWs selected and trained by IPH (80% of all BHWs):

- almost half of them (45%) were posted in the 10 eastern provinces where an estimated 24% of the in-country rural population was living; and
- a little more than half of them (55%) were posted in the rest of the

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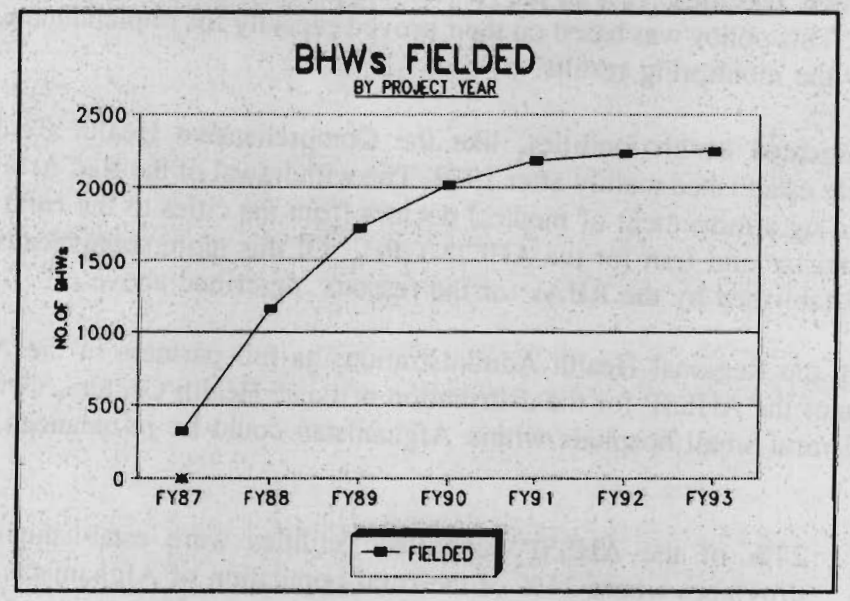
country where more than the three quarters of the in-country rural population was living.

The inputs of the RHA Training Centers (20% of all BHWs) were insufficient to drastically counter balance the distribution of BHWs.

The global picture of the establishment of basic Health posts thorough the LOP is as follows:

- 40% of the total fielded BHWs were posted in the eastern provinces;
- 60% of the total fielded BHWs were posted in the rest of the country.

Figure IV - 2



* **Health Facilities:** the Basic Health Centers (C-2) were gradually established until 1992. At the end of 1991, the amendment No.9 of the Cooperative Agreement limited the establishment of new facilities only to replacement of facilities lost through attrition. The combination of the six months ban of U.S.A.I.D. on humanitarian assistance from mid 1991 to beginning of 1992 and the phase-down of the program, expected to end by December 1992, resulted in a very limited number of newly established facilities, with the exception of MCH facilities.

The first mandate of the AHSSP was to work through the Alliance Health Committee, based in Peshawar, for implementation of health services inside Afghanistan. Until 1989, the bulk of

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health facilities (68%) were established through the AHC/MOPH; the rest by the Regional Health based inside Afghanistan.

The AHC's appreciation of "equity in distribution" was based on equal share among the health committees of the political parties composing the AHC, rather than the implementation capacity of each. The creation of the MOPH of the AIG in early 1989 did not correct the unbalanced distribution of Basic Health Centers (C-2) and Comprehensive Health Centers (C-1). By December 1989, the performance of AHC/MOPH shows that 40% of their C-1 and C-2 were established in six eastern provinces where an estimated 16% of the rural population of Afghanistan was living (Nangrahar, Konar, Laghman, Logar, Wardak and Kabul). Patronage and lack of connection with the communities inside Afghanistan were the two main reasons of this poor performance. At the same time, the RHA had established all their health facilities outside of these six provinces.

For this reason, after 1989, major priority was given to the Regional Health Administrations for establishing new facilities: 71% of the AHSSP-supported Basic Health Centers were established by the RHA. This policy was based on their proved capacity for implementation and supervision, as shown by the monitoring results.

More sophisticated health facilities, like the Comprehensive Health Centers and the small hospitals were established mainly after 1989. The withdrawal of the Red Army from Afghanistan was followed by a movement of medical doctors from the cities to the rural areas for the RHA and from Pakistan and Iran for the AHC/MOPH . Of this more sophisticated type of facilities, 66% were established by the RHAs for the reasons described above.

By including the Regional Health Administrations as full partners in the AHSSP, the overall performance of the AHSSP for the distribution of Basic Health Centers, Comprehensive Health Centers and rural small hospitals within Afghanistan could be re-balanced, and finally shows that:

* 24% of the AHSSP supported facilities were established in the 10 eastern provinces where 24% of the rural population of Afghanistan was living, and

* 76% were established in the other provinces where 76% of the rural population of Afghanistan was living.

1.2 Salary Scale

Salary was a major issue for the AHSSP. Should the AHSSP give a salary to the health workers, and particularly to the BHWs who would be fielded on a large scale? In 1986, many Afghans were still coming to Pakistan as refugees, to escape the war as such but also its consequences like decreasing living standards and occasional food shortages. Providing a minimum of salary could be considered "cash for work" scheme utilized already by other implementing agencies, that might convince people not to leave the country.

The team assisted the AHC to establish a rational salary scale, based on three main considerations:

* the salary scale used by the other main implementing agency of cross-border health centers (the Swedish Committee for Afghanistan);

* the personnel qualifications recognized by the Ministry of Public Health before the war;

* the length of training (as indicator of their level of functioning) for the thousands of mid-level health workers trained by different NGOs in Pakistan and Iran during the war time.

A complete listing of that scale is given in Appendix IV - 1

The scale was initially drawn up in Afghan currency. The constant fluctuations of the Afghan made the team decide after one year of the program to issue salaries in Pakistan Rupees.

1.3. Staffing Patterns:

Aiming for a compromise between the WHO standards for a PHC pyramidal health system, and the still available human health resources in rural Afghanistan during the war (mainly BHWs and mid-level health workers trained by thousands by other NGOs), staffing patterns were determined as follows:

* a Basic Health Post was staffed by one BHW working at the village level;

* an MCH Post, by one female health worker with at least one year of health training;

* a Basic Health Center (BHC), by two to four medical staff having at least together a sum of thirty months of medical training, and up to three additional non-medical staff;

* an MCH Clinic had the same staffing level as a Basic Health Center or Comprehensive Health Center, but at least one female mid-level health worker;

* a Comprehensive Health Center (CHC) had the same number of staff as a Basic Health Center but included one M.D., and three to five in-patient hospitalization capacity. No food was provided by the AHSSP to the hospitalized patients;

* a small hospital, by at least two M.D, two to three diploma nurses, four to five mid-level health workers, four to five non-medical staff, one administrator and

one storekeeper, with 10 to 15 bed in-patient hospitalization capacity. Food allowance was provided for hospitalized patients;

* a Referral hospital serving several provinces by five M.D.s (including two specialists), 14 nurses or nurse's aides, five mid-level health workers, two pharmacists, an x-ray technician, two laboratory technicians, two dental technicians, three administrators, and non-medical personnel.

Additional specialized staff could be assigned to these facilities:

- one dental technician in BHCs, CHCs, and small hospitals
- one laboratory technician in CHCs, small hospitals, and sometimes in well staffed BHCs.
- one x-ray technician in small hospitals and sometimes in CHC if very active and far from a small hospital.

During the life of the program, MCH and preventive medicine activities (EPI, ORT) were integrated into the facilities discussed above.

1.4 Medical Supply System and Transport

As explained in Section VII Procurement and Supply Management, the AHSSP used a kit system which was certainly the most practical system at this stage of development of the health services in Afghanistan.

In order to minimize the risks of intentional or accidental losses and to facilitate the transport of supplies within the tribal areas of Pakistan, the medical supplies were not issued to the providers from Peshawar but from the Pakistan-Afghanistan border. At the beginning of the AHSSP and with the support of the political parties of AHC and RHAs, the AHSSP could use a part of the *tanzeem* warehouses located on the Paksitani side of the 2,000 kilometer long border between Pakistan and Afghanistan. At the 10 main commercial and logistics entry points (*see* map IV - 1) 22 warehouses were available, each with one monitor issuing the supplies. Later in the Project, as part of the development of a decentralized health system, 12 additional medical warehouses were established in various regions inside Afghanistan and supervised directly by the RHAs. This allowed the gradual shifting of the health delivery system from Peshawar/border based warehouses to the regional warehouses inside Afghanistan. Up to FY-1991, 75 % of the health posts and 40% of the health facilities were resupplied from Peshawar through the border warehouses. From FY-1991 onwards, region after region, the health delivery system was gradually shifted to the regional warehouses, dispatched all over Afghanistan and supervised by the Regional Health Administrations. By December 1993, 37 % of the health posts and 18% of the health facilities were resupplied from Peshawar through two warehouses located at the border (on the Afghan side). These were the posts and facilities located in the

eastern provinces, nearby the border. The rest of the posts and facilities were resupplied from the regional medical warehouses.

No AHSSP transport was used inside Afghanistan. Health providers used the available local public and private transport system. This involved mostly mules and horses in the mountainous regions, and camels, pick-ups, and trucks in the central and southern provinces. This way of transporting supplies allowed the AHSSP to keep a low profile when shifting medical supplies all over Afghanistan. It certainly minimized the losses of supply kits, estimated at 4% to 5% of the annual budget at the beginning of the program. A secondary advantage was the income it provided to in-country transporters, thus diminishing the pressure to become refugee.

In order to increase the cost-effectiveness of the transport and the safeguard the supplies, special packaging was used which involved:

- taking the tablets out of their industrial packing and putting them in plastic containers;
- wrapping the cartons with strong plastic bags to keep them dry in case they fell into water;
- wrapping the entire carton with a strong, brown jute or canvas bag.

2. STRENGTHENING MANAGERIAL CAPABILITIES OF THE COUNTERPARTS

2.1. Major Afghan Partners for Cross-border Activities

The AHC had been the identified partner from the beginning of the program. Because of its limited implementation capacity, other possible partners were identified and included in the FY-1988 amendment.

The question before the AHSSP was to find a feasible compromise between only working through the AHC or getting tied up into a setup where it would have to deal with hundreds of partners claiming "authority" over a part of Afghanistan's soil and/or population. In identifying additional counterparts a number of factors were taken into consideration:

* inability of the AHC to establish and manage basic health systems in the identified area;
* a civil administration existed in the area, able to provide services in several districts or provinces with enough military and political backing to ensure relative stability in the region of its implementation;

Provinces of
AFGHANISTAN
LEGEND
International borders
Province borders
Paved Roads
TURKMENISTAN
UZBEK-ISTAN
TAJIKISTAN
TAJIKISTAN
CHINA
PAKISTAN
IRAN
KUNDUZ
TAKHAR
BADAKHSHAN
BALKH
SAMANGAN
BAGHLAN
FARYAB
JAWZJAN
BADGHIS
HERAT
BAMYAN
PARWAN
KAPISA
LAGHMAN
KONAR
WARDAK
KABUL
NANGARHAR
LOGAR
GHOR
PAKTYA
ORUZGAN
GHAZNI
FARAH
ZABUL
PAKTEKA
NIMROZ
HELMAND
KANDAHAR
Garmchishma
Bajawar
Gandab
Landikotal
Terimangal
Miramshah
Azamwarsak
Bandini
Chaman
Robat
Girdi Jangle
0 50 100 150 200 km.
MAP IV - 1
Border Entry Points
Points of Entry to Afghanistan
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Provided by: Wali Ahmad Noor, (07/92)
Map by: Management Sciences for Health

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* the interest in health services was expressed by the existence of a functioning health committee within the civil administration.

The AHSSP ultimately worked with five main institutions where all ethnic groups were represented and whose implementation capacity covered most of the rural Afghanistan:

* the Alliance Health Committee (AHC) which became in 1989 the Ministry of Public Health (MOPH) of the Afghan Interim Government (AIG) based in Peshawar;

* the Health Committee of the Supervisory Council of the North Area (SCNA) based in Takhar Province, which demonstrated its ability to strengthen and expand health services in the north and north-east provinces. The military and political structure backing it was officially created in 1984 and was led by Commander Ahmad Shah Massoud who became the Minister of Defense of the Islamic State of Afghanistan after the fall of the communist regime in 1992. The AHSSP support for SCNA began in 1987;

* the Health Committee of the South and Southwestern Area (SSWA), based in Herat Province which was established in 1982. The military and political structure backing it was led by Commander Ismael Khan who in 1992 became the Governor of this area of the Islamic State of Afghanistan. The AHSSP support for SSWA began in 1988;

* the Health Committee of Central Afghanistan (HCCA), based in the Shiite population. The AHSSP support for HCCA began in 1989.

* the Health Committee of Paktya and Pakteka (HCPP) provinces in the east, backed militarily and politically by Commander Haqani. The AHSSP support for HCPP started in 1991.

The map IV - 2 illustrates the area of implementation of each of the RHA; the blank spaces are basically the area of implementation of the MOPH.

2.2. Personnel System Management.

The Afghan counterparts were selecting their own staff and employing them, according to the staffing criteria agreed upon by the AHSSP counterparts and the Technical Assistance team. A few other procedures were required before enrolling the candidates into the AHSSP payroll:

* certificate of qualification given by the Medical Certification Sub-committee after oral, written and practical examination (*see* Section I. Training);

* certification from the main health support donor agencies (Swedish Committee for Afghanistan and International Medical Corps) that the candidate was not already on their payroll in order to reduce risk of duplication.

At the request of the AHC/MOPH and the RHA, the MSH Field Operation Department was processing the entitlement for salaries of personnel and cost for transportation of supplies, according to a fixed length of issue (six months for most of the provinces, and three months for the very nearby eastern provinces); at the same time, supplies went sent to the border-warehouses and regional warehouses.

The MSH Finance Department was issuing advance funds directly to MOPH and RHA, against financial receipts of the last financial issue (signed by each employee). The MOPH and RHA were disbursing salaries and costs for transportation at the time of the resupply of the facility; this time of the coming of the personnel to MOPH or the RHA Administrative Centers were utilized for evaluation interviews of the health workers and for sending them for one week refresher course at the Institute of Public Health in Peshawar or in the Regional Training Center inside.

As it was the case before the war in Afghanistan[2], the turnover of the staff working in the health facilities was high. The following table shows the categories and number of staff still supported in the health facilities at the end of the program (EOP) and the number of staff cancelled duringthe life of the program (LOP). The number of cancellations reflect the turnover, the monitoring results and the phase-down of the program.

In April 1992, after discussions with the counterparts, the AHSSP's team decided to cut by 50% the salary of the staff of health facilities as an incentive for expanding the implementation of "fees for services" scheme at the facility level. By October 1992, the number of staff working in the health facilities was reduced by almost 30% as a strategy for the phase-down of the program: the non-medical staff in C-2 was reduced from three to one person, and in a C-1 from three to two persons; medical staff was reduced from a maximum of four to a maximum of three persons in C-1 and C-2.

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2 Ronald W. O'Connor, Ed., *Managing Health Systems in Developing Areas: Experiences from Afghanistan*, (New York: Lexington Books, 1980),

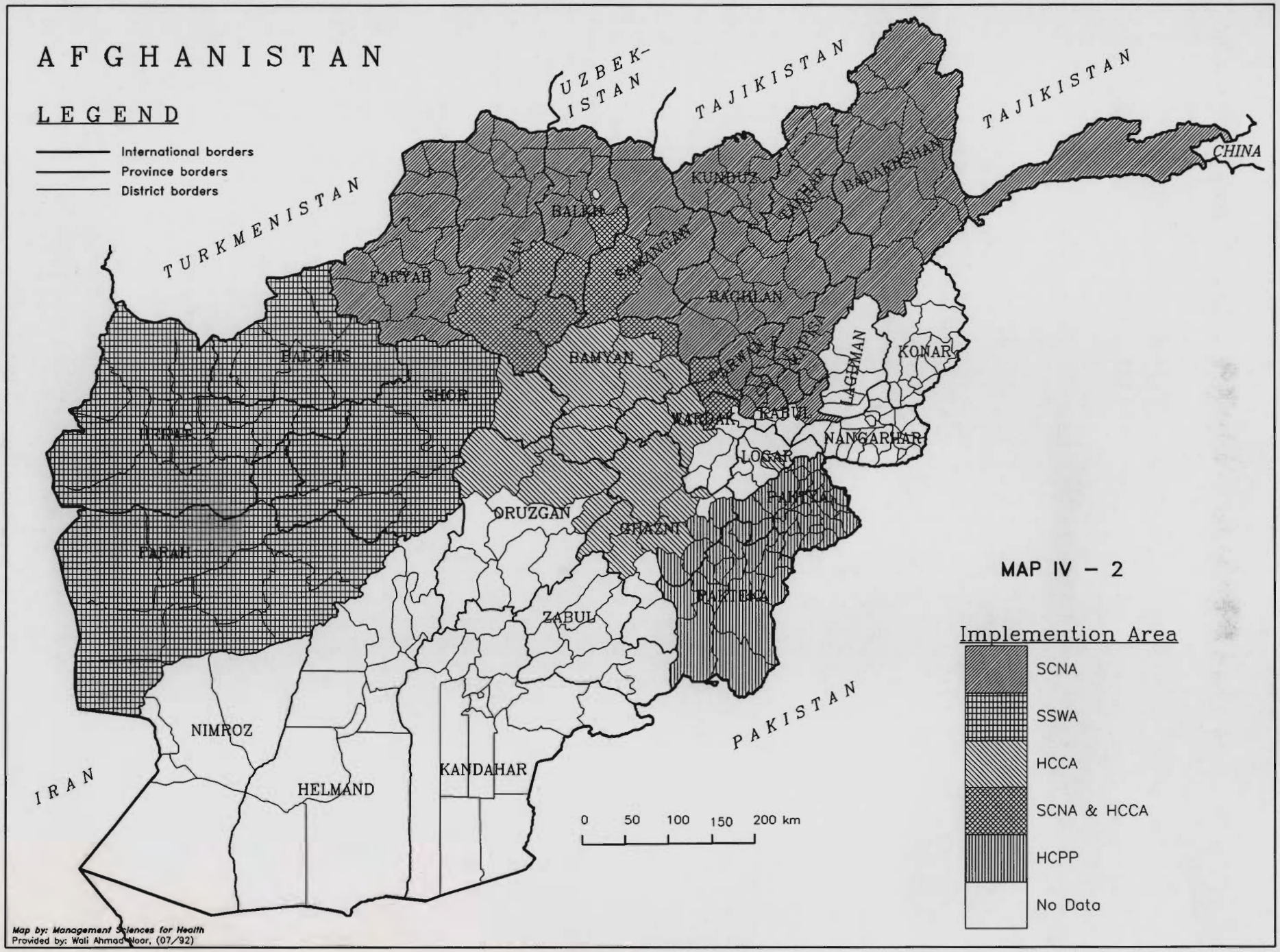

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Table IV - 2

Project Supported Staff in Inside Afghanistan Facilities

Category	Active at EOP	%/category	Cancelled during LOP
M.D.	93	12%	147
M.D. Ass. / Dip. Nurse	68	9%	148
Nurse Helper Med.Student Med.Technicians	291	37%	480
BHW/First-Aider	18	2%	104
Pharm-compounder Roghtiapal	6	0.8%	12
Anesth-Dental- Lab-Malaria - Ortho-Xray-Blood Bank Technicians	86	11%	99
MCH Ass-Dai	13	0.2%	15
Non-Medical Staff	214	27%	1,047
TOTAL	**789**		**2,052**

Given the primitive computer environment in the beginning of the program the administrative support system of the Technical Assistance was both manual and computerized. The manual system, using personnel cards, was practical for dealing with the administration of counterparts and with MSH/FM. The computerized system reflected all information written on the cards but permitted analysis for evaluating the program progress, planning of different program activities (specially for procurement requirements), shifting the delivery system from Pakistan to the Regional Health Administrations inside, etc. This dual administrative system proved to be extremely adequate when all the administrative staff of the Field Operation Department quit their job over a salary issue. This happened at the time the department was preparing the issue of the final salary of all personnel inside. Within a week's time, a new administrative staff was in place, and with the help of the Computer Supervisor the new staff could properly use the personnel cards system and process the work on time.

The personnel cards system was used as well by the AHSSP counterparts in the Health Services Department (HSD) of the MOPH in Peshawar, and in the 13 Administrative Centers of the RHA, while the computerized system was partly used by MOPH, SCNA and HCCA.

2.3. Administrative Centers

As described in Section I. Training, several workshops were conducted by the Health Services Development section of the AHSSP for administrators and Senior Managers of the RHAs and MOPH. This facilitated the formal establishment of Administrative Centers for the RHA inside Afghanistan by 1990.

As described in Section VII., Procurement and Supplies Management, workshops were conducted for storekeepers and formal regional medical warehouses were established by the RHAs, at the same locations as the administrative centers. The regional training centers and regional freeze point for the EPI activities were also established at the same locations. With this set-up, an administrative and technical nucleus existed at the regional level, and sometimes, depending upon accessibility, at a provincial level as well. This nucleus was able to oversee the personnel management, maintain financial accountability according to the MSH requirements, provide technical support to the personnel and resupply the medical posts and facilities.

The MSH Field Operation Department provided technical assistance for strengthening the RHA and HSD/MOPH administrative capability in the delivery system and their supervision system, and evaluating feasible health care financing schemes with the assistance of the AHSSP Health Services Development Advisor (for details of the health planning sessions and the conceptual computer assisted health planning model *see* Section III., Health Services Planning and Development).

The following table shows the administrative staff supported in the administrative centers at the EOP, and the number cancelled during the LOP as result of turnover and monitoring and reduction of staff during 1992 first phase-down of the program.

Table IV - 3

Project Supported Afghanistan Administrative Centers Staff

Category	Active at EOP	%/category	Cancelled During LOP
Regional H.Officer and Dep.Reg.Off-Prov.H.Off	9	0.6%	5
Adm.Director-Adm.Asst	30	21%	30
Account Off- Cashier Fiscal Off- Insp.Off	20	14%	12

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Typist clerk	12	8%	7
Log.Off-Supervisor-Monitor	16	11%	19
Procurement Off.	2	0.1%	4
Computer Operator	3	0.2%	0
Storekeepers	22	15%	20
Driver	1	0.07%	6
Radio Operator	0	0%	1
Peon-Watchman-Cook	27	19%	27
Total	**142**		**131**

Like the other expatriate personnel, the F.O. technical advisor was only allowed to go inside Afghanistan in the last year of the Project. Technical assistance was provided in three ways:

* Using a permanent contact, which was the Liaison Officers of each Regional Health Administration, appointed by the RHA's Directors and posted in their Peshawar Liaison Offices supported by the AHSSP. Joint weekly meetings were held with the Liaison Officers of all RHAs for discussing and solving the managerial difficulties encountered by the counterparts. On several occasions, particularly when shifting the delivery system from Peshawar, and on health care financing schemes, joint weekly meetings were held with the RHAs and MOPH. For MOPH, the counterpart was the Director of the Health Services Department, located in Peshawar. Weekly meetings were held with the Director of HSD of MOPH.

* Through the monitoring visits; by 1991 a special questionnaire was developed and given to some monitors (selected from the support administrative staff of the Monitoring Unit and trained for conducting evaluation) for evaluating the performance of the administrative centers and medical warehouses and providing ongoing training on site, and reporting to the Field Operations Advisor .

* through a "remote control" system using a comprehensive computerized Management Information System put in place in the Field Operation Department. Details of the annual medical resupplies sent to each medical warehouses were entered into our database. In return we were getting back from each medical

warehouse the issue tickets showing the number of kits issued to each facility. Anytime, we could have a clear idea of how many kits of supplies were remaining in each warehouse.

To strengthen communication and supervision systems, staff positions of Logistic Officers were created to facilitate communication between the Liaison Offices and their RHA's headquarters inside Afghanistan, and to carry out field assessment visits of their health posts and facilities within their region. For this last activity, the Logistic Officers were trained by the MSH Monitoring Unit.

By 1993 all the separate Liaison Offices were closed in Peshawar (except one combined office with one representative from each RHA) and were moved to Kabul when security permitted during the 1993. The argument for accepting the establishment of administrative centers in Kabul for the RHA was that it would facilitate a continued coordination with the MOPH, and contacts with other donors (one of the main preoccupation of the RHA, knowing that U.S.A.I.D. had decided to stop support to the basic Health Posts and non-MCH facilities at that time).

3. RATIONALIZING BASIC HEALTH SERVICES THROUGHOUT AFGHANISTAN

In coordination with the Health Service Development and the MIS sections of the AHSSP, emphasis was put on expanding implementation in the underserved areas in Afghanistan.

3.1. Placement Criteria

This was certainly one of the main effort of the Field Operation Department and an urgent matter as was indicated by a map of location of health resources produced by the Coordination of Medical Committees (CMC) in 1988. There was already a heavy emphasis on the eastern provinces and almost no facility was being supported in the Hazárajat (central Afghanistan).

Early in 1988, a computerized "Clinic Selection System" was put in place as a tool to establish priorities for establishing new clinics. This system has proven to be a valuable means to discuss health facility implementation management on other than (party) political basis with the AHSSP counterparts. The results were not taken as a decision, merely as a base for discussion with concerned counterparts in the MOPH and RHA. The end result was a rating of the clinic against the (im)possible 100 of the "ideal" clinic. It served to discern clearly unacceptable clinics, from those acceptable by all means and those acceptable, if one or more of the parameters was upgraded by the requesting institution. It was understood that, before submitting a request for establishing a new facility, the counterparts (MOPH and RHA) had already reviewed in depth many of the non-technical implications (politics etc..). Therefore, little thought was given to those factors in this computerized Clinic Selection System, since they were outside MSH's orbit.

The rating of one "ideal" clinic was:

- Population Factor: 45 score, if the clinic requested was located in a district where less than one clinic per 30,000 people existed. The ACBAR (Agency Coordinating Body for Afghan Relief) database and later the WHO database were utilized.

- Medical Staff Factor: 30 score, if two to three medical staff were proposed, combined medical training equal or more than 30 months.

- Medical Certification Board Factor: 10 score, if the complete medical staff had been evaluated by the "Medical Certification Board".

- PHC System Factor: 15 score, if seven or more BHWs were working around the location of the requested clinic and if the Population Factor was superior to zero. The AHSSP database was utilized.

A Duplication Factor was also considered to ensure that checking with other main suppliers had been done, to avoid duplication.

By 1990 the WHO database became available and more detailed information was put on maps. Each request for a clinic was assessed on:

* its exact location in the district;

* the distance and natural obstacles from the other existing clinics (in order to reduce the risk of redundancy);

* the ability of supervision of the local authority proposed by the counterpart based on past experience of the AHSSP through the previous monitoring results.

In order to maintain a balanced distribution of health resources, the placement criteria which remained the most important during the life of the program was the population coverage per facility i.e:

- 60,000 to 80,000 inhabitants for a small hospital;
- 20,000 to 30,000 inhabitants for a BHC and a CHC;
- 5,000 to 10,000 inhabitants for a Basic Health Post.

This factor proved to be most efficient for the Afghan counterparts to focus on the underserved areas.

3.2. Provincial Health Resources Survey

Working on a daily basis with the WHO and ACBAR databases showed that a lot of discrepancies existed between facilities/health workers claimed and those actually in place. Therefore, after discussions with WHO, it was decided that the AHSSP would initiate,

implement and analyze a provincial health resources survey based on the information provided by the WHO database. Because of the climatic constraints and the six month U.S.A.I.D. ban on humanitarian assistance, it took two years (1990 and 1991) to complete the survey. We sent 49 permanent monitors and 49 contract-monitors (mainly introduced by the RHA and MOPH) to survey all the 29 provinces of Afghanistan. Data was processed and analyzed by the MIS section of the AHSSP and results were communicated to WHO as they came in.

3.3. Coordination with CMC, ACBAR and WHO.

The main coordination efforts related to Field Operations' issues focused on:

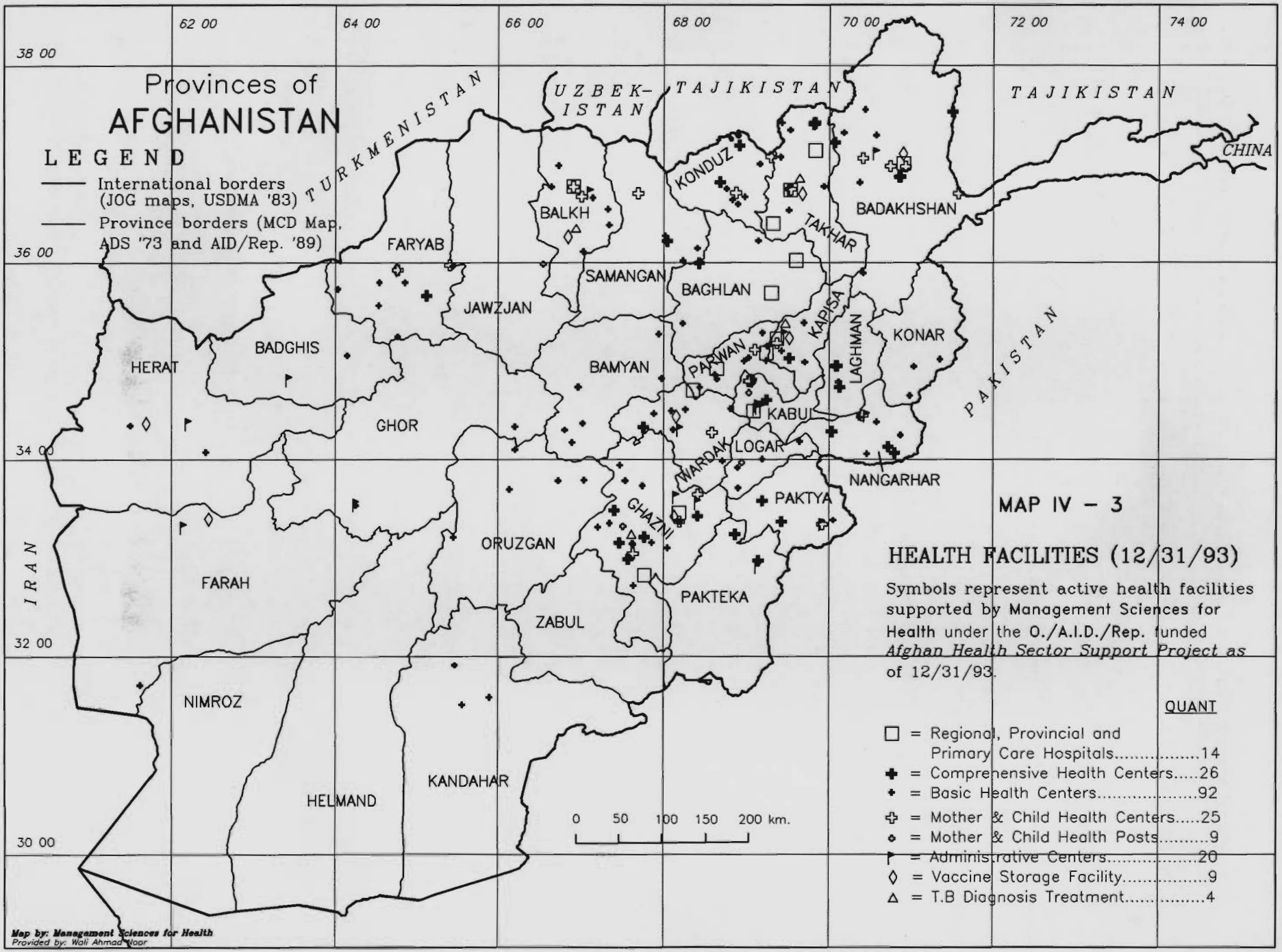
* salary scales;
* list of essential drugs
* staffing patterns and classification of health facilities.
* updating regularly the WHO and ACBAR databases by providing the AHSSP Field Operation's data: two types of data were particularly essential: the results of the monitoring eliminating the canceled clinics, and the exact location of work of the BHWs and clinics; this last type of data took a large part of our efforts during the LOP;
* checking duplication in payrolls within the AHSSP and with other suppliers;
* avoiding redundancies in the implementation of health resources with other suppliers;
* assessment of quality of care; and
* assessing emergency assistance needs and coordinating with other suppliers.

Health Care Financing Schemes were reviewed and discussed, on a dialogue basis, with the NGOs members of ACBAR.

4. COORDINATING THE DEVELOPMENT AND OPERATION OF A COUNTRY-WIDE MONITORING AND EVALUATION SYSTEM

It was a challenge to support health services all over Afghanistan from Peshawar under war conditions. An additional constraint for technical assistance, evaluation and monitoring for audit purposes was the ban on expatriate advisors going into Afghanistan during the first six years. In March 1987 a monitoring system, independent from the counterparts, composed only of Afghan citizens was designed. It was approved by the U.S.A.I.D. in October 1987. The objective of the monitoring system was to measure program progress in the field, both for reporting to U.S.A.I.D., and as a feedback for the TA team, in order to assess the degree of success of chosen strategies and to adapt changes, where necessary.

During the "aggressive implementation phase" of first five years, the system therefore aimed to monitor supplies, field workers, and facilities. In the consolidation phase, more attention was given to evaluation of management at health facilities and administrative centers.


Provinces of
AFGHANISTAN
LEGEND
International borders (JOG maps, USDMA '83)
Province borders (MCD Map, ADS '73 and AID/Rep. '89)
MAP IV - 3
HEALTH FACILITIES (12/31/93)
Symbols represent active health facilities supported by Management Sciences for Health under the O./A.I.D./Rep. funded Afghan Health Sector Support Project as of 12/31/93.
QUANT
= Regional, Provincial and Primary Care Hospitals.....14
= Comprehensive Health Centers.....26
= Basic Health Centers.....92
= Mother & Child Health Centers.....25
= Mother & Child Health Posts.....9
= Administrative Centers.....20
= Vaccine Storage Facility.....9
= T.B Diagnosis Treatment.....4
0 50 100 150 200 km.
TURKMENISTAN
UZBEK-ISTAN
TAJIKISTAN
TAJIKISTAN
CHINA
PAKISTAN
IRAN
HERAT
BADGHIS
FARYAB
JAWZJAN
BALKH
SAMANGAN
KONDUZ
TAKHAR
BADAKHSHAN
BAGHLAN
KAPISA
LAGHMAN
KONAR
BAMYAN
PARWAN
KABUL
GHOR
WARDAK
LOGAR
NANGARHAR
GHAZNI
PAKTYA
ORUZGAN
FARAH
PAKTEKA
ZABUL
NIMROZ
HELMAND
KANDAHAR
38 00
36 00
34 00
32 00
30 00
62 00
64 00
66 00
68 00
70 00
72 00
74 00
Map by: Management Sciences for Health
Provided by: Wali Ahmad Noor

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In the design of the monitoring system, some already identified constraints for implementation of the program were taken into account, including:

* based in Peshawar, the program would be prone to risks of diversion of funds and commodities, well known to the agencies already operating in a similar fashion;

* AHC/MOPH was based in Peshawar as well, and was running several hospitals without sufficient funding. It was only human to expect preoccupation with these hospitals;

* the easy accessibility of the border provinces home to the majority of the refugees, and consequently the Peshawar-based counterpart staff, would inevitably focus the attention on these provinces;

* the huge scale of the program and the remoteness of a large part of the target population;

* the difficulties of transporting supplies to the final destination of each Basic Health Post and facility.

4.1. Design for Monitoring Supplies:

MOPH: Supplies were issued from the MSH Warehouse in Peshawar and accompanied to the border-warehouse by an MSH monitor and one Afghan representative from the MOPH. Supplies were unloaded and temporarily stored in the border warehouses, belonging to political parties. One monitor, recommended by the political party and screened by the MSH Monitoring Unit, was employed by MSH, and became the in-charge of the medical supplies. At that time the political parties were making a real effort themselves to fight corruption and they appreciated our parallel efforts to control corruption in medical supplies and provided very valuable support.

The monitor in-charge of the border-warehouse was responsible for:

* proper storage of the supplies;

* screening the private pharmacies at the border for resold Project supplies;

* issuing supplies against receipt to each BHW or health facility representative officially introduced by the MOPH;

* helping the health provider to find the first caravan to their destination;

* reporting the departure of the health provider with the date of crossing the border and the actual cost for transportation to reach his destination;

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* providing bi-monthly reports on the freight cost per *seer* (seven kilograms) to each district from the point of entry.

RHA: supplies were accompanied by a monitor and an RHA representative to the regional medical warehouses inside Afghanistan. The monitor received a receipt from the storekeeper in-charge of the warehouse for all supplies delivered. The storekeepers, trained by the AHSSP, managed the warehouse and issued supplies to health providers against a receipt which was sent back to the Field Operations Department through the RHA Liaison Offices. Regular reports on the cost of transportation to each district from the regional warehouse was provided by the RHA, and double checked by the MSH monitors.

4.2. Design for Field Work and Facilities

Being provided with the location of the facilities, the names of the personnel and their qualifications, and the names of the general and local commander supervising and providing the security of the facility, the monitors had several tasks in the field:

* to verify the commander's perception of the activity of each BHW and facility through a written statement. If the commander was absent, letters from three other commanders, including one of the same political party had to be submitted. In order to avoid political problems in the field and in Peshawar, a monitor's report not meeting these criteria was not accepted and the monitor had a corresponding portion of his salary reduced;

* to take picture of workers holding a sheet of paper with their code numbers, and to obtain a signed statement certifying that they had been met by the monitors;

* to take a picture of the building of the facility, the medical store, and the main patient examination room.

* to complete a short questionnaire which detailed the information from the monitor's field visit about each person and assessed the community's perception of the activity of each BHW and facility.

With time and formal additional training, the monitors became skilled in evaluating the management of an area health system, and the performance of the BHW and facility. Through an additional short questionnaire, they were providing information about:

* additional need requirement for facilities, or maldistribution of resources showing the presence and distance of other facilities around an AHSSP supported facility;

* estimated number of patients seen per day;

* catchment area of the facility;

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* the accessibility of the facility, specially for women and children;

* presence of private pharmacies in the surrounding area;

* use of fees for services by the health providers, and how much;

* performance of the warehouses and administrative centers of the RHA

* knowledge and awareness of the communities about the danger of expired drugs

Their observations were vital in improving health services.

4.3. Selection of Monitors

Selection of the monitors was critical to the system. The Deputy of the Field Operation Advisor who was in-charge of the Monitoring Unit was a key person in this process. He himself had a long standing experience of organizing and supervising supply caravans for one of the larger mujahideen faction during the war, thus having in-depth knowledge of all the problems on both sides of the border. Having himself a high sense of responsibility, discipline and human skills, he defined the main criteria of selection of monitors as:

* sense of responsibility, self-discipline, and morality;

* experience travelling cross-border during the war;

* experience with logistics within well known disciplined fronts and/or civilian resistance administrations;

* good physical condition (a large part of the travelling was by foot);

* minimum of 12th grade education; and

* immediate family residing inside Afghanistan or very recently arrived in Pakistan.

Working knowledge of English was only required for the translators.. A balance between people from different areas was aimed for, in order to be able to do surveys all over Afghanistan.

The Monitoring Unit had two components: one for the monitoring activities taking place in Pakistan (transport of supplies from the Warehouse to the border and the border-warehouses' activities) and the other monitoring activities inside Afghanistan. The management supporting staff for the two components was composed of 24 Afghan employees. The Pakistan monitoring unit included 12 monitors to accompany the supplies to the borders, and 29 border monitors (22 monitors posted in the border warehouses and seven monitor supervisors posted at the seven

main border crossings). The Afghanistan monitoring unit included 30 permanent Afghan monitors, and 30 to 40 monitors each year hired on a contract basis to accompany the permanent monitors in their surveys. The above figures reflect the maximum personnel employed at the peak of the monitoring activities of the AHSSP.

4.4. Operating Strategy

Each year's monitoring was based on the experience of the previous year, and each province was monitored at least twice a year. With the high concentration of BHWs in the eastern provinces, these provinces were monitored three to four times in a year. The length of survey varied according to the distances from Peshawar and the concentration of health posts and facilities: one to one and a half month for the eastern provinces; three to four months for the most distant northern and western provinces.

The relative gap between the two activities during the first two years of the program is due to several factors: the data provided by the monitoring system was not computerized for the first year (1987-1988); and until the third quarter of fiscal year 1989, about 240 BHWs were fielded every four months, all over Afghanistan. To get a monitoring report on all of them took almost a year.

To supervise the activities of the monitors, several methods were used including:

* comparing the photos taken of buildings of the clinics from one survey to the other;
* comparing the signature and photo of the personnel taken during the visit of the monitors with the signature and photo of the personnel provided at the time of their enrollment in the payroll;
* use of photographic cameras with secure dating mechanisms;
* informing the monitors of their destination only on the morning of their departure, etc.

4.5. Information Systems for Monitoring

A computerized information system was developed after a year's operation, using one short questionnaire for the border monitors, and another questionnaire for monitors going inside to visit the health facilities. Questionnaire data was added to the information already provided by the monitors at the borders, and by the administrative department of Field Operations which tracked date of issue of salary, date of interview in Peshawar at the time of resupply, etc..

This database allowed division of the status of health workers into four main categories:

* active: those seen by the monitors in the field (who had photos, signatures, and letters from the commander and population as proof), plus those not seen in the field but present in Peshawar for their resupply at the time of the visit of the monitors, or those officially on continuing education course in Peshawar;

* inactive: those who had not been found in the field and who had no official reason for absence;

* ? questionable: those for whom we did not have enough information to make a decision (designed by a question mark in the database); and

* cancelled: those who had been found inactive in two monitoring surveys, or those who had sold their medicines without crossing the border and were therefore excluded from further Project support.

For the "inactive" or "questionable" facilities, when urgently needed, a Special Monitoring Team was sent out to the field, in addition to the regular scheduled monitoring missions, to get a new result.

4.6. Outputs and Use of the Monitoring System

The monitoring results influenced many operations: the logistics support system, the organization of health services inside, the administrative support system, and the financial control system. All monitoring results were entered into a very comprehensive Management Information System (MIS) which provided:

* information on procurement needs for the next order of supplies and information for the Warehouse output requirements;

* data on the distribution of health services, to aid in relocating BHWs and health facilities away from overserved areas, particularly the most accessible border provinces;

* information for issuance of salaries and supplies according to the time spent by the health workers in their facility. For example, a BHW paid in advance for 6 months, who was found to have worked only three months, would have his salary reduced by three months at the next resupply;

* feedback for the financial system, with an independent report on the use of funds by health posts and facilities.

From the beginning of the Project until the end of First Quarter of FY-94 10,734 reports on Field Operation activities were brought back by the monitors from Afghanistan. MSH Monitoring Unit has monitored 2263 BHWs including the MCH Posts (only eight have not been

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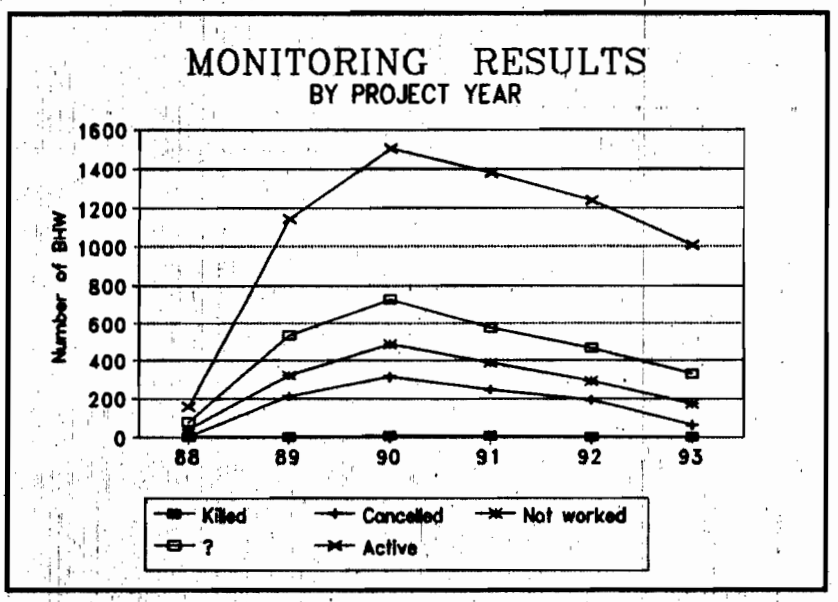
monitored during the LOP) and 291 Basic, MCH, and Comprehensive Health Centers and hospitals (only one has not been monitored during the LOP). As a result of the expanded and improved monitoring surveys, MSH support was withdrawn from 1,223 inactive or redundant BHWs and 135 clinics and hospitals. Monitoring results indicate the following results:

Basic Health Posts

RHA (473 posts surveyed)	MOPH (1747 posts surveyed)	
234 (49%)	482 (28%)	were "active"
31 (7%)	59 (3%)	were "inactive"
56 (12%)	112 (6%)	were "questionable"
147 (31%)	1076 (62%)	were "cancelled"
5 (1%)	18 (1%)	were killed

Figure IV - 3



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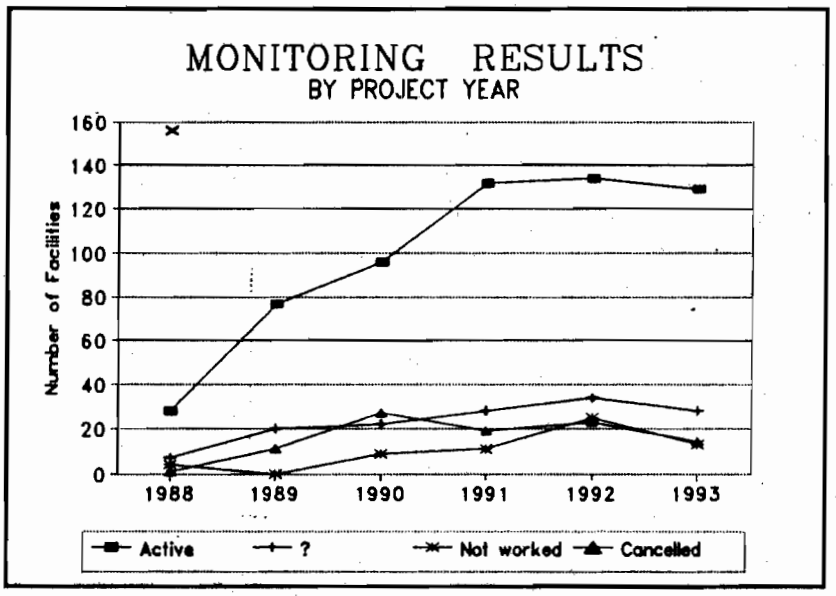
In addition, 43 trained BHWs who did not have their own Basic Health Posts and were working in Basic Health Centers are excluded.

Basic, MCH and Comprehensive Health Centers and Hospitals

RHA (160 facilities surveyed)	MOPH (131 facilities surveyed)	
77 (48%)	38 (29%)	were "active"
7 (4%)	4 (3%)	were "inactive"
27 (17%)	3 (2%)	were "questionable"
49 (31%)	86 (66%)	were "cancelled"

Figure IV - 4



These results reflect differences in performance: the RHA appear to be better able to select sites for new facilities and BHW according to the needs and to supervise them afterwards. The major reason was certainly the RHA's ability to involve the community in decision-making about new facilities and in the supervision system. The MOPH based outside the country had less links with and support of the communities. MOPH it did not counterbalance this disadvantage by promoting an efficient monitoring system. MSH monitoring results were always provided to the RHA's managers and MOPH/HSD to assist their administrative support systems and to further development of health services. With time and facts, the monitoring system was accepted by the communities and the counterparts.

Some remarks about the above mentioned monitoring results: about 10 facilities were cancelled through the phase-down planning for final issue of supplies started early in 1993. Even with positive monitoring status, those clinics which had not come for resupply for about a year and a half were cancelled. Two active clinics were cancelled due to the redundancy exercise requested by U.S.A.I.D. And two other active clinics were cancelled because of the ban imposed by U.S.A.I.D. on three districts in Afghanistan, due to security reasons.

One of the findings of the monitoring was the community participation in supporting the establishment of most of the health facilities, by providing building (the AHSSP did not provide funds for renovation of clinic buildings) and basic furniture, carpets, curtains, etc.

We took the opportunity of the six months of the ban of U.S.A.I.D. on humanitarian assistance for all Afghanistan in 1991, to select and survey specific provinces to find out how the health system was reacting to the suspension of the issue of salaries and resupply operations to the BHWs and health facilities. The majority of the facilities located in the Hazarajat (central Afghanistan) were still active and getting fees for services and prescribing medicines through the private pharmacy system. The personnel of those facilities had been informed by their Regional Health Administration about the ban and the necessity to keep active the health facilities by using this strategy. The majority of the facilities supported by the AHSSP located in the eastern provinces where more assistance was provided by other donors, had closed down.

At the end of 1993, the monitoring reports showed that about 90 health facilities were getting fees for services ranging from 50 Afghanis per patient examined to Pakistan Rupees 4 (about 200 Afghanis). An average of 30% to 40 % of the patients seen at one clinic were participating. Therefore, the revenues generated at a clinic level through the system of fees for services were still very low by the end of AHSSP (in the best case, equivalent to less than 2,000 Rupees per month).

4. CHALLENGES AND CONSTRAINTS

Many of the challenges and constraints faced are discussed in the foregoing discussion. Specifically these may be categorized as:

A. Balancing the Distribution of Health Resources all over Rural Afghanistan.

This challenge was made more difficult by two constraints:

* to work only with the Alliance Health Committee at the beginning of the program where decisions were influenced by internal and complex politics; the distance taken by the AHC from the people inside Afghanistan due to the fact that they were based in Pakistan did not help as well.

* to work in an uncertain technical foreign environment among NGOs where the lack of knowledge of Afghanistan, the preference for emergency assistance and the quick turn-over of the personnel were predominant.

The next challenge to reduce the above two constraints was:

* To identify and select additional counterparts to the AHSSP to meet the need of balancing properly the distribution of health resources without increasing the political fragmentation. The Regional Health Administrations already existed inside the country, created and recognized by the support of the regional populations under the leadership of well known mujahideen fronts. These regional administrations emerging because of the war situation (i.e lack of central government), more than representing a political front, were representing the various major ethnic groups of Afghanistan.

* To coordinate with the various Afghan counterparts of the AHSSP the important technical issues of planning and implementation in order to work towards a national system scheme

* To participate in NGOs coordination bodies like Coordination of Medical Committees and Agency Coordinating Body for Afghan Relief, where the AHSSP advisors were providing technical inputs to influence behavior to go from pure relief work to more developmental work. One of the constraints to fulfill this activity was time..

B. Inaccessibility of Updated Data on Population Distribution and Health Resources Distribution.

Lack of updated data at the beginning of the program delayed the health implementation planning effort.

. Updating the population estimates in Afghanistan became a challenge for U.S.A.I.D., with the presence of Mr Thomas H. Eighmy who coordinated with UNHCR to finalize a technically acceptable update.

. To get an update on the health resources distribution remained an on-going challenge during the LOP for the Field Operation Department to keep an accurate database (through regular monitoring results) and for the MIS section of the AHSSP to coordinate with WHO and ACBAR who were trying to maintain a general database. Great discrepancies remained between the two databases, and between the two databases and the field for many agencies had no monitoring capability..

C. Implementation in an Uncertain Environment:

- To operate a large scale "cross-border" program is by itself a challenge. Not to be allowed, as technical advisor, to carry out regular follow-up work sessions in the field with regional managers became a great constraint, and slowed down the process of developing and strengthening the managerial capabilities of the administrative centers and medical depots established in the RHA. Especially after April 1992, the senior officers of the RHA were reluctant to come to Peshawar to get additional ad-hoc training. All the administrative centers and medical depots remained operating till the EOP; although their administrative reporting system and financial management improved each year, their supervision system, and particularly the strengthening of managerial capabilities at facility level will need attention from any future technical assistance program.

- Between the evacuation of the expatriate staff during the 1991 Gulf War and the six months U.S.A.I.D ban on assistance to the entire country, the planning and implementation process was disrupted for a whole year.

- The necessity to have a comprehensive, reliable monitoring system in a program operating through "remote control" has been an extremely demanding but interesting challenge (*see* Lessons Learned)

- Because of the uncertain security environment, and political changes in 1992, one of our main emphasis was to keep track of the location of work of the BHWs and health facilities for further planning. Change of location of the facilities and turn-over of the staff were a common practice. One benefit of the monitoring system was that the in-charges of the facilities learnt to report to the MOPH or to the Regional Health Administration about their change of location of work.

- In large parts of Afghanistan the natural climatic conditions did not allow any delays in planning the annual resupplies operations of the RHA. Missing the deadline of the end of autumn for any reason, could delay the operation for at least five months.

- After the fall of the communist regime in April 1992, the main roads became open to the transport system of the medical supplies. Within a year, the main points of entry on the border used for the last decade by the mujahideen and most of the health providers were closed by the Pakistani authorities. The two main points of entry left open were Torkham (from Peshawar) and Chaman (from Quetta). Instead of becoming easier, the transport system became a nightmare (for the last one and half years of the AHSSP, the route permits were delivered irregularly, delaying some main resupply operations, specially at the time of emptying the warehouse for the close-out).

D. Multiple Counterparts

To work with five counterparts was a constraint in terms of time, as it is time consuming to convince each "player" of the need for planning and implementing delivery of viable and sustainable health services.

Besides the meetings with individual RHA or MOPH to discuss the day to day issues, the technical advisors coordinated sessions of work on a weekly basis including all the Regional Health Administrations together and the AHC/MOPH.

E. Follow-on Project Expectations

During the last year of the program, meetings with counterparts focused on possible follow-on support from other donor to maintain the system in place and actions to be taken from their sides to maintain the system in case of disruption of support for several months. Early in 1993, U.S.A.I.D. and MSH held several informative meetings about the closeout of the AHSSP with the main actors in the health sector (MOPH, RHA, the European Union, UNICEF, WHO and Swedish Committee for Afghanistan). Early in 1994, due to the scarcity of funds available (the termination of U.S.A.I.D. support and reduction of budgets of the remaining donors for 1994) the above mentioned institutions requested regular meetings to design a national framework for implementing a minimum package of an integrated Primary Health Care system in Afghanistan which should be acceptable to the MOPH, equitable, sustainable and can be established with the financial resources available. So far, the framework agreed upon is very similar to the one used by the AHSSP, but has the distinction to officially recognize the regionalization of the health system. Under the coordination of MOPH and a National Advisory Committee (WHO, UNICEF, and NGO's with nationwide programs), eight "Regional Health Management Groups" headed by a MOPH regional director will coordinate the implementation of the framework at a regional level. This step forward in coordinating efforts gives a hope that at least a good part of the human resources trained under the AHSSP and the facilities supported by the AHSSP will be used and supported by other donors in, *Insha' Allah*, the near future.

5. LESSONS LEARNED

* In the absence of a central government, a national scale health services delivery system can be implemented, monitored, coordinated and improved in a situation of open war or conflict, if the donor accepts to work without a central government and accepts the consequences for funding level and implementation time.

* In such a situation, functional local and regional solidarity systems are more important than the "political" realities presented to the outside world and have to be taken into account on a priority basis for planning and implementation.

* The support to the Regional Health Administrations has been extremely important to the success of the AHSSP and, to the definition of a decentralized community-based health care system in Afghanistan for the present and future (as far as the present MOPH is concerned).

* Use of management tools and reaching a consensus with counterparts on technical criteria for further implementation minimizes the role of politics, and permits implementation in underserved areas.

* One of the essential tools, specially in a cross-border program is the establishment and utilization of a comprehensive monitoring system which serves: i) the audit requirements of the donor and ii) the management of the program for both the contractor and the local implementers.

* A monitoring system is well accepted by the communities when the goals for equity and cost-effectiveness in health resources distribution are explained to them.

* Keeping a "low-profile" operations makes a big difference in a national scale program under a war or conflict situation, and reduces losses of goods and human lives. For example, the transport of over 1,700 metric tons of medical supplies donated during the LOP was managed by the Afghan counterparts through various existing transport systems (public and private; trucks, pick-ups, planes, mules, horses, men). No AHSSP transport system was utilized inside Afghanistan.

* When funds become scarce for developing a national Primary Health Care system, keep on strengthening health services at the village level on a national scale in order to meet the essential needs of underserved areas and population groups.

* Keep a strong commitment for reaching the areas known for their difficult accessibility. Those areas demonstrate great interest in community-participation and cost-effectiveness.

* For human resources development for rural health services, selection of candidates for training should be residents of the area which they intend to serve. This process is largely facilitated when training centers are located in the rural areas. Same goes for appointing trained staff in health facilities.

* Flexibility is essential for successful implementation when there are so many constraints in a cross-border program; the necessary innovative approaches chosen for implementing the AHSSP have been the result of the cooperative agreement between U.S.A.I.D. and MSH. On the program side, flexibility has been kept

also by the technical assistance team to let each counterpart dealing with their own dynamic for further implementation and development.

* At this stage of development of health services in Afghanistan, process for integrating MCH and EPI interventions into the existing network of health posts and facilities should be continued and accelerated. The great potential for expanding MCH and EPI activities in Afghanistan is one of the main lesson learned in the AHSSP; therefore, the remaining donors should focus on maintaining as much as possible the network of health posts and facilities

* Within a national framework, further technical assistance should continue to focus on a priority basis on strengthening managerial capabilities at regional level and at facility level while financial resources are scarce.

* Efforts for coordination among NGO's and international organizations depend a lot on the willingness of the donors themselves. Coordination is more efficient when operated at a regional level among the implementers than when operated from outside the country for the all country. Results of regional coordination should, then, be available in a database at the national level for further planning and policy decision making at the national level.

V. MATERNAL AND CHILD HEALTH

Linda Tawfik, Advisor

1. INTRODUCTION

The Women's Health and Health Education program, which became more broadly defined as the Maternal and Child Health program, was established in the summer of 1989 to strengthen the AHSSP's inputs for women and children.

The baseline situation of services for women and children in Afghanistan before the Soviet occupation was bleak. The presence of tanks, bombs, and destruction of infrastructure during the early 1980's deepened the void. Despite the initial overwhelming constraints and challenges, which will be discussed in detail, the MCH program made significant progress in laying the groundwork for a health structure in Afghanistan which places more emphasis on MCH in the rural areas than even before the war. Such achievements have been due to the hard work and dedication of a core group of individuals within the Ministry of Public Health (MOPH), the Regional Health Service Administrations (RHAs), and within MSH.

MCH program strategies and objectives were developed based on the following background information:

* The infant mortality rate has been estimated to be 215/1,000 and child mortality, 382/1000 (the second highest in the world, after Mozambique), while the maternal mortality rate has been estimated to be 640/100,000 live births.[1]

* Fertility rates, as measured in the Afghan refugee camps in Pakistan, reached world record highs. One International Rescue Committee (IRC) study revealed a total marital fertility rate of 13.6 percent[2], as compared with a prewar measure of 9.4 percent[3] in three rural Afghan provinces. As with other countries at war, there has been a countervailing pressure to repopulate, despite the fact that family planning would be the single most important intervention to save women's lives.

* The adult female literacy rate in Afghanistan is less than 10 percent.

* The average life expectancy of females at birth is 41 years. More than 90 percent of deliveries in rural Afghanistan take place at home, with untrained dais as the main source of help[4].

* Malnutrition is a major health problem in young children in rural Afghanistan; 71 percent of children surveyed in Takhar Province do not have any food, except milk, introduced into their diet by the age of six months, and in Wardak 60 percent of children are not introduced to supplementary foods by this age[5].

MCH Services in Urban and Rural Afghanistan in the 1980's

MCH services were limited to the major cities in the 1980's. According to government statistics reported in a 1988 UNICEF report, Afghanistan had a total of 45 MCH clinics (out of 214 PHC centers). However, they were unevenly distributed with 66% of the functioning MCH clinics located in Kabul city.[6] Ob/Gyn departments existed in the provincial hospitals, including those in Kabul, Nangarhar, Ghazni, Kandahar, Paktya, Balkh and Herat. The Ministry of Public Health of the People's Democratic Republic of Afghanistan continued to endorse family planning throughout the 1980's, as the MOPH had before the war. Clinics throughout Kabul city offered IUDs, pills, injectable contraceptives and condoms. Tubal ligations were performed at Malalai Ob/Gyn Hospital in Kabul.

A national EPI program was launched in Afghanistan in 1977, but due to the Soviet takeover and the ensuing crises of war, immunization activities were confined to the Kabul area. Between 1984 and 1986, PDPA started an intensive EPI program with UNICEF assistance. Coverage of children under one year of age reached 35% and 54% of the women in the 15-44 year age group received tetanus toxoid. An agreement was then reached between UNICEF, the PDPA, the Government of Pakistan, the Seven Party Alliance, and the UNHCR to extend the program to the areas outside Kabul. Between 1987 and August of 1988, the program expanded to include seven additional provinces (Parwan, Kunduz, Herat, Balkh, Samangan, Laghman, and Baghlan). Coverage in these provinces was subject to the local security situation, but the EPI program reached populations which were both inside and outside the regime-controlled areas.[7]

The PDPA also launched an information-education-communication (IEC) campaign to support these EPI efforts. Radio, television, newspaper articles, public health announcements, and posters were use; messages were in turn carried by the population to distant rural districts of Kabul and to neighboring provinces. Support of religious and community leaders was also sought and extended.[8]

A national program for Control of Diarrheal Diseases (CDD) started in Afghanistan in 1983. Local production of oral rehydration salts (ORS) had already begun in 1980. The CDD program was initially limited to Kabul area due to the disturbed political environment, and according to WHO, it was not considered an effective ongoing program.[9]

The PDPA trained a relatively large proportion of female medical doctors. Anecdotal reports indicate that 90% of medical students at Kabul University were women by the late 1980s.[10] There are several plausible reasons for this situation. The PDPA promised to usher in a new era providing absolute equality for women; women became more visible in the public forum. According to a 1988 report by the United Nations Development Fund for Women (UNIFEM),

"Female members and daughters of PDPA members received seats at the university, but many more girls were kept out of school deliberately".[11] Medical doctors in the refugee areas of Pakistan state that there were fewer male students attending the universities during the war because they were frequently recruited into the PDPA's military.

In the rural countryside, MCH services were nearly nonexistent throughout most of the 1980s, as they were before the war. When the AHSSP began in 1986, the scattered PVO missions that initially ventured inside the country with female expatriates brought the first opportunity for care to women in remote areas. However, these frontier-blazing missions were very few in number and they primarily relied on expatriate medical personnel who would stay in an area on a temporary basis.

Early Evolution of MCH Services through the AHSSP

When the AHSSP was established in 1986 to expand health services inside rural Afghanistan and to develop the capability of counterpart institutions to manage public health services, the Project's first priority was to build a foundation of trained BHWs and clinics to handle war trauma and to meet the general needs of the population. Maternal and child health services were not a priority of the counterpart Alliance Health Committee initially due to the preoccupation with war-related medical needs. Anecdotal reports from medical workers in rural areas revealed, however, that most patients sought treatment for common problems such as diarrhea, gastroenteritises, respiratory infections, worms, and accidents. This was substantiated by the analyses of Greenbook data and later by the AHSSP household surveys (*see* Figure V - 1: Causes of Death, Wardak Province, 1990).

At the outset of the AHSSP in 1986 no specific MCH program had been established, although a primary health care approach was adopted. The evolution of MCH began with an initial phase whereby the AHSSP included maternal and child health as a component of early BHW training. In 1987, the Preventive Medicine Program was established which began a mass-campaign vaccination program. During the same year, the U.S.A.I.D. evaluation recommended that the Project be expanded to focus more on women's health and that the technical advisory team include an advisor to initiate activities. In 1989, the MCH program officially started with the formation of the MCH Department within the Interim Government Ministry of Public Health and with the arrival of the Women's Health and Health Education Advisor.

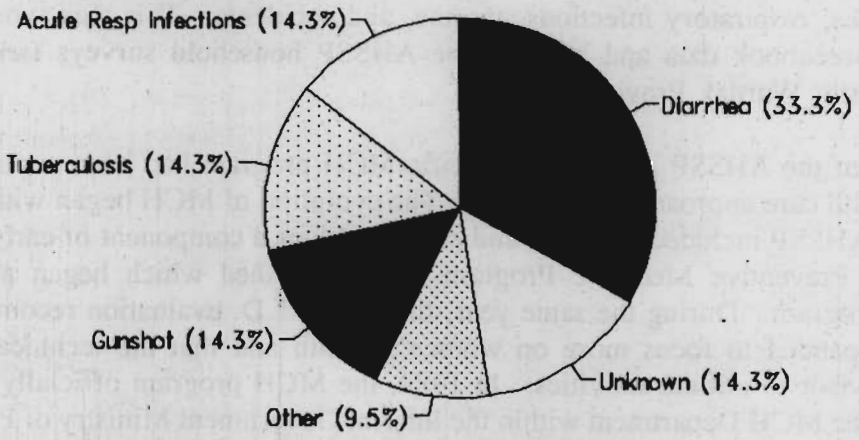
MCH Program Goal and Strategies

The goal of the MCH program has been to improve maternal, infant and child morbidity and mortality by increasing access to health information and services for these target groups.

The MCH strategies were built on the premise that the Project should lay the foundation for a sustainable rural health care system addressing women's and children's needs. New activities would be required to reduce maternal and neonatal deaths (approximately half of all infant deaths--42 to 63 percent--are actually neonatal deaths, with most of these occurring in the first

Figure V-1

Causes of Death
Wardak Province, 1990



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week). Broader approaches were needed for child survival. Thus, to make a significant impact on infant mortality, the overall MCH strategy was to incorporate health initiatives that deal with the perinatal determinants of maternal and neonatal health, in addition to child survival interventions. Recognizing the underlying need to enhance the status and involvement of women, another strategy was to involve women in all levels of the health system, from the household and community levels to the service delivery and managerial levels.

Table V - 1

MCH Staffing Patterns

Level of Service	Type of Staff
Household level	Volunteer Health Sister (MCH community health worker)
Village level	Trained dai
Subdistrict level	MCH post (MCH Officer or other female mid-level worker)
District level	MCH clinic (two to three medical staff with at least one female mid-level worker-MCH officer, nurse-midwife, or female doctor)
Province level	Provincial hospital with Ob/Gyn and pediatric services (Ob/Gyn and pediatric specialists and hospital staff)

2. OBJECTIVES

The objectives of the MCH program have been to:

Integrate MCH services into the evolving primary health care infrastructure by:

i. strengthening the capability of Afghan counterparts to initiate and manage MCH services;

ii. increasing the number of MCH facilities;

iii. increasing the number of qualified female health workers at all levels of the system;

iv. developing management systems for the MCH component of the system;

v. improving the knowledge, skills, and practices related to MCH care among health workers.

More specifically, reduce maternal and neonatal morbidity and mortality inside Afghanistan by:

i. increasing the number of pregnant women receiving quality care from trained birth attendants;

ii. increasing access the care for high-risk cases and complications;

iii. increasing immunization coverage for tetanus;

iv. increasing the number of couples using child-spacing techniques;

v. increasing the number of women treated for anemia;

vi. improving women's health knowledge, skills, and practices for Safe Motherhood (*see* specific objectives of the VHS program in Appendix V - 1)

vii. monitoring MCH outputs, outcomes, and impact

Reduce morbidity and mortality of children under age five inside Afghanistan by:

i. decreasing the number of diarrheal cases;

ii. decreasing the number of acute respiratory infections;

iii. decreasing the number of infectious diseases;

iv. decreasing the number of malnourished children;

v. improving women's health knowledge, skills, and practices related to child survival (*see* specific objectives of VHS program in Appendix V - 1)

vi. monitoring MCH outputs, outcomes, and impact

3. ACCOMPLISHMENTS AND OUTPUTS

The achievements between June, 1989 and March, 1994 follow in terms of the chronological order in which the activities were started.

Dai (Female Health Worker) Training

The AHSSP trained at least 457 dais as Female Health Workers (FHWs) at MCH facilities which serve as local FHW training sites. A Female Health Worker is a dai (traditional birth attendant) who is trained in a comprehensive course to deal properly with home deliveries, prenatal health and child health in her community.

The *Trainers' Manual for Afghan Female Health Workers* lists the essential topics which a dai learns in the course (the table of contents of this manual is included in the Appendices as Appendix V - 2).

The first FHW training course for dais started in 1989 at the Taloqan Hospital MCH Clinic in Takhar Province. A comprehensive FHW training program could be implemented in areas where there were female staff, and the Taloqan Hospital, under the supervision of the SCNA, had four female nurses. Organizing the first FHW training course was significant because the dai training model became the model for other MCH training activities. Because the nurse midwives could not travel to Peshawar from locations far from the Pakistan border, the AHSSP developed an MCH in-service course for training male trainers in Peshawar; they then returned to Afghanistan and trained the local nurse-midwives in setting up a FHW program. This model eventually applied, in a modified form, to the Volunteer Health Sister (VHS) program.

The AHSSP worked together with UNHCR and all NGOs conducting dai training programs to standardize the *Female Health Worker Training Manual*. The MSH MCH Department translated the English version to Dari and produced copies for field-testing in Afghanistan, as well as in Afghan refugee camps in Iran and Pakistan. The AHSSP translated the final standardized manual and produced 500 copies in Dari.

Based on the WHO recommendations for a simple kit for traditional birth attendants, the AHSSP prepared dai kits for distribution to FHW. FHWs receive a shoulder bag containing soap, razor blades, string, gauze pads, a nail clipper, and ORS upon completion of training.

The AHSSP also purchased FHW trainer's kits, and soon incorporated them into the initial MCH clinic supply list.

The FHWs receive no financial or other compensation from the formal health care system.

The importance of dai training should not be underestimated because between 62 and 75 percent of births in Afghanistan are attended by the traditional village dai[12]. Although it has been

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reported that Afghan dais attend only .5 percent of births among Afghan refugees in Iran, the refugee camps reflect an altered social structure due to the disruption of families and communities who have moved to the bordering countries.

Expansion of the Basic Health Worker Role

Over 2000 Basic Health Workers, between 1989 and 1993, were supplied and trained to teach dais key lessons on hygiene, prevention of tetanus, and control of diarrheal diseases. In 1989, when the first comprehensive dai training course started inside Afghanistan, interviews were conducted with BHWs to explore if they could serve as a channel to reach village women. Given the positive response, the MCH Department conducted a workshop for training trainers of BHWs in order to capitalize on the coverage that could be achieved through the network of BHWs. In coordination with the Training Department and the AIG Ministry of Public Health Training Center, the MCH Department integrated a dai training "mini-course" into the BHW core and refresher training.

Early assessments indicated that BHWs, on average, were training an average of 4 dais each. The AHSSP issued more than 46,939 dai kits throughout the life of the program, the vast majority of which were issued to BHWs to provide to dais.

Establishment of MCH Facilities

Between January, 1990 and February, 1993, 63 MCH facilities were established through the Ministry of Public Health MCH Department, the SCNA, HCCA, SSWA, and eventually the HCPP. Forty one were MCH Clinics and 22 were MCH Posts.

An MCH Clinic is defined as a clinic with at least one MCHO, nurse midwife or female physician on staff and which provides the following services: preventive and curative services for women and children, including pre/post natal and limited delivery services, health education, immunizations, some oral rehydration corners, and traditional birth attendant training. It was envisioned that MCH clinics would eventually incorporate the Volunteer Health Sister program.

Initially the AHSSP also supported MCH Posts, which are defined as a qualified female medical worker with mid-level training or higher. It was envisioned that an MCH Post would offer preventive and curative services for women and children , including pre/post natal and limited delivery services, health education, and, traditional birth attendant training, all on a smaller scale than an MCH clinic. The rationale for instituting MCH Posts was that it was extremely difficult to identify qualified female medical personnel, and when one was recruited, she often was prohibited for cultural reasons to work in a clinic with male staff if they were not relatives. At the same time, it was difficult to find more than one qualified female medical worker in the same district. In order to "activate" this limited pool of human resources, the AHSSP supported MCH Posts, and with the graduation of new classes of MCHO's it seemed a reasonable approach. However, cancellation rates of MCH Posts eventually demonstrated that MCH Posts were not viable.

The AHSSP MCH program established criteria for setting up rural MCH facilities:

i. For rationale distribution of service, a MCH Clinic should be established for a population of 30,000 or more.

ii. The distance between any two MCH facilities should be at least 10 kilometers.

iii. Priority is to integrate female staff into existing clinics.

iv. New MCH facilities should be staffed by female medical personnel. Exceptions would be made to include 1 male medical staff alongside female staff if the area is underserved.

As the MCH program expanded its activities, the demand for MCH facilities increased (*see* Table V - 2 & Figure V - 2) The success of the MCH facilities varied significantly between counterparts (*see* Figure V - 3). Initially the MOPH was the first to implement clinics for women and children with the next proposals coming from the SSWA. However, HCCA, HCPP and SCNA proved to be the most cost-effective due to their lower rates of facility cancellations. MCH facilities were initially established in all regions, but SSWA was unable to sustain any of its three MCH facilities. With the collapse of the communist regime in the urban areas, the SCNA dramatically expanded its MCH facilities in 1992.

Table V - 2

YEAR	NO. OF MCH FACILITIES ESTABLISHED
1990	12
1991	19
1992	30
1993	1

In February 1993, U.S.A.I.D. decided that all approvals for proposals for new MCH facilities would be suspended until:

i. the design of a project follow-on was undertaken. The rationale was to establish new facilities only in geographical areas which would continue to be supported with U.S.A.I.D. funds, and

ii. the majority of existing MCH facilities staff completed in-service training. The rationale was to ensure quality services at MCH facilities.

While respecting the rationale for this decision, MSH did not agree with it for the following reasons:

i. The demand for MCH services was growing significantly (*see* Figure V-2) due to the AHSSP's efforts to promote MCH services and because of the growing awareness of the MCH program. Given the obstacles and constraints in developing women's programs, it seemed more cost effective to capitalize on the momentum rather than to "change gears" and delay support for new MCH facilities until a new program is designed.

   Moreover, the withdrawal of Soviet troops and subsequent liberation of the provincial capitals meant that there was suddenly a pool of qualified female medical personnel available. Most of these female nurses and physicians had been receiving PDPA government salaries, and, according to the counterpart administrations, they were ready to move to nearby districts if they would be supported by the AHSSP.

ii. Because of extreme limitations in health care access for women, the Project's priority was, at a minimum, to provide services by female health personnel wherever feasible. It was important to establish a quality assurance system, and the AHSSP began technical assessments using mobile supervisory/training teams in 1992 to assure quality (*see*"VHS, FHW, & MCHO Programs Assessment Report" Appendix V - 5). The teams consisted of the MCH staff from the counterpart MOPH or RHAs and MSH. The purpose was to provide technical and management support to the MCH facility staff and to provide feedback to the AHSSP and counterparts to continuously improve the program.

iii. A requirement for in-service training was a difficult requirement to implement. The MOPH MCH Department required in-service for new MCH clinic personnel from the southeastern border provinces because of their proximity to Peshawar. The RHAs in the north, central and south/southwest areas could not force their female staff to attend in-service in Peshawar, or in Jalalabad once the MOPH MCH Department moved there, because of poor security and due to socio-cultural reasons which made it extremely difficult for women to travel and stay in hotels or hostels (if these could have been arranged). On occasion, individual female staff from distant provinces agreed to come to Peshawar for in-service training, but this was the exception. Alternative plans were to use mobile

training/supervisory teams and/or offer MCH in-service at the regional training centers. However, before sufficient capacity could be build within the Ministry, the RHAs and MSH to accomplish this (training with mobile teams was difficult due to winter conditions) the decision to end the AHSSP was made.

U.S.A.I. D. continued to support the training of new MCHOs through 1994, so that the MCH Department issued MCH Post kits to the 13 graduates in February 1994.

As of March 1, 1994, 34 MCH facilities were active; 15 in the north areas administered by the SCNA; 12 of the MOPH, primarily in the southeastern region; six in the central region administered by HCCA; and one in Paktya administered by HCPP (the provinces in the north and central regions comprise approximately 55 percent of the Afghan population[13]) .

The reasons for cancellation of MCH facilities have included:

i. Lack of a power base inside Afghanistan by the Peshawar-based Interim Government MOPH. The MOPH suffered the highest number of MCH facility cancellations. Fifteen out of 26 (57%) MOPH facilities were cancelled; or 24% of all MCH facility cancellations were MOPH MCH facilities.

ii. The difficulties in sustaining MCH Posts because a single female medical worker cannot work alone. Out of the 22 MCH Posts established 13 were cancelled.

iii. Salary reductions and delays in receiving salaries at the field level.

iv. Delays in receiving supplies at the field site.

v. Female staff who had moved to rural areas to work returned to Kabul when the communist regime fell in 1992.

vi. News about the closing of the U.S.A.I.D. supported health program.

It is not possible to specifically lay out the extent to which the last four reasons contributed to cancellations, but these were primary reasons listed by counterpart representatives and the AHSSP staff in Peshawar.

MCH In-Service Training

As MCH facilities began to be established, it was important to develop an in-service course for staff who had been approved to set up MCH clinics and posts. Ms. Cathy Solter, a MSH consultant with extensive experience in Afghanistan, conducted a workshop in early 1990 for staff of the Ministry's MCH Department on how to manage a MCH clinic. The Ministry of Public Health MCH Department expanded upon Ms. Solter's work to produce an *MCH*

Figure V-2

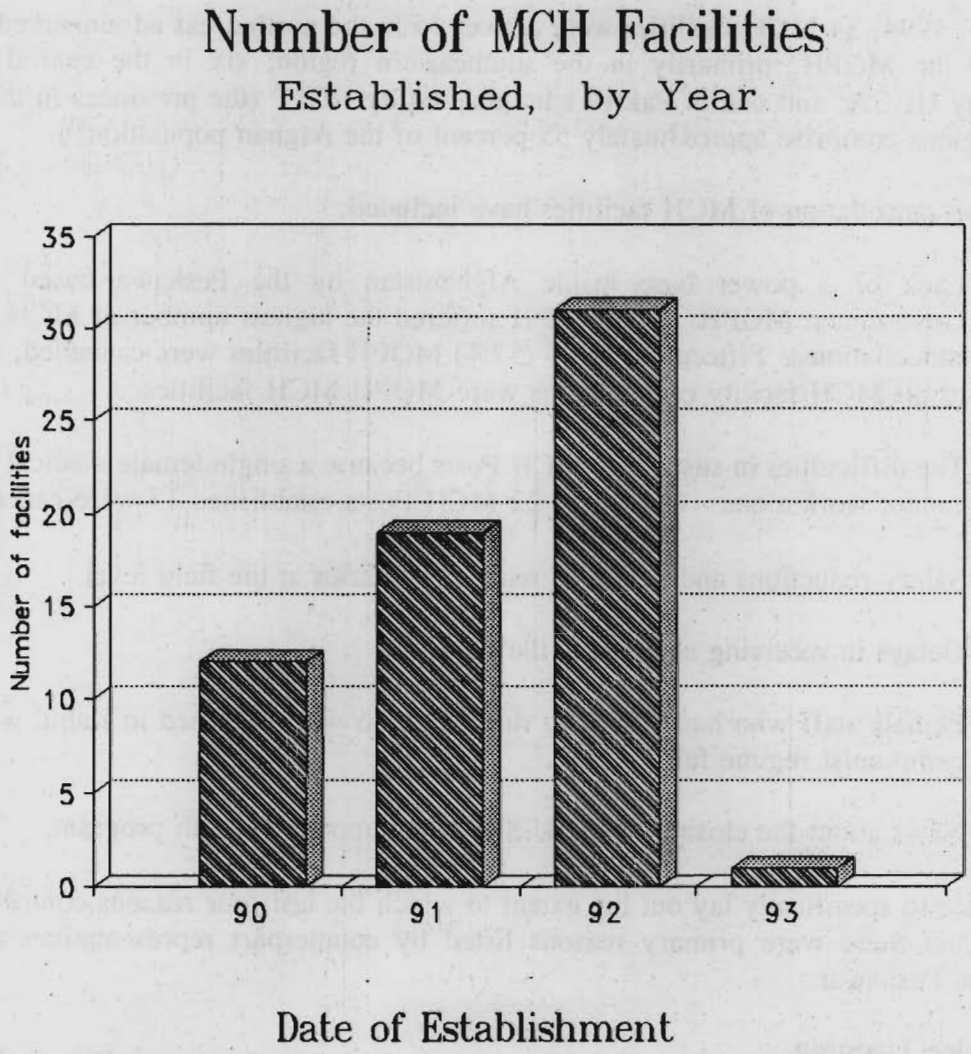

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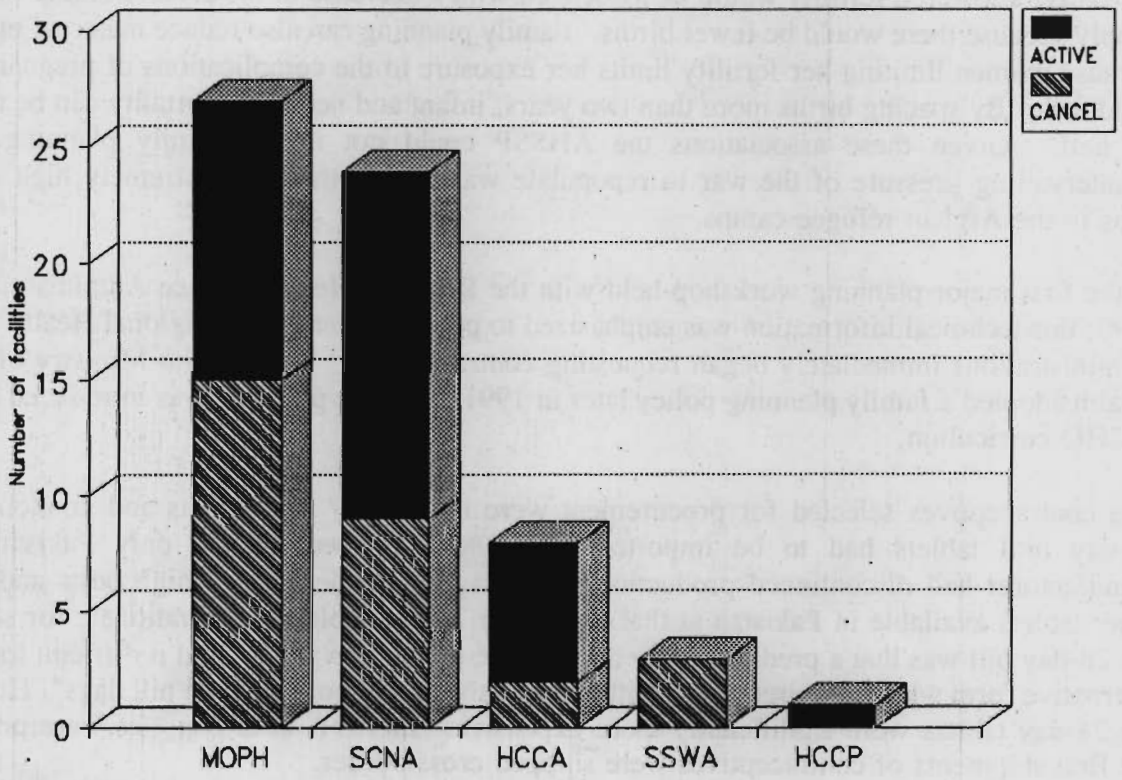
Figure V_3

Active and Cancelled MCH Facilities by Counterparts



MOPH = Ministry of Pupic Health
SCNA = Supervisory Council of the North Area
HCCA = Health Committee of Central Afghanistan
HCPP = Health Committee of Paktya & Paktika
SSWA = Health Committee of South & Southwest Area

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In-Service Manual (the table of contents of the manual are included in the Appendices as Appendix V - 3).

Sixty-five medical personnel out of a total of 94 medical personnel participated in the three week MCH in-service which was taught by the Ministry's MCH Department between 1990 and 1993. The purpose of the course was to reorient medical staff to the concept of primary health care; to strategies and interventions for reducing maternal, neonatal, infant, and child mortality; and to develop management skills for running a facility.

Family Planning

Family planning, when significantly used in a population, can be associated with a reduced number of infant and maternal deaths due to the potential for lowered fertility. In a country like Afghanistan, which does not have the medical or intersectoral infrastructure to deal with infant mortality, a lowered fertility would be associated with a decrease in the actual number of deaths simply because there would be fewer births. Family planning can also reduce maternal mortality because women limiting her fertility limits her exposure to the complications of pregnancy and childbirth. By spacing births more than two years, infant and neonatal mortality can be reduced by half. Given these associations the AHSSP could not ignore family planning. The countervailing pressure of the war to repopulate was demonstrated in extremely high fertility rates in the Afghan refugee camps.

In the first major planning workshop held with the Regional Health Service Administrations in 1990, this technical information was emphasized to policy makers. The Regional Health Service Administrations immediately began requesting contraceptives. The Interim Ministry of Public Health adopted a family planning policy later in 1991 as family planning was introduced into the MCHO curriculum.

The contraceptives selected for procurement were the 28-day oral tablets and condoms. The 28-day oral tablets had to be imported from the U.S. because the only Pakistan-based manufacturer had discontinued production of 28-day tablets because of high costs and all the other tablets available in Pakistan at that time were 21-day tablets. The rationale for selecting the 28-day pill was that a predominantly non-literate population would find it difficult to use the alternative form which required careful attention to the number of "skipped pill days". However, the 28-day tablets were significantly more expensive. In 1991, after supplies were procured, the first shipments of contraceptives were shipped cross-border.

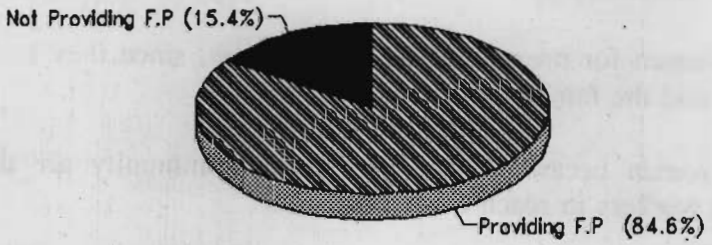
Between 1991 and 1993, 49 health facilities (16 clinics administered by HCCA and 33 MCH facilities) received contraceptive supplies.

Support for MCH Officers

The AHSSP's Training Department developed a new category of female mid-level health worker in 1990, the Maternal and Child Health Officer, to meet the objective of increasing the number

Figure V-4

MCH Facilities Providing Family Planning Services



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of qualified female staff. The MSH MCH Department developed geographical criteria for the recruitment of MCH Officers. The Ministry of Public Health MCH Department supported the development of the MCHO training program by establishing practical demonstration training sites for clinic-based and community services. The MCH program assisted by integrating the Female Health Worker and Volunteer Health Sister programs into MCHO training and provided technical assessments of the MCHO's performance at their clinic sites after they were fielded.

The Pilot Volunteer Health Sister (VHS) Program

The MCH Department initiated an innovative pilot Volunteer Health Sister program in 15 sites in Afghanistan as well as in a demonstration site at a Peshawar refugee camp beginning in 1992. The VHS program trained 164 (mostly non-literate) village women, between 1992 and the end of 1993 in the northern region, central Afghanistan, and in the southeastern zone.

The VHS is a new category of female health worker patterned after the Urban Volunteers in Bangladesh. The rationale for the VHS is that there is a need to:

* Develop low cost household and community-based solutions to health problems to assure sustainability of health interventions in poor communities.

* Target women for preventive health strategies, since they are the caretakers of children and the family.

* Target women because women from the community are the most effective outreach workers to reach other women.

* Focus on preventive health services while simultaneously providing a balance of curative care.

* Develop a link between the household and the formal primary health care providers and facilities.

Although the dai in Afghanistan has traditionally assumed the role of the community health worker for women's health, her services are primarily used only at the time of a delivery. In contrast, VHS's role is that of a MCH outreach worker who promotes child survival and safe motherhood to all women (whether child bearing or not). The VHS is not necessarily a traditional birth attendant; a VHS can be any women in the community, literate or non-literate.

A VHS works as a volunteer to extend health information and services related to personal hygiene and environmental sanitation, control of diarrheal diseases, common cold and pneumonia, immunization, nutrition, safe motherhood, and injury prevention and first aid. The VHS is responsible for visiting households within her extended family or community to promote preventive health, treat simple illnesses like mild dehydration, distribute basic supplies such as soap and ORS, and to refer cases which require more sophisticated care. The VHS is an

important member of the health team at the community level, alongside with the BHW and the FHW (trained dai). There is a great need to bring health information and services into the household especially because of the cultural constraints of *purdah* which make it difficult for women to seek care outside the home or from male health workers.

The Ministry and the Regional Health Service Administrations (except for the SSWA) nominated representatives to work as a team to develop the VHS program. Criteria were developed for selecting health facility sites for piloting the program. The team selected 16 sites for pilot implementation: 11 BHCs/CHCs, three MCH facilities, and one Training Center in the northern, central, and southeastern areas and one demonstration site in a Peshawar-based refugee camp. MSH, in collaboration with the Ministry MCH Department and the Regional Health Administrations, conducted a series of four workshops to train "VHS trainer/supervisors" from the staff of the selected facilities. Dr. Diana Silimperi, a Senior Technical Advisor from MSH who had guided the model Urban Volunteer program in Dhaka, Bangladesh, provided technical assistance to the AHSSP, including three on-site visits to Peshawar.

VHS kits were prepared, consisting of a shoulder bag containing posters, a liter measure, soap, ORS packets, a marker pen, and pictorial monitoring record. VHS receive a kit during training, but they receive no financial or other compensation from the formal health care system.

Although the VHS program has progressed steadily in terms of developing management systems and receiving strong support from the communities where it has been implemented, there have been difficulties. Of the 15 initials sites in Afghanistan, only eight remained by mid-1993 due to cancellations facilities. One third of the cancellations were due to "clinic redundancy". (The VHS Pilot program was being tested in BHCs and CHCs, as well as in MCH clinics, in order to test the feasibility of conducting MCH outreach through clinics with male staff. The assumption was that MCH clinics could effectively run such a program, but if the VHSs could be trained and supervised from BHCs and CHCs, the program could have a significantly greater impact by having a wider coverage). The 1992 policy to cancel or move AHSSP facilities which were within 10 kilometers of another facility, had a negative effect on the VHS program. Five of the 15 VHS were being carried out at BHCs and CHCs which were considered "redundant"; salary and supply support for these clinics was discontinued and therefore for the VHS program as well.

The VHS sites with female trainers were more effective and more productive in training VHSs because the trainer/supervisors have direct access to community women. However, the male trainer/supervisors were able to conduct the program. Male trainer/supervisors generally initiated the VHS program by training their relatives, and relied on indirect supervisory methods when supervising those who were not relatives. Indirect supervisory methods included questioning patients at the clinic who had been visited by a VHS, by asking male relatives of the patient about the kind of services provided by the VHS, or by asking the male members of the VHS about their own knowledge and skills related to the VHS curriculum.

The AHSSP developed a *Volunteer Health Sister Program Training Manual* in English and Dari. This training manual was written for MCH and VHS program managers as well as for VHS trainers responsible for establishing the outreach program. The manual includes the curriculum (seven core modules) to be used in training local volunteers (the table of content of this manual are included as Appendix V - 4).

A baseline survey was conducted which would enable the Afghan community, donors, and implementing agencies to measure the effect of the program had further humanitarian support been forthcoming.

Monitoring and Evaluation

Monitoring and evaluation of the MCH program took place at several levels. First, the Field Operations monitoring system applied to all MCH facilities. Monitoring teams travelling to rural districts checked to see if MCH facilities were in operation and if staff were present. An additional questionnaire was included for monitors to make note of specific MCH activities, such as dai training, immunization, and nutrition education.

Special assessment teams of physicians were sent semi-annually to examine the overall MCH program from a technical perspective. In all nine teams were sent, each team assessed eight to 12 facilities. Most facilities were assessed more than once. In all, twenty five out of the 34 active facilities, were assessed. Assessment tools for clinic management, the dai training program, and the Volunteer Health Sister program were developed for these assessment trips (*see* Appendix V - 5 for the latest assessment report).

Questions pertaining to morbidity and mortality among women and children and to behaviors related to pregnancy, delivery, and weaning were included in the household surveys conducted in Takhar, Wardak, and Ghor provinces to provide epidemiological information.

Lastly, the MCH program conducted a baseline VHS survey household survey to measure the knowledge, skills, and practices of VHS trainer/ supervisors, VHSs, and primary caretakers. The baseline survey conducted interviews of case households serviced by a VHS, "control A" households in the VHS catchment area but not serviced by a VHS, and "control B" households outside the VHS catchment area. The AHSSP conducted the survey in order to measure the impact of the program, however the Project closure date precipitated a follow-up survey. The baseline evaluation was designed such that initial effects of the program could potentially be detected since the survey was conducted during the initial stages of implementation rather than prior to implementation. The initial analysis has revealed that between households visited by a VHS have greater health knowledge, skills, and practices than those not visited by a VHS. There also appears to be a "spread effect" whereby primary caretakers in households near the homes of case families also have some health knowledge related the VHS health education messages. The control B households, in the areas outside the VHS program catchment area, have the lowest health knowledge and skills.

Strengthening the MCH Program Structure: MCH Regional Health Officers

The MCH program structure required strengthening with the expansion of the MCH program and the decentralized approach to health systems development. In 1992, job descriptions for MCH Regional Health Officer were developed and staff were selected for the positions in the north, central, and southeastern regions. MCH Regional Health Officers coordinated the VHS survey in their region and conducted assessments of MCH facilities within their domain between autumn of 1993 and January, 1994.

Women in Development

The counterpart AIG MOPH hired, at one point during the full implementation phase of the Project, 13 female staff for management, administrative, and technical positions. The AHSSP paid the salaries of the Ministry's female staff. Within the MOPH the Institute of Public Health and the MCH Department were the two departments which demonstrated the greatest support for women in development; however, the Preventive Medicine Department also hired female vaccinators periodically.

4. CHALLENGES AND CONSTRAINTS

Socio-cultural Constraints of Mobility which Affected Program Implementation: The immobility of Afghan women due to *purdah* restricted the women's programs in several ways. Unlike other Project components, implementing MCH activities was difficult because women could not travel to Peshawar, except in rare circumstances.

Nearly all MCH training activities (in-service, FHW, and VHS training) had to rely on a Training of Trainers approach whereby male staff came to Pakistan, received training, and then returned to their districts in Afghanistan to train female counterparts. Female staff proposed for MCH facilities in northern, central, and southwestern Afghanistan could not come to Peshawar. For this reason the Project could only require that male staff of these clinics attend in-service (by late 1993 it was apparent that the Project could organize mobile trainer/supervisory teams, but earlier there was not sufficient experience or capability within MCH program to carry this out).

Since female trainers could rarely travel to Peshawar, male staff came to Peshawar and learned through the in-service courses. Since dai training entails discussion of topics about delivery which are not appropriate for a male to discuss with community women, training of dais in a comprehensive course required that male trainers only serve as intermediaries to transfer technical information to qualified female medical staff who then served as FHW trainers. Occasionally FHW curriculum and supplies were shipped to distant rural destinations and female medical staff used the materials without any formal training (if there was no male staff).

Both of these methods may have affected the quality of the training of the dais. There is likely a loss of information in the indirect transfer of knowledge and skills between the master trainers in Peshawar, the male staff training their female dai trainer counterparts in Afghanistan, and then between the female trainer training the dais. If no training was conducted for the female FHW trainers, they undoubtedly did not gain as much skill in using teaching methodologies for non-literate adult learning as they would have if they had attended in-service.

For the VHS program, this model of using male staff as intermediaries was not such a problem. Male VHS trainer/supervisors could train VHSs directly. (In fact, the pilot program was a test to see if male health center staff could effectively conduct outreach programs for community women.) However, the VHS topics concentrate on hygiene, child survival, and primarily the preventive and referral aspects of Safe Motherhood rather than the delivery.

The restrictions on mobility also meant that it was difficult, if not impossible, to require female staff proposed for clinics to come to Peshawar for medical subcommittee reviews. There was a serious attempt to institute regional medical subcommittees who could carry out testing for qualifications inside regional centers of Afghanistan, but the subcommittees never materialized. Relying on medical and nursing school documents alone was not very effective. The Ministry of Health began in 1991 to require female staff to come to Pakistan for medical subcommittee reviews, however, most of the Ministry's proposals were for candidates from the more accessible southeastern border of Afghanistan.

Evaluation activities were also complicated by the mobility issue. The household surveys in Takhar, Wardak, and Ghor had to rely on BHWs as interviewers, even for posing questions related to prenatal care, delivery, and weaning practices. The VHS program baseline survey required responses directly from primary caretakers to measure their skill, knowledge, and practices and necessarily required female interviewers. Female interviewers therefore had to be recruited and trained at each VHS site being surveyed. This may have had some negative effect on the survey results due to the variability in training and in selecting different interviewers at each of the 6 sites surveyed.

Scarcity of Qualified Female Health Staff: The scarcity of a qualified pool of women to work at the management and medical level was a constraint. First, there was a high turnover rate of Afghan women working within MSH as they all emigrated to other countries. The first MCH Deputy emigrated to America while on a conference sponsored by the Democratic Pluralism program in Washington, D.C. The second MCH Deputy also emigrated to the U.S. The third Deputy, who was to assume responsibility for the MCH program for the MSH Advisor as she completed her field role, emigrated to Australia.

The political vulnerability of women's programs led to a series of threat letters, especially in 1991. Throughout the refugee camps, NGO community, and even within MSH, threat letters were sent to women and posted on walls. Threats forbade women to work for western agencies.

It was difficult to identify nurse-midwives or female doctors in rural areas of Afghanistan, yet the first criteria for establishing a MCH facility was the availability of qualified female personnel. Qualified female medical personnel were primarily available only in the major cities. For this reason, the availability of staff was more pronounced with the collapse of the communist regime in April, 1992.

Separate Offices and Separate Transportation for Women: Separate offices and transport for women were required due to the cultural restrictions in the Pushtoon environment of Peshawar. Male and female Ministry of Health staff consistently stayed in their own offices, only coming together for meetings. Female Ministry staff working for the MCH Department worked in same office building as the female staff of the Institute of Public Health. Although separate offices and transport were more of an administrative trouble than a constraint, separate offices for women sometimes resulted in communication gaps between the female staff and the higher levels of management.

Challenges Posed by the War: The MCH program suffered the same challenges posed by a cross-border operation like other Project components, but the situation was compounded the immobility of women as mentioned above.

The war had a strong effect on delaying implementation of MCH activities due to the preoccupation of the mujahedeen with war injuries. Although, in fact, higher morbidity and mortality was occurring among women and children due to existing public health conditions which worsened due to the war. For this reason, although the Project started in 1986, the MCH strategy development was not carried out until 1988. The official MCH program began during the summer of 1989 when the Ministry of Public Health formed and initially assigned 3 out of 163 positions to MCH.

Management Challenges: Planning of MCH activities in 1988 and 1989 was difficult because there were so many questions about the feasibility of implementing women's programs under the cross-border situation. It was not clear initially how to go about establishing an MCH referral system across the border, inside Afghanistan even though programs were starting in Pakistan refugee camps. In 1989, the counterparts knew of only four female staff in the rural provinces of Afghanistan. Planning therefore required an eclectic approach to focus policy makers and an implementation strategy which relied heavily on trial and error initially.

Perhaps one of the most important problems in implementation was the relatively short period of time in which to develop the MCH program. The MCH program started In 1989 when there was great political pressure to expend Project funds and to produce visible outputs. During the following years, the foundation of an MCH system was built. Categories of female staff and MCH facilities were established in elected geographical areas at each level of the primary health care system. By 1992, further establishment of MCH facilities had been stalled, and, by 1993, the Project had begun phase-down activities in order to close down in April 1994. In a country such as Afghanistan, with it immense need to counteract the high infant, child, and maternal mortality rates, this was a very brief period for MCH implementation.

Bans on humanitarian support to selected districts, due to thefts of donor goods and the kidnapping of two Americans, halted implementation. The evacuation of expatriate advisors during the Gulf War in 1991 also slowed implementation of MCH activities.

In 1992, it was determined that all AHSSP clinics within 10 kilometers of another clinic should be relocated or cancelled due to redundancy: the impact on the VHS program was severe as mentioned previously. Moving the clinic would destroy the VHS program as would cancelling the clinic. While the rationale for policy changes was clear, the political pressures and poor timing of policy changes had a deleterious effect on the MCH program. The MCH program could have had a greater impact if support for MCH facilities had not been dropped so early -- only two years after the first MCH facility was issued! Despite the growing demand for MCH facilities, the last MCH facility was issued in February 1992, soon after the availability of female staff increased due to the collapse of the Communist regime. The AHSSP lost one year of potential expansion due to cut-off of support for more MCH facilities.

Evaluation of activities inside Afghanistan (monitoring of facilities, program assessments, surveys) were outside the direct supervision of the advisors. More direct supervision of activities could have promoted better management, but given the situation, the evaluation activities which were established were of great value.

5. LESSONS LEARNED

Potential for MCH Programs in Rural Afghanistan: There is a great potential to develop a primary health care infrastructure which incorporates MCH "building blocks" from the household level to the central level. This potential varies among geographical regions, ethnic groups, and local communities, but the ultra-conservative approach to MCH is no longer relevant. The horizons of the population at the community level have been broadened. There may still be restrictions on the movement of women in the health sector, but the population increasingly demands health services.

Millions of Afghans in refugee camps have been exposed to female health worker training and services. There have been large increases in the numbers of female physicians trained in Kabul during the Russian occupation. "Anecdotal accounts relate that in 1980, about 5 percent of entering classes of med students were women, whereas by 1990 about 90 percent were," according to the U.S.A.I.D. Evaluation in 1992[14]. A core group of Afghan physicians have been exposed to primary health concepts through the ongoing dialogue between MSH and counterparts and through participant training programs abroad.

In a war environment, compare the magnitude of injury-related deaths to deaths resulting from disease for planning public health programs. The primary health care approach with an emphasis on MCH should still form the basis of the health care system, even though that system may initially have a military or first aid emphasis. The AHSSP's household surveys, an analysis

of Greenbooks, and reports from health workers in Afghanistan during the height of the war indicated that the majority of deaths in Afghanistan have been due to illness and diseases confronting other developing countries: diarrhea, acute respiratory infections, malnutrition, infectious diseases.

In a strongly traditional, Islamic society it is important to build credibility for health services for the general population and children rather than focusing directly on women. "Women's programs" can be perceived as a threat in a society that obeys the system of *purdah*, protecting its women from outsiders. As communities accept the technologies for saving children's lives, credibility can be established to begin emphasizing the health of newborns and women.

Distinguish the technical issues from the socio-cultural and political issues. It is exceptionally important to clarify technical goals and objectives when introducing changes in the public health care system. For example, the need for family planning should be discussed with policy makers and physicians in terms of its impact on maternal mortality: "25 to 50 percent of maternal lives could be saved by family planning." At the household level, non-literate women should receive the same message, but in a simplified form: "spacing births at least two years apart lets a mother become strong enough to have healthy babies in the future." It is important to recognize the political, religious, and socio-cultural milieu but not to lose sight of the goal to improve health status.

Build a critical mass to support MCH efforts beginning with public health leaders. The critical step in initiating the MCH program was to build awareness of the health problems among the key counterpart decision-makers. Given their authority, they in turn could influence staff at other levels of the system. Field staff working in rural Afghan communities already recognize the health needs of the people they serve on a daily basis, so they have been prepared to try new programs. The technique of conducting a dialogue with other influential leaders and with mid-level managers helped to expand the base of support in the few instances where there were obstructionists. The AHSSP was fortunate to have counterparts so receptive to MCH because the institutionalization of MCH is dependent on their support.

Flexibility is essential for successful implementation when there are so many constraints in a cross-border effort. The tremendous constraints have inspired innovative approaches, such as using BHW's to impart information to dais and to distribute dai kits. This unique project could not have been carried out without a cooperative agreement between U.S.A.I.D. and MSH and the flexibility to depart from normal bilateral procedures. On the program side, the willingness of U.S.A.I.D. to finance innovative approaches and the flexibility within the AHSSP to implement MCH activities has made it possible to successfully establish clinics and training programs for women.

Program impact is a function of coverage and effectiveness; both must be considered in designing MCH programs in Afghanistan. Female staff at MCH clinics are more effective in increasing access to health services for women in Afghanistan than male staff at other health facilities; however, MCH facilities are limited in number and therefore do not have the overall

coverage afforded by BHCs. To expand MCH program coverage and effectiveness, MCH services should be integrated in all health facilities, for example through fixed facility immunization at selected clinics or through establishing VHS Programs at Basic Health Centers with a record of strong performance. Simultaneously, efforts must be made to expand the number of female health personnel such as VHSs, FHWs, and MCHO's since they are the most effective health educators and service providers in reaching the target groups.

Certain geographical areas and administrative units are more receptive than others and at a higher stage of development in establishing an MCH referral system. Funding of activities should be carried out on a step-by-step basis to expand services while strengthening the capabilities of the administrative structure. The design of any future MCH activities should consider the effectiveness and efficiency in where any future funds are channeled.

The SSWA was unable to maintain a reasonable level of MCH activity. The possible reasons include: the distance between the southwestern provinces and Peshawar, bottlenecks in the liaison office in Peshawar, and/or the limited number of qualified female personnel in the southwestern provinces. The highest number of requests for MCH services came from Ghazni Province (administered by HCCA) and Badakhshan Province (administered by SCNA), where six MCH facilities were established in each, and next in Logar (administered by the MOPH), where five MCH facilities were established. The populations in these provinces are 808,121; 581,303; and 277,844, respectively[15]. The most cost-effective MCH regional programs were those in which the AHSSP and the counterparts agreed upon, and followed, a step-by-step approach.

Duplication of MCH services has not been a problem. In areas where there is interest in establishing services and where there are the human resources, support should be given on a step-by-step basis. There are still vast areas of the country which have no focused MCH services but which still need them. In areas where VHS or FHW programs exist alongside facilities, the system needs strengthening and implementing organizations can build on their successes.

The MCH program should be strengthened at the regional level. MCH Regional Health Officers have been assigned in the northern, central, and southeastern regions and have been functioning only for one year. Due to the decentralized nature of the primary health care system which has been established, a technical advisor at the regional level is necessary to ensure that programs are conforming to the standards which have been developed for the MCH program.

Training of women health workers at the household and community level should be conducted locally, and preferably at regional training centers for MCHO's. Candidates for training should be residents of the area which they intend to serve. Training of VHSs and FHWs is best carried out in their community by staff of the closest facility. The facility then serves as a referral and supervisory structure. Training of MCHO's can be done at a regional center or in Kabul, but it is difficult to recruit women from rural areas to spend one year away from their home unless they have relatives in the town where training will take place. Recruitment of women for MCHO

training should consider the facility where she can work, because the cancellation rate of MCH Posts showed that it is difficult for a MCHO to work independently in the public sector.

Using mobile trainer/supervisor teams is an effective method for training, supervising, and evaluating MCH activities. Mobile teams have been an effective method in Afghanistan since prior to the war. The AHSSP utilized mobile teams to conduct supervisory visits and to evaluate the progress of the VHS and FHW Programs, as well as to supervise and evaluate the management of MCH Clinics. Mobile trainer/supervisor teams provided a quality control function: based at the Project headquarters, they learned the standard of care and standard of training that was expected; they were able to communicate the standard in a consistent manner across different sites; and by travelling between the field sites and headquarters, they could determine the potential and time required for improving the standards of the MCH program.

Mobile teams could potentially be used to conduct medical certification for female health staff who are unable to travel to Kabul or their regional center.

The Training of Trainers model using a series of workshops with intermittent field assessments is an effective way to introduce new initiatives. The experience gained from the VHS program demonstrated that a step-by-step approach could be applied to introducing an innovative program. The AHSSP conducted a series of four workshops for staff of selected health facilities to introduce the pilot VHS program. The first workshop introduced the concept of the VHS program. The second workshop gave participants the tools to start training VHSs in their community. The third workshop expanded on health education topics and introduced management tools, and the fourth workshop reinforced the development of management systems. At each stage, problems encountered in implementation could be discussed and solutions could be developed. This is an excellent way to expand future VHS and FHW programs.

Immunization should be more fully integrated into the MCH program by having fixed points at all MCH clinics. The EPI should capitalize on MCH facilities because they are effective service providers for women and children (*see* Figure V - 5).

MCH facilities should offer a broader array of contraceptives than condoms and pills. Distribution of condoms through MCH facilities is inefficient. Afghan physicians working in Peshawar and in Afghanistan observe that condoms are generally not acceptable for socio-cultural reasons. Pills are acceptable, however the need to take them on a daily basis results in decreased patient compliance among village women, especially those who are illiterate. Injectable contraceptives would serve as another effective alternative for the reasons stated above. Moreover, women can use injectables without their husband knowing. IUD's are another method to expand upon in Afghanistan if female medical staff could be given appropriate clinical training.

If funds are available, nutrition education and supplementary feeding programs could reduce malnutrition among Afghan children and anemia among women. The household surveys and

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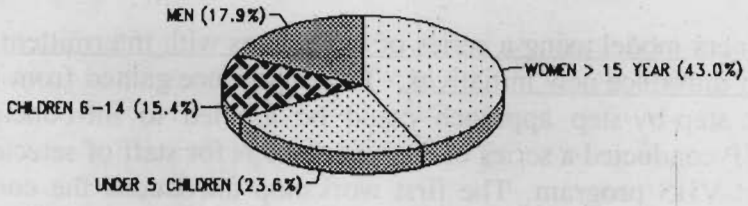
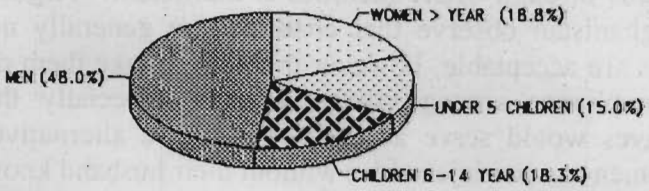
Fugure V-5

PERCENTAGE OF PATIENTS SEEN IN

MCH FACILITIES



NON-MCH FACILITIES



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VHS survey showed the severe lack of knowledge among caretakers concerning appropriate weaning practices, feeding of sick children, and appropriate diets for pregnant and lactating women.

Research should be carried out to more efficiently and more effectively meet the public health needs. For example, further research is needed on the demand for family planning services, the preferences in contraceptive type, and potential impact. Another example is the need for a follow-up VHS survey which could be instrumental in demonstrating the program's impact in improving health knowledge, skills, and practices.

The public health and clinical knowledge of medical staff needs upgraded.
To provide a higher quality of care, physicians and nurse-midwives providing Ob/Gyn services need further training in delivery and family planning techniques. All medical staff need upgraded knowledge about current child survival and maternal health interventions.

A commitment to equity and to the rights of the underserved is the driving force of initiating and developing health services for women and children. The women's and children's program faced considerably more constraints to implementation than other project activities, but the commitment of the donors, Afghan counterparts, and AHSSP staff which worked to build the program demonstrated a commitment to the underserved.

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VI. CHILD SURVIVAL AND DISEASE CONTROL

Paul Ickx, M.D., Advisor

1. INTRODUCTION

Since 1978, many children have died because of direct or indirect consequences of the war. The table below compiles estimated figures from different sources and shows that even in 1985, according to a study by Marek Sliwinski[1], the year with the highest death toll due to the war, more children died from measles than from direct war related causes.

War deaths:	1,500,000 for the total 1979-1989. 195,000 (13%) in 1985, of which 7,800 (4%) under 10 years of age, or 4,680 (60%) under fives died due to the war.
Measles deaths:	741,290 children were born in 1985, of which 137,139 (18.5 %) died before the age of one, of which 15,412 (11%) under ones died of measles and its complications.[2]

These considerations combined with the vital statistics, as listed under the MCH component, urged the AHSSP to reset its focus. After the first year, strategies were looked for to draw attention to those categories with the highest morbidity and mortality: children under five and women of child bearing age (*see* the household survey undertaken by the AHSSP).

Immunization according to the EPI schedule was selected as an appropriate intervention both because of its direct benefits to the above mentioned groups and its perceived function as a gateway towards other interventions for the same groups.

The immunization program implemented through the AHSSP worked out reasonably well. It accounted for more than 30% of the national coverage by the end of the program. It also provoked interest in other child survival interventions like ORT and appropriate diagnosis and treatment of ARI. A year and a half after the start of the immunization component, a specific MCH component became part of the AHSSP.

2. OBJECTIVES

A. To assist the Afghan counterpart organizations in implementing and managing a nation-wide immunization program according to the EPI schedule. This included:

i. Build the institutional capacity within the counterpart organizations to manage immunization programs in rural Afghanistan;

ii. Ensure appropriate technical staffing according to identified needs;

iii. Ensure supply of necessary supplies and equipment;

iv. Ensure monitoring of program progress;

v. Promote integration of EPI into the rural health system; and

vi. Promote integration of the AHSSP EPI efforts into one national program.

B. To assist the Afghan counterpart organizations in identifying other feasible interventions to promote child health.

3. ACCOMPLISHMENTS AND OUTPUTS

3.1. Assessment of Feasibility of Cross-border EPI.

Prior to the start-up of the EPI component of the AHSSP limited experience with cross-border immunization existed.

Aide médicale internationale (AMI) in Kapisa vaccinated 200 children with BCG and measles, interrupted by the Panjsher V offensive.

Médecins du monde (MDM) in Wardak (Jaghatu) covered the population of about 80 villages : 10,000 children fully vaccinated. Immunizations were carried out in the villages, with an existing hospital as base. Several attempts in Konar, without an existing base, proved disastrous and had to be abandoned.

Médecins sans frontières (MSF) vaccinated 20,000 under fives in Ghazni (Jaghori), an unknown number in Pakteka (Sharan) and 6,000 in Badakhshan (Teshkan, Yaftal) with BCG and/or measles, under questionable cold chain conditions. A functioning health center, run by the same organization served as base for outreach and mobile campaigns.

In Ghazni (Andar) the Norwegian Committee for Afghanistan (NCA) vaccinated some 10,000 children with complete EPI schedule.

Kathleen Cita's experiences in Nuristan in early 1987, proved that the cold chain could be maintained, even under extremely difficult circumstances.[3]

UNICEF, which had contributed vaccines and supplies for refugee immunization programs supervised by UNHCR, had started to contact agencies with prior immunization experience to explore the possibility of a larger effort cross-border.

Cross-border EPI was evaluated as feasible and the following conclusions were retained from the early experiences:

a. Though difficult, the cold chain could be maintained.

b. Women were accessible with difficulty, and for a program of larger scope, special attention would have to be given to gaining access to women for tetanus toxoid injections.

c. Memories of the smallpox eradication campaign made most populations quite favorable to the single shot vaccines.

d. Injections were popular with the rural population, and injectable vaccine has great prestige.

e. Multiple shot vaccines were not easy to implement, especially if one could not rely on regular availability of vaccines in the area.

f. Even for children under five, significantly more boys than girls were presented for immunization.

g. Linking the immunization program with existing health facilities and the active, sustained support of local authorities made implementation easier for the people in the field.

3.2. Building the Institutional Capacity

3.2.1. With the AHC and the MOPH of the AIG.

The Alliance Health Committee (AHC) High Council accepted the draft plans for a nation wide immunization plan in late 1987. It took the AHC a few more months to put together a group of technically qualified people. The AHSSP team had proposed an Immunization Unit of four, but the suggested unit quickly became a Preventive Medicine Department (PMD), which would also deal with tuberculosis and malaria control. Therefore, the High Council decided on seven positions instead of the proposed four:

- a director and a deputy director;
- a training manager and an assistant manager;
- a logistics manager and an assistant manager; and
- a field operations manager.

Job descriptions for these positions were drafted and technical people selected from the participating parties by March 1988.

The PMD was well established as an entity, before the AHC was transformed into the Ministry of Public Health (MOPH) of the Peshawar- based Afghan Interim Government (AIG). It survived the transition without major changes in personnel and remained active till the end of the AHSSP. It's operational management capacity proved to be good. Over a period of six years, it performed uninterruptedly the following functions:

a. initial training of carefully selected vaccinator candidates (total 1401);

b. assignment of target areas and populations to the vaccinators (total 26 teams);

c. organization of transport across the border for the vaccinators and their equipment

d. debriefing and production of summary reports of the vaccinators' activities upon their return to Peshawar;

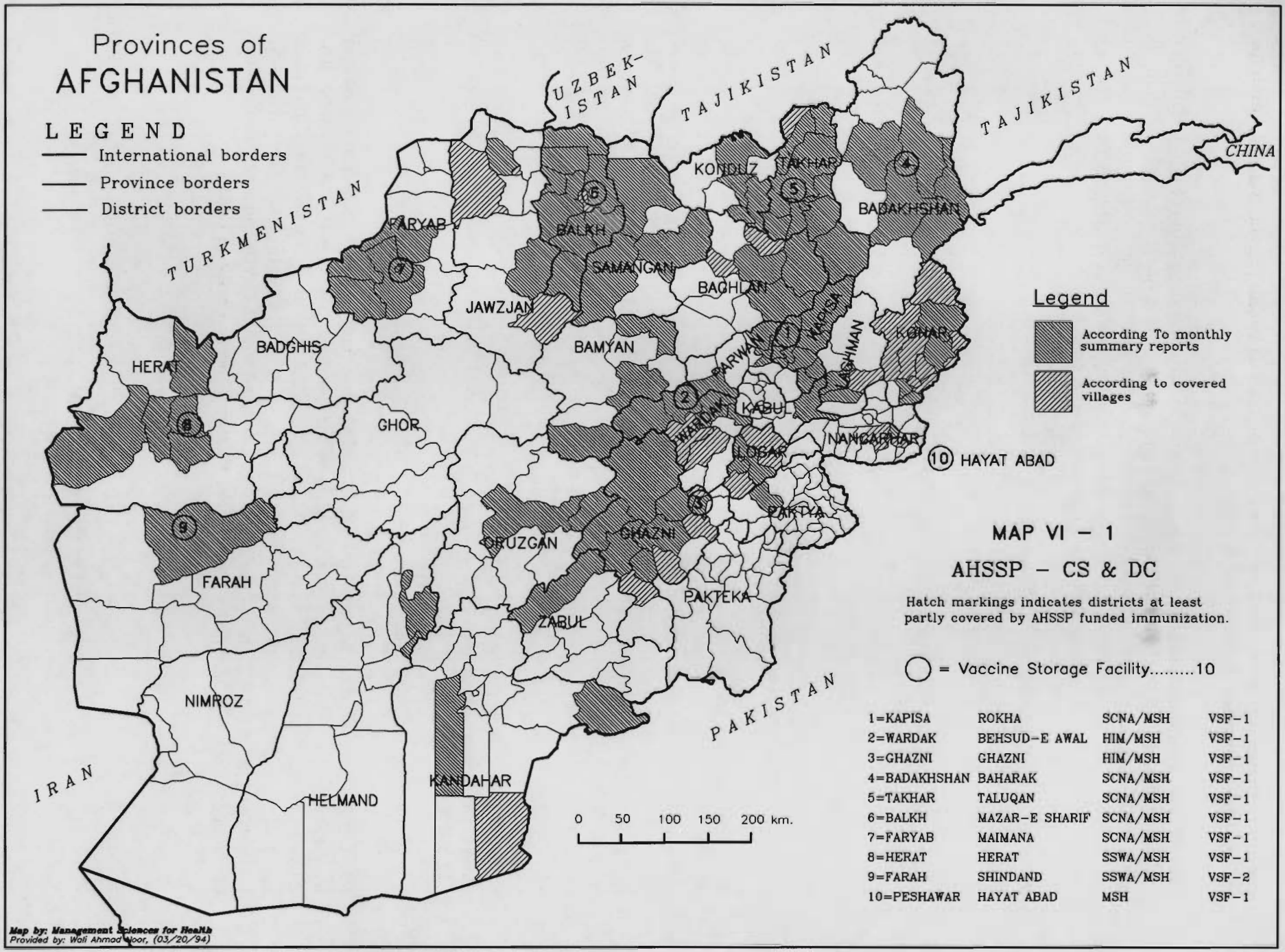
e. identification of problem areas in the vaccinators' knowledge and performance and organization of refresher course sessions covering these.

Technical assistance was sought of an NGO dealing with cross-border immunization. Afghanistan Vaccination and Immunization Center (AVICEN) was contracted to upgrade the technical and managerial skills of the PMD staff. This approach was only partially successful. The technical instruction on cold chain and logistics was appreciated by all involved. The managerial part left both AVICEN and the PMD unsatisfied, probably because of the differences in their basic approaches. From the start, PMD tried to link up the EPI with other primary health care (PHC) services, offered through the AHC, while AVICEN implemented a 100% vertical program.

On the PMD's request managerial training was continued by AHSSP staff on an ad-hoc basis throughout the program and in 1991 a two week Mid-Level Managers' course was held for PMD and RHA managers.

3.2.1. With the RHAs

Request for immunization in the North, West and Central Afghanistan were put to the AHSSP by the RHAs from late 1988 onwards. Most of the proposed target areas required more than a week's travel time, covering vast stretches of inhospitable terrain. Climatic conditions made many of these areas inaccessible for several months a year. The difficulties this entailed for logistics and general program management were discussed with the RHA and a new strategy was developed: running programs by region from Vaccine Storage Facilities (VSF).



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These VSF were staffed with an EPI in-charge (often, but not necessarily an M.D.), cold chain supervisor, cold chain technicians, and in some cases EPI trainers. The EPI in-charge worked in close contact with the RHA director and heads of other technical departments, thus linking up the EPI activities with other existing health activities, implemented through the same RHA. Nine such VSF were implemented and functioned up to the end of the program (*see* map).

Before taking up the responsibilities, the EPI in-charge was introduced to EPI management by the AHSSP through informal training on individual basis. He also paid a visit every six months to discuss program progress and difficulties encountered with the AHSSP staff.

All RHAs delegated a lot of authority to the EPI in-charge for all operational decisions. This enabled the AHSSP staff to interface directly with the in-charge of each VSF. Even financial disbursements related to EPI activities, other than salaries, were disbursed by sanction of the RHA director to the EPI in-charge, who reported the handling of his 'budget' to the RHA director. Yearly the specific parts of the budget to be handed directly to the EPI in-charge in order to prevent unnecessary delays was discussed and agreed upon between the RHA director and the AHSSP.

Requests for support of EPI by the Health Committee of Paktya and Pakteka (HCPP) in Paktya and Pakteka and the Health Committee of Central Afghanistan (HCCA) in western Hazarajat after 1991 were refused. By that time the focus of the AHSSP was on consolidation. The AHSSP agreed to fund an EPI in-charge, and assisted this person in the assessment of the EPI activities of different NGOs. Local Rapid Assessment Surveys (LRAS), like the 75 household surveys, proved a useful tool for establishing a base for discussion both with the NGOs and the UNICEF.

3.3. Training of Personnel

3.3.1. Training of Vaccinators.

At the start of the program, the AHC accepted the technical input of AVICEN, an NGO that had developed a three month's training program for vaccinators adapted to prevailing conditions in Afghanistan. The course included extensive practical sessions under close supervision in the refugee camps.

The very first batch of 21 vaccinator trainees was trained jointly by PMD and AVICEN staff. Five more batches were trained by PMD itself, a total of 140 vaccinators were initially trained by PMD.

The RHA vaccinators were trained in Peshawar by AHSSP staff in 1990. At the same time, a training of trainers took place, which enabled the RHA to train vaccinators at several VSFs inside Afghanistan. In total 117 vaccinators were trained.

Table VI - 1
Vaccinators trained

Year	##	Training	Supervision
FY-88	21	MOPH	MOPH
FY-89	25	MOPH	MOPH
FY-90	43	MOPH	MOPH
	9	MSH	HCCA
	4	MSH	SSWA
	6	MSH	SCNA
FY-91	27	MOPH	MOPH
	6	SCNA	SCNA
FY-92	24	MOPH	MOPH
	54	SCNA	SCNA
	16	HCCA	HCCA
	22	SSWA	SSWA

3.3.2. Training of Cold Chain Technicians

In total 36 Cold Chain Technicians (CCT) were trained to staff the VSFs, 13 of these CCTs became cold chain supervisors. Training was performed in Peshawar at the AHSSP cold storage by the engineer in charge of the cold store, who had been trained by a cold chain specialist consultant.

3.3.3. Training of EPI Trainers

In total six EPI trainers were trained and dispatched to the VSF of Herat, Taloqan, Kajab, Kakrak and Rokha. Condition for recruitment of the trainers was practical training experience, more than theoretical knowledge of EPI. For specific technical topics, the trainers could draw upon the knowledge and experience of Cold Chain Supervisor (CCS) and EPI in-charge.

3.4. Supplies and Equipment.

3.4.1. Cold Chain Equipment.

The extreme conditions of shipment and in-country storage of vaccines in Afghanistan had led to standardized equipment among the early immunization implementers before the AHSSP started. The AHSSP saw no reason to alter a selection based on prior experience of cold life, hold over time, and robustness. Using the same equipment would also facilitate the integration

of the scattered efforts into a national program. The AHSSP obtained the necessary waiver from U.S.A.I.D. to buy the equipment on sole-source basis. Appendix VIII-1 lists the cold chain equipment. Several VSFs and hundreds of vaccinators have operated for years with this equipment, after it had been transported by primitive means inside Afghanistan. No major breakdown or difficulties have been reported.

3.4.2. Vaccines

UNICEF started supplying vaccine for cross-border activities in 1987. When the AHSSP made its planning for the immunization component, UNICEF was interested to supply at least the vaccine, and committed itself orally to deliver what was needed by the program. During the "rapid expansion phase" in FY-90, the UNICEF Afghan Programme Office (APO) was unable to meet the vaccine demand. For two years UNICEF/APO promised more vaccine in the planning phase than they were able to procure with available funding six months later. At the same time U.S.A.I.D. could not permit the AHSSP to procure vaccine with program funds, since UNCIEF was already funded to deliver the vaccine. In FY-92, after careful reconsideration, U.S.A.I.D. allowed the AHSSP to procure the difference between the program needs and what UNICEF could provide with program funds.

3.4.3. Other Supplies.

All other supplies were channelled through general procurement (*see* Section VII, Procurement and Supply Management).

In 1988, UNICEF contributed needles and syringes. In 1993, UNICEF contributed registration and reporting forms, and Vitamine A.

3.4.4. Vaccine Distribution.

The possibility to ship supplies inside Afghanistan heavily depended on two factors beyond control of the AHSSP: war and climate. AVICEN was contracted by UNICEF/APO to run the central vaccine storage for the cross-border program. In 1989 major differences of opinion between UNICEF/APO and AVICEN interfered with smooth vaccine supply. At the same time the European Union (EU) was uncertain to continue funding AVICEN. The AHSSP decided to set up a central cold room in the AHSSP Warehouse and an experienced consultant was hired for this purpose. Vaccine was received from UNICEF in bulk and stored for further distribution in Afghanistan. This ensured a reasonable buffer stock ready on hand.

The PMD teams would pick up vaccine directly from this storage, and further transport to the target area was organized by the PMD and the vaccinators. The VSF in-charge of the RHA would replenish his stock in up to three shipments per year. Transport to the border would be coordinated with the AHSSP monitoring office, but responsibility for the cold chain management was with the RHA. From the VSF, the cold chain in-charge would dispatch vaccine and other supplies according to the plans of the EPI in-charge of the area.

One VSF in Herat province was bombed out by the then communist Kabul government in May 1991. While little loss of vaccine occurred, equipment, records and reports were destroyed. Another VSF in Balkh province was looted in January 1994 by Jumbish (Dostum) militia. Little vaccine was left in stock at that time, but most of the equipment was recovered and repaired by UNICEF/Mazar for further use.

3.5. Personnel Management

3.5.1. Personnel Management of the MOPH.

PMD being part of the AHC and later the MOPH, its own personnel was managed according to the rules and regulations of the central office of MOPH.

Besides the 140 vaccinators trained, 16 more were recruited by PMD from the pool of vaccinators trained by different NGOs or the Kabul government. This involved an assessment of the knowledge of these vaccinators and in some cases a short refresher course.

Out of the total 156 vaccinators who worked for the PMD, 74 were active at the end of the program. Out of 82 inactive vaccinators, 12 transferred to the RHAs and about half were terminated after reassessment of the number of vaccinators needed per team: this dropped from maximum six to maximum four in 1993.

Technical performance of the vaccinators was assessed by the PMD on the basis of reports when the team came for resupply. MSH included the teams in the Field Operations monitoring missions and communicated results to the PMD, which took disciplinary action when necessary. Salary, per diem and freight costs were disbursed to the vaccinators by PMD, which provided necessary receipts to MSH Financial Management.

In spite of many planning sessions, during which job descriptions and checklists were developed, systematic supervision in the field by the PMD never took off. PMD successfully used senior vaccinators belonging to another team to investigate 'alarming' reports from commanders or Peshawar based NGOs regarding the activities of the teams.

3.5.2. Personnel Management of the RHA

Direct interface of the MSH employees with counterpart personnel was basically with the EPI in-charge. He would bring all reports and receipts. Most of the in-charges delegated technical reporting of cold chain to the Cold Chain Technician (CCT), who would often take personal responsibility for the bulk transport of vaccines from Peshawar to his VSF.

Given the central role of the VSF in the vaccine distribution, most of the administration was focused there also. The AHSSP therefore paid salaries for a limited number of administrative and support personnel at these VSF. Table VI - 2. gives the number and status of each by the

end of the Project. 12 vaccinators from the PMD and 68 from other agencies joined the RHA program.

Table VI - 2

	Personnel	Active	Cancelled
HCCA	CCS	2	2
	CCT	2	
	EPI in-charge	2	
	EPI trainer	2	
	Vaccinator	27	4
	Driver	2	
	Peon	2	
HCPP	EPI in-charge	1	
SCNA	CCS	4	3
	CCT	12	4
	EPI in-charge	5	2
	EPI trainer	2	1
	Vaccinator	111	24
	Cook	1	
	Driver	4	1
	Logistician	3	2
	Peon	6	1
	Watchman	6	4
SSWA	CCS	1	
	CCT	2	3
	EPI-trainer	1	
	Vaccinator	28	3
	Driver	2	
	Peon	1	
	Watchman	1	1

The EPI in-charge tried to visit vaccinators regularly at their assigned site of activities. He also obtained feedback on the performance of vaccinators from community leaders through parallel

channels. From 1992 onwards a checklist for supervision drafted by UNICEF, facilitated supervision in the field.

3.6. Reporting of Program Progress

3.6.1. Reporting Cycle.

The time factor involved in the production of activity reports requires explanation. U.S.A.I.D.'s fiscal year runs from October 1 to September 30. Yearly workplans are prepared and agreed upon for these time periods. UNICEF/APO's project year is the same as the calendar year. Consequently, activities proposed and accepted by U.S.A.I.D., need to be proposed for vaccine supply to UNICEF three months later. UNICEF/APO's final commitment was often only signed in April. A closer look at all stages involved in a planning-implementation-evaluation-reporting cycle explains the lag time in reporting on EPI:

FY-1	June-July	Plan for next years' acitivities with counterparts
	September-October	Obtain U.S.A.I.D. agreement for proposed work plan
	November	draw up order requests for cold chain equipment and other
	December	Submit proposed EPI work plan to UNICEF to obtain vaccines
FY-2	April	First vaccines arrive
	August-October	Mountain passes open for supply of VSF
	September	Planned EPI activities can start
FY-3	March-April	First reports on the activities planned in July FY1 arrive.

This schedule makes it extremely difficult to readily report numbers of Fully Immunized Children (FIC) a commonly used indicator used for cost analysis and to calculate impact.

In order to have an idea of possible impact and probable costs, the AHSSP used numbers of doses shipped inside as counting unit. The number of doses, minus the normal wastage, divided by the total number of doses a FIC should get, gives a theoretical value for the number of FIC. When results come in, the number is recalculated on the total number of actual doses administered. This is discussed in greater detail under 3.6.2.

Because of the ban on expatriate travel to Afghanistan and the reluctance regarding MSH direct local hires circulating inside Afghanistan early in the Project, evaluation of program progress rested largely on reports obtained on regular basis from the counterparts. In order to minimize the skewing of results due to factors beyond control of the actors (delay in vaccine supply by UNICEF, the "ban", road blocks) the AHSSP followed closely reports as they came in, subtracting days, weeks or months to neutralize these delays. Total program progress was followed on four spreadsheets: one that listed the achievements on their actual reporting date, one that neutralized the difference between FY and CY, one that neutralized further the delay in vaccine delivery and one that neutralized further delays due to the "ban" and road blocks.

It is this last spreadsheet that will be referred to when discussing results, as it reflects best the implementing capacity of the counterparts.

While at PMD and at each VSF vaccinators were debriefed when they came for resupply. The following reports were discussed with the PMD and the EPI in-charges on regular basis by the AHSSP technical staff:

a. Monthly vaccination summary forms by district.

b. Vaccine and EPI supplies stock reports.

c. Districts and Villages covered.

d. Proportion of static, out reach and purely mobile activities.

3.6.2. Indicators

From the stock reports evaluation was made whether the first in - first out principle was respected and whether cold chain was maintained Vaccine wastage rates were used as indicator of quality of technical work by the vaccinators and cold chain technicians. Except for Tetanus Toxoid, the wastage rates were in most occasions lower than the averages given by WHO. Tetanus Toxoid tended to be high because a vial of 20 doses was opened even for one or two women. When wastage rates were higher, particular reasons could always be identified.

The planned number of fully immunized children was compared with:

a. number of measles vaccinations, which indicates the extend to which the planned target population has been reached. In a normal situation, measles is the last antigen to be given and indicates the FIC;

b. number of calculated "FIC", which indicates the possible number on fully immunized children, obtained by dividing the total number of doses of all antigens given by 5. This may be different from the planned number of FIC, if the wastage rates for the antigen were different than planned;

c. number of DPT(P)3, which represents most accurately the actual number of FIC in this program. However, since for the early program DPT(P)3 was not advocated in the UNICEF policy, the early years are bound to have low DPT(P)3.

Likewise for the women vaccination, the concept of Fully Immunized Women ("FIW") was used: any female who received at least three shots of Tetanus Toxoid. Again, this allowed comparison of planned with calculated and actual. Target ages, percentage of target population per district and frequency of visits in villages were also evaluated. With the MOPH for each

team, and with the RHA in each district, the extend to which existing facilities and BHWs were used was evaluated.

3.6.3. Results.

For all results represented in the graphs, the numbers of 1993 are extrapolated or based on partially received reports (about 13% of the total vaccine shipped).

3.6.3.2. Child Vaccination.

Figure VI - 1 and Table VI - 3, show the planned "FIC" against the calculated "FIC", the actual number of measles vaccinations and the actual number of DPT(P)3.

Table VI - 3

	Planned "FIC"	Calculated "FIC"	Actual DPT(P)3	Actual Measles
1988	10,515	85%	0%	121%
1989	40,699	79%	10%	125%
1990	73,457	93%	14%	140%
1991	95,110	95%	34%	108%
1992	161,807	84%	56%	87%
1993	168,257	79%	65%	91%

More measles vaccine was administered than planned in the early years. This is explained by the fact that wastage rates were under the wastage rates used to calculate amounts needed and population estimates were at the best shaky and often an underestimation of reality.

The calculated "FIC" stays close to the planned outputs, which means that activities were performed as planned, be it with necessary delays.

The actual DPT(P)3 is low in the beginning and catches up later on. Several reasons explain this:

* up until 1992, the DPT(P)2 was accepted as sufficient;
* underestimation of the population in the target area led to proportionally more DPT(P)1, which matches the measles curve;
* less DPT(P) was supplied than originally planned, leaving VSFs with insufficient vaccine to cover all children vaccinated once three times;
* pressure of the local population on the vaccinator to vaccine at least every child once.

Figure VI - 1.

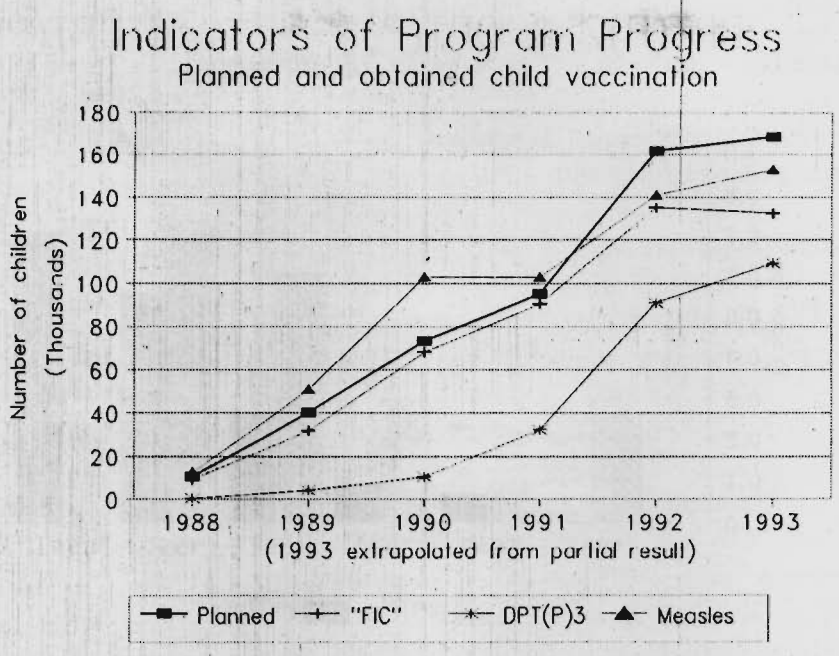

Figure VI - 2.

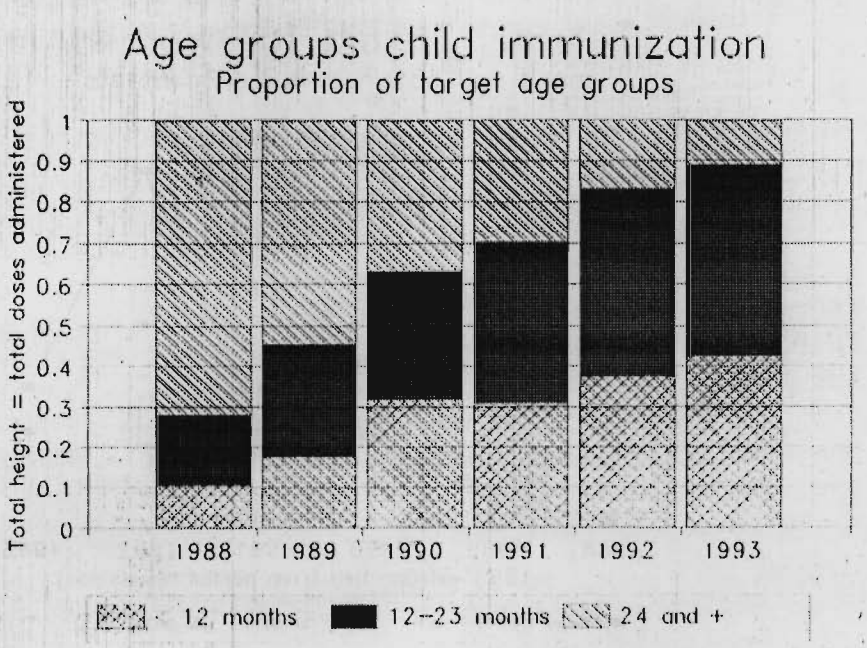

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Figure VI - 3.

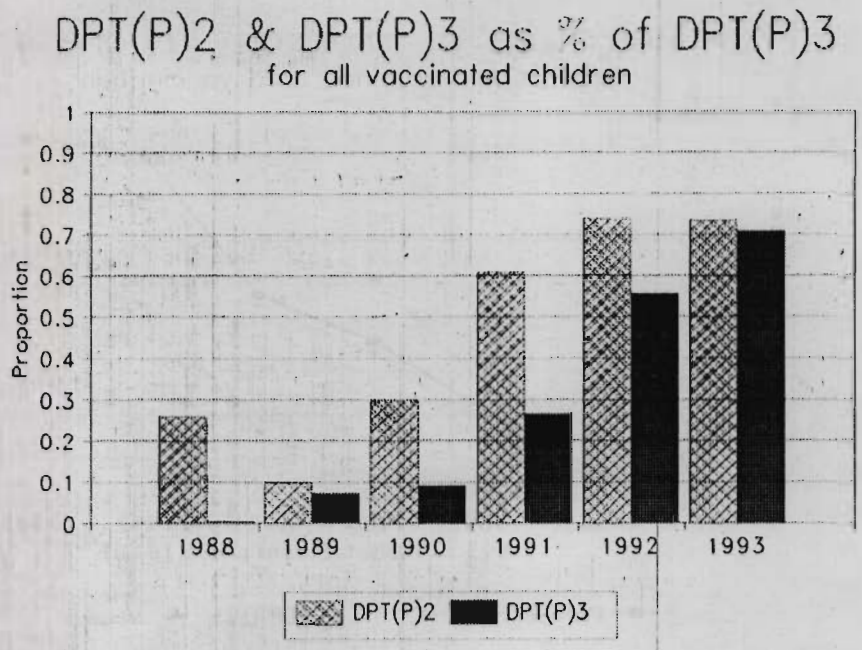

Figure VI - 4.

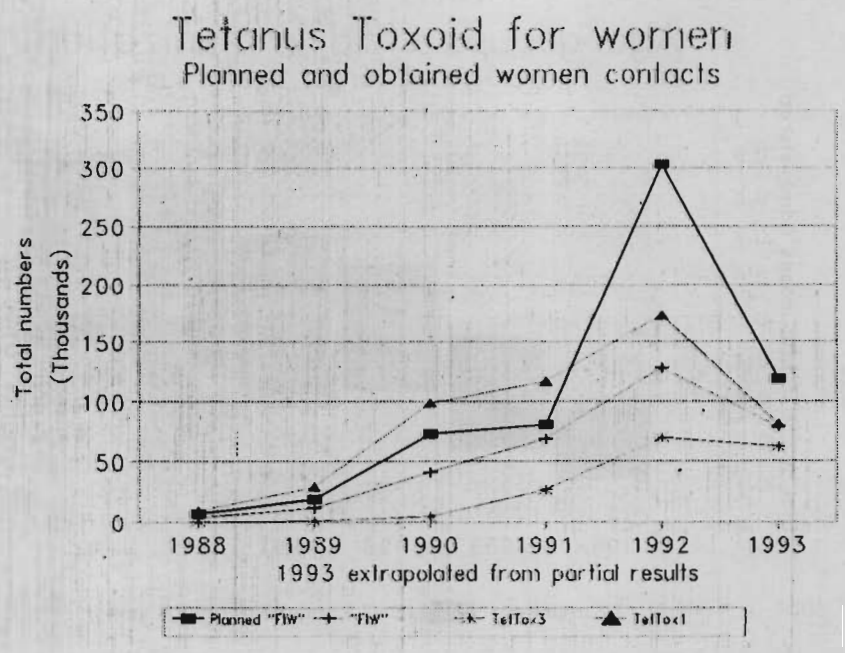

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Figure VI - 5.

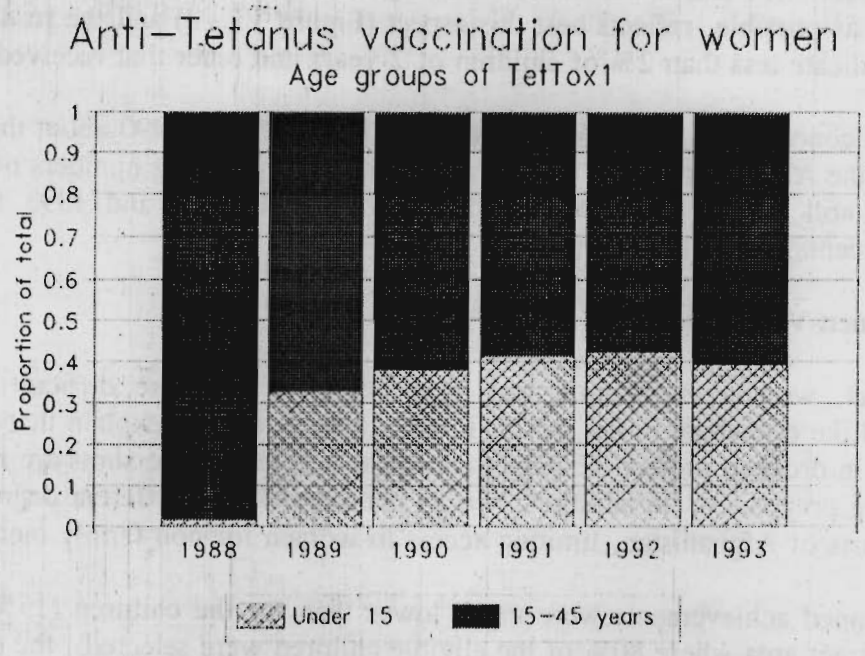
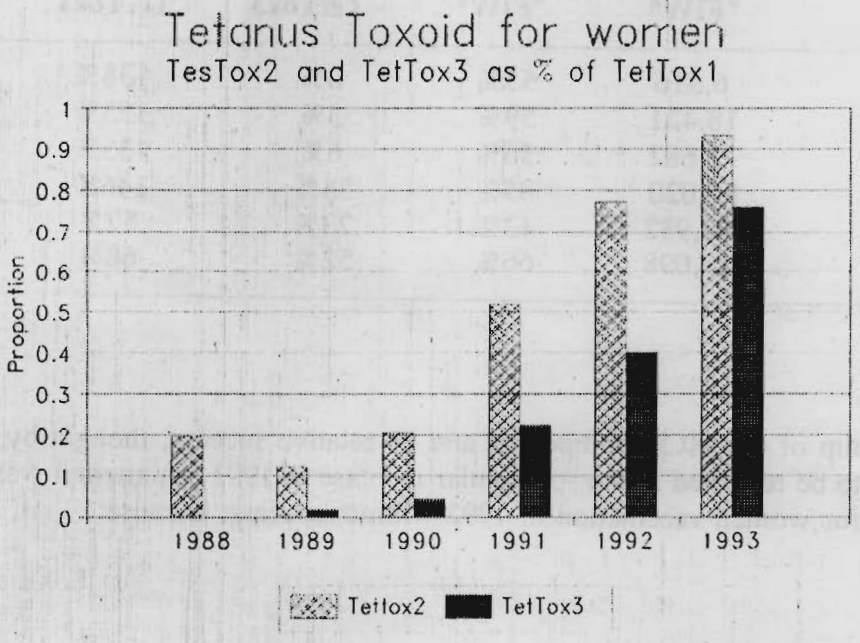


Figure VI - 6.



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Target age groups were relatively well respected (Figure VI - 2). Since 1989 the AHSSP tried to focus on under twos and under ones, but the general policy changed only in 1992. BCG, given as early as possible, reflects best this aspect (Figure VI - 3) and the results obtained for 1993 so far indicate less than 2% of children of 2 years and older that received BCG.

While a lot of concern was expressed by WHO and UNICEF in 1990 about the low coverage for DPT(P)3, the AHSSP from early on was able to show increasing numbers of DPT(P)3 over time. While still definitely subject to improvement, the 1992 and 1993 figures show a reasonable percentage of DPT(P)3 (Figure VI - 4).

6.3.6.2. Women Vaccination.

From the start, women vaccination had been perceived as more difficult than the child vaccination. Like elsewhere in the world, it is not always easy to explain that women have to be vaccinated in order to protect the newborns and that at least three shots are needed and with boosters during pregnancy. In addition, *purdah* is observed with different degrees of strictness in different parts of Afghanistan, limiting access to women for non-family members.

While the planned achievements were much lower than for the children (15% of all eligible women in a target area where 80% of the eligible children were selected), the degree to which they were achieved are encouraging.

Table VI - 4

Year	Planned "FIW"	Calculated "FIW"	Actual TetTox3	Actual TetTox1
1988	6,516	55%	0%	138%
1989	18,421	59%	3%	155%
1990	72,682	56%	6%	135%
1991	80,020	85%	33%	146%
1992	302,952	42%	23%	57%
1993	119,098	66%	52%	68%

After the startup of the MCH component and its relative success, thought by the counterparts and the team to be reflected in the spectacular increase in 1991, an attempt was made to double the coverage for women vaccination in 1992 without success, because:

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* establishing a firm operational link between the two components proved more difficult than expected;
* the attention of some of the key senior health managers was drawn elsewhere (takeover of Kabul and formation of a government).

3.6.4. MOPH and RHA.

The different strategy with the RHA paid off. Comparing a few key indicators for the RHA and the MOPH speaks for itself. But one should not forget that the performance of the PMD was as good, if not better than that of many NGOs working in the cross-border EPI.

	MOPH	RHA
Number of villages covered at least once	1,398	2,269
Proportion of total vaccinations	30%	70%
DPT(P)3 as percentage of DPT(P)1 in 1993	58%	87%
Calculated "FIW" as percentage of planned "FIW"	16%	26%
Cost(*) per calculated "FIC" in 1991	13 USD	6 USD
Cost(*) per DPT(P)3 in 1991	22 USD	8 USD

* Cost does not include UNICEF vaccine and TA.

3.6.5. Coverage Surveys

Local rapid assessment coverage surveys were conducted in Takhar, Paktya, Pakteka and the Hazarajat.

A 75 closest household survey was conducted in Kalafgan (Takhar) in 1991, by the field supervisors of the House Hold Survey. 93% of all under fives were claimed to have been vaccinated with at least one antigen, 90% had filled out immunization cards. The cards showed 90% vaccinated with DPTP1, 41% with DPTP2 and 67% with measles. The difference in coverage between measles and DPTP1 is attributed to underestimation of the population.

The same kind of survey was conducted by the EPI in-charges of HCPP and HCCA in 1992 and 1993. EPI in the areas surveyed was implemented through different NGOs. The findings were similar. Good coverage of the population and by then reasonable coverage for DPT(P)3. Some discrepancies between planned and implemented EPI for some of the NGO. These surveys served as a base for discussions between the EPI in-charges and the concerned NGOs and UNICEF.

3.7. Promote Integration into Existing Rural Health System.

Different strategies can be used to bring vaccines to the target groups: mobile, static and out-reach. All are valid in certain circumstances and all have advantages and disadvantages. All have been or are in use inside Afghanistan.

Knowing the existing health facilities and workers of its counterparts, the AHSSP opted for linking all EPI activities to these existing facilities, as far as possible. Opting for fixed-point and outreach where feasible, the program hoped to:

* have immunization services available on year-round basis;
* focus attention from cold chain maintenance (over emphasized, because very difficult in mobile strategy) to community involvement;
* employ more readily female vaccinators, since they wouldn't have to travel that much;
* have more readily access to the lower age groups; and
* involve already existing health personnel in EPI, in order to cut costs.

Although both PMD and RHA agreed with this policy line from the start of the program, results leave room for skepticism about the efforts put into it's implementation. At the end of the program, EPI was claimed to be established as a fixed service in a small number of facilities.

MOPH	3 (monitored)
HCCA	15 (monitored)
SCNA	25 (of which 11 monitored)
SSWA	2 (monitored)

Only the HCCA had the majority of its activities based in its clinics/rural hospitals and performed regular out-reach activities from there.

To a much greater extend, mobile teams used clinics as temporary base for mobile immunization in the surrounding villages. This was true for the RHA and MOPH both. The RHA also used the BHWs as valued intermediaries to mobilize and inform the community.

Local transport costs claimed for teams or vaccinator were always below the maximum rates that could have been claimed. This confirmed the claims by both PMD and the RHAs that the local population contributed by providing transport and sometimes free food and lodging to the EPI personnel. The exact amounts were impossible to quantify.

3.8. Promote Integration Into One National Program.

3.8.1. Antigens Used.

UNICEF had cautiously started cross-border activities from Peshawar since 1987. Through discussions with the - at that time - very limited number of counterparts (AVICEN, MDM, MSF, NCA) UNICEF opted for IPV, in combination with three other antigens. Reasons behind this decision were:

a. IPV needs only two shots for acceptable sero-conversion of polio, thus limiting the number of visits necessary;
b. OPV was at that time considered very instable;
c. IPV presented less bulk to transport, and transportation costs across the border were a major cost center; and
d. DPTP could be used as solvent for freeze dried measles vaccine, thus still reducing the bulk for transport.

With these antigens, a fully immunized child would have received:

1x BCG
1x measles
2x DPTP

The available combination of DPTP is very expensive, which does not make very much difference for small pilot programs, but becomes prohibitive in larger programs. Focusing on the "eradication of polio by 2000", the need of a third dose for efficient protection against whooping cough, was not considered a priority in the start up phase.

For the obvious financial reasons, this was changed when the program reached a larger degree of expansion. After 1991, oral polio was introduced and a FIC had received:

1x BCG
1x measles
3x DPT
3x polio

3.7.2. Target Age Groups.

3.7.2.1. Children

The age group for children had been set by early cross-border EPI implementers at all under fives, not because of epidemiological reasons, but to have "big numbers" of easily available children, and to focus on the children seen as important by the local population. After a short pilot phase, this age group would be changed to under twos and under ones. Although arguing against this policy, the AHSSP complied to the requests of both PMD and the RHA to stay in line with the other implementers.

The AHSSP therefore focused on convincing UNICEF/APO and the NGOs of the EPI Coordination Group to alter age groups. This was only achieved totally in 1992, after several WHO/UNICEF consultancies on the subject, when Kabul-based and cross-border EPI were brought into the same program.

3.7.2.2. Women

The global target group are women of child bearing age and preferably the pregnant ones. Given that 99% of the vaccinators were male in the cross-border EPI, these women were difficult to get to because of the *purdah*. Early cross-border immunization therefore had focused on girls before the *purdah* age. This approach has been adopted nationally: give three or four shots before puberty, and a single shot afterwards will provoke the necessary booster of circulating antibodies.

3.7.3. Coordination and the Lack Thereof.

Technical coordination on cold chain equipment and supplies was not a problem, mainly because of the flexible attitude Of the AHSSP and U.S.A.I.D. regarding the origin of equipment and supplies.

Strange as it may seem for such a circumspect activity, the cross-border immunization effort suffered more severely from lack of coordination between different donors and between implementers in Peshawar on any other policy related issue.

Several factors explain, but certainly do not excuse the climate of suspicion and distrust within the EPI community in Peshawar:

* the absence of WHO till 1990 as a valid and readily available resource of standardized policies regarding EPI and the failing of UNICEF to find experienced senior staff for its cross-border office left a leadership vacuum;

* some donors funded cross-border EPI with irregular ("emergency", "earmarked") funds that needed to be spent quickly and by identified implementors which, combined with a limited implementation capacity in the early years, put several donors in a competitive position;

* the uncertain funding position of some of the major foreign EPI implementors, combined with the employment short-term expatriate staff, with sometimes no prior experience in EPI created a setting where coordination was seen by most as "more work", that ultimately might lead to loss of credit for achieved results;

* most implementors of EPI were expatriate committees, with no activities in any other country but Afghanistan and with established other activities in certain areas of Afghanistan: both EPI and that given (geographical, political, ethnic,...) area inside Afghanistan would be seen as "private territory" by some implementors, but a territory they neither completely occupied nor successfully controlled regarding EPI, leading to extremely aggressive attitudes to any perceived interference.

As a result, any questioning of the ongoing process on epidemiological or cost effectiveness grounds, was considered to be based on ulterior (political) motives. The counterparts of the AHSSP were neglected as either non-existent or labeled as puppet organizations set up for

containing other child survival activities and supported by local and regional authorities, an EPI component can be a valuable intervention both because of its positive interaction with other child survival activities [6], its possible function as "sensitizer" of the community for children's and women's health, and motivator for rational planning in general.

3.9. Other Child Survival Interventions

3.9.1. Control of Diarrheal Diseases

From the start of the program, BHW training paid much attention to adequate treatment of diarrhea in children. BHW assessment teams focused on the actual prescription behavior, and based on their impressions, ORT was included in the BHW refresher course.

Table VI - 5 below compares a 5% sample of over 320,000 patient visits in FY-89, recorded by BHWs, with a 10% sample of 150,000 patient visits in CY-90, recorded by mid-level and senior health care providers from different CMC member groups, and a 5% sample of 34,000 patient visits in FY91, recorded by mid-level and senior health care providers of the MOPH and the SCNA. The patient visits concern only children under five years of age.

Table VI - 5
Comparison of Attitude Towards Diarrheal Diseases
Based on Greenbook Analysis of Different Type of Health Workers
(CMC=facilities of several NGOs, AHSSP=facilities supported by the AHSSP)

	BHW	CMC	AHSSP
Total under fives	1,083	2,246	482
Diarrhea and dysentery	33 %	32 %	35 %
treated with ORS	81 %	54 %	29 %
treated with antibiotics	27 %	79 %	70 %
treated with antidiarrheics	0 %	0 %	0 %
Simple diarrhea	10 %	24 %	15 %
treated with ORS	56 %	17 %	27 %
treated with antibiotics	17 %	84 %	46 %
treated with antidiarrheics	0 %	0 %	0 %

Diarrhea is recorded as a problem in 1/3 of all patient visits. BHWs tend to be more inclined to treat diarrhea with ORS, and less inclined to use antibiotics than the other groups of health care providers. In all three samples "simple diarrhea" is a minority of the diarrhea cases. The available material did not allow to assess whether this is due to over-diagnosis of different types of dysentery, or because children with "just a little diarrhea" were not considered sick enough

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to call upon a health worker. Nor is it possible to assess the quality of the ORT given: one can only conclude that the link diarrhea - ORT is made more frequently by BHWs than by other health workers. Maybe because of the very limited pharmaceutical arsenal of the BHW?

In December, 1990 WHO and UNICEF organized a joint workshop with all agencies active in CDD, ARI, EPI and MCH. The resolutions of the workshop would lead to a plan of action for CDD:

promote the use of ORS by all cross-border health workers,
promote the availability of ORS nation wide inside Afghanistan,
promote the establishment of ORT corners in existing health facilities

In order to achieve this, WHO-UNICEF-MSH planned joint CDD workshops for senior Afghan health workers. The logic behind the selection of this target group was that obviously BHW and a lot of the Peshawar trained mid-level health workers were using ORT reasonably well. It was therefore important to convince more senior health personal, in charge of the first referral level and training or refresher training of the said health workers, of the therapeutic and preventive value of adequate ORT.

With Dr. Abdul Latif as one of the most active stimulators, four joint workshops were organized during 1991-92 in Peshawar and in Quetta. Many of the participants had never rehydrated a child themselves. All participants of the RHA requested the workshops to be repeated in their training centers inside Afghanistan, to have a broader audience benefit from the experience. The ban prevented any workshops inside Afghanistan in FY-1991 and by 1992, attention was drawn to Kabul.

A joint program with UNICEF was planned for 1992, to establish ORT corners in health facilities inside Afghanistan, but by February it became clear that UNICEF would not have the budget to implement its part of the program and supply standardized one-liter jugs for all families in the catchment area of the facilities.

Table VI - 6

Origin of the Participants in the ORT workshops

	Peshawar Mar-91	Quetta Apr-91	Peshawar Aug-91	Peshawar Aug-92	Total
MOPH	1	4	4	5	14
SCNA	3		3	1	7
HCCA	2		3	3	8
HCPP				3	3

SSWA	2	1		2	5
SCA			3		3
MCI		4			4
INDOORS		1			1
IAHC		2			2
MSF B/H		2			2
WHO				1	1

3.9.2. Acute Respiratory Diseases.

As with CDD, much attention was given in the BHW training and the respective refresher course to match standardized diagnosis and treatment of ARI with the WHO guidelines. In the senior health management workshops, stress was put on the fact that BHWs were able to diagnose pneumonia without stethoscope. In all refresher courses, attempts were made to have case definition, diagnosis and treatment concordant with the latest WHO guidelines. Analysis of the same Greenbook samples for ARI show clearly that different definitions had been used for the different ARI diseases by different agencies, which makes comparison irrelevant.

3.9.3. Tuberculosis

The estimated prevalence of 10% in 1971[7] and an estimated 3.53% incidence of new TB infections in school-entry aged children in 1982[8] confirm the popular claim that tuberculosis is one of the major health problem in Afghanistan.

The requests for control programs inside Afghanistan were multiple. After consulting with the Italian Cooperation for Development (ICD), in charge of the Tuberculosis Control Program for the Afghan refugees in Pakistan, the team did not think anything else than selected sites for correct diagnosis and treatment of primarily the BK+ patients feasible at the time.

Still, adequately screening suspected TB cases with sputum smear-microscopy is worthwhile. Only about 10-20% of the infected persons actually develop the disease and of all persons developing the disease, 30% will heal spontaneously. Of all detected cases, 50% are positive in sputum-smear microcopy (BK+). The BK+ are the ones that infect others in the community, the sooner they become BK-, the less they'll spread the disease.

A good field laboratory with a competent laboratory technician will detect close to 100% of all BK+ after three examinations per case, while to diagnose a BK- patient as a tuberculosis patient, radiography and expert radiologists to interpret the radiographies are necessary, and still you will treat five false positive for every real tuberculosis patient treated.

Concern for supervision and continuity of care led to the following conditions to establish a diagnosis and treatment center:

* the facility must have been active for at least two years;
* one, and ideally two microscopists with the necessary equipment and supplies are permanently available;
* an M.D. is in-charge of the program, to ensure clinical evaluation of patient, both regarding the disease and the side-effects of the treatment;
* samples of the slides are sent regularly to Peshawar for cross-reading by the referral laboratory of the W.H.O.

Six month treatment with *isoniazid (H), pyrazinamide (Z), and rifampicin (R)* in a two month intensive phase and *H+R* in a four month follow up was opted for. This is rather expensive, but on a small scale and in the given conditions, the shorter the complete treatment, the less likeable would be patient drop out. Replacing the *rifampicin* with *thiacetazone* in the follow-up phase would allow to drastically reduce costs if the program got expanded.

In total five small diagnosis and treatment centers were set up: Jaghori (C-1), Taloqan (H-2), Mazar (H-2), Onaba (H-3) and Baharak (H-3). One (Onaba) was dropped from support because of insufficient reporting.

Like many small-scale pilot programs, results are encouraging:
good quality of lab readings;
low drop-out rate of the patients who start treatment
rapid conversion to BK-, once the treatment is started.

Table VI - 7
Summary of Reports Received by End of Program.

Sputum examined	5,562
BK+	1,199 (21.56%)
Completed treatment	1,004 (84.74%)
Under treatment	233 (19.43%)
Dropped out	18 (1.50%)

The difficult task of ensuring patient compliance for the full treatment has been achieved by close follow-up of a relatively small number of patients. The challenge in the near future, if funds for expansion are available, will be to set up a consolidated referral and supervision system, allowing BHW's to refer all suspected cases for diagnosis, and follow up on all patients under treatment in their community.

3.10. General Conclusion.

The individual benefits for those vaccinated and treated are clear. Less obvious and difficult to quantify, is the benefit to the managerial capacities of the health personnel involved in the process of planning, implementing and evaluating the programs described above. Most of them had none or limited prior experience as managers, and certainly not in a decision making capacity. Most of them had a sound knowledge of the technical medical background of the problems tackled. But suddenly they had to make decisions on the optimal use of limited financial and human resources, concerning a big number of possible beneficiaries. Determining which interventions were feasible, and to what degree, in the absence of a recognized central government, but under immediate pressure of a needy population and local or regional politicians proved to be a major challenge and at the same time also an opportunity to show the importance of taking into account:

* the interdependence of different health interventions between each other,

* the interaction of available general resources and logistics with targeted health interventions, and

* the need for baseline data in order to make decisions that were not only rational on paper, but had also a reasonable chance of being implemented.

It also permitted introduce on another than national level the use of rudimentary health information systems (*see* Section VIII, Management Information Systems) thus encouraging decentralization.

4. CHALLENGES AND CONSTRAINTS

A. The PMD as an Institution

The PMD managed to survive and function in spite of little support from the AHC. Daily administrative problems (i.e. getting the signature of the AHC President on salary requests for vaccinators ready to leave) tended to interfere with operations, often unduly delaying field activities. This also prevented the PMD from giving full attention to evaluation and improvement of the quality of the program as a whole. After two years PMD had acquired enough credibility within the AHC to obtain a reasonable amount of autonomy for day-to-day operations, including financial transactions related to field operations. After the creation of the MOPH, PMD continued functioning, but definitely on a sidetrack. Only its director belonged to ANLF, and he insisted on keeping other parties' experience in the PMD, contrary to the "political cleansing" in most other departments.

B. Selection of Vaccinator Candidates for PMD.

A problem was to ensure that only people who would probably go inside Afghanistan after finishing the vaccinator course would be selected. The PMD held entrance tests for future vaccinators, assessing basic education and knowledge of the candidates. While a lot of refugees, living in Peshawar, took and passed the entrance test, very few ever were admitted to the course. PMD, supported in this by the AHSSP team, made the presence of the candidate's family in the target area inside Afghanistan a prerequisite. Although this resulted in candidates with poorer general education, PMD argued that only these people would be motivated to work for long stretches inside Afghanistan.

PMD changed AVICEN's curriculum, to allow training of candidates with poorer general education laying:

a. more emphasis on basic mathematics and Latin alphabet in the beginning of the course;
b. less emphasis on background information on target diseases and immunity;
c. more emphasis on community mobilization.

C. Motivation of Trainees of the RHA

The RHA faced several problems with training in Peshawar. Suitable candidates were often unwilling to make the (dangerous) trip to Peshawar. The fact that one Hazara member of the first batch of vaccinators trained by the PMD was murdered by Waziri tribesmen while shifting his vaccine across the border did not help. After completion of training, the vaccinators were often offered better paid jobs by the Peshawar based NGOs. Shifting training inside solved this problem.

D. Training for Women's Immunization

During the training of the male vaccinators in the refugee camps, the PMD faced the problem to access women for vaccination. From 1989 onwards, the PMD hired female vaccinators as teachers that took over most of the practical training of the male vaccinators. MOPH was never officially consulted about this, in order to avoid negative reactions against PMD or the women.

Practical sessions of the RHA training were performed in the actual work setting, by accompanying senior vaccinators who had, more or less successfully, tackled the problem in the field.

E. Procurement

The lead time for off-shore ordering proved more than once poorly compatible with seasonal "windows" to shift supplies to the North, West and Center. Delay of six weeks in arrival of equipment, scheduled to be shipped autumn to these areas, delayed implementation of planned

activities for a year (i.e. in 1991). The fact that the same equipment was being used by all implementers permitted the people in the field to exchange equipment to a certain degree when necessary.

F. Transport of Vaccines

Very little vaccine was lost during transport from Peshawar to the VSF. The transport was organized by the RHA, either belonging to the faction in control of the area, or to a faction having enough clout to negotiate safe passage of the vaccine. Transport was negotiated with private companies, and commitment for reimbursement of "lost" goods was obtained before transportation. Half of the cost was paid in advance, the other half was only disbursed after receipt of proof of handing over the vaccines at the destination.

G. Reluctance Towards Fixed Point Immunization

Fear of losing control over personnel, fear for the safety of vaccine and equipment, initially little interest of clinic personnel to be involved in EPI without additional benefits all contributed to this reluctance. Evacuation of expatriate personnel due to the Gulf War, the "ban" on cross-border activities and political turmoil drew away attention of the players involved from this topic.

H. Divergent EPI Target Ages.

Once the target group for children was set on all under fives, for the reasons mentioned in 3.7.2.1., it proved very difficult to move back to the worldwide target group of under ones.
One argument to resist this shift back to the global target group, was that measles was epidemic in Afghanistan, touching many remote regions every other year or every three or four years and that consequently a lot of children tended to get measles after the age of 1.
The arguments of the AHSSP, UNICEF and WHO consultants, that still the younger children are most threatened by severe complications of the childhood diseases and that the global EPI policies were developed, based on experiences in countries as difficult to operate in as Afghanistan were criticized as "politically suspect". The findings of K. Cita in Nuristan, a comparable remote area in Afghanistan were conveniently considered irrelevant. She shows that 86% of the measles cases were 2 years of age or older, but case fatality drops from 36% for the under 2 years of age to 19% for the children between 2 and five, and 6% for the children older than 5 years of age [9].

Another argument to vaccinate older children was the pressure exerted by the local population on the vaccinator to do so. The counter argument that it was up to the vaccinators to convince local populations of the importance to focus on lower age groups was judged as 'lack of knowledge of Afghanistan' and 'lack of respect for the position of the Afghan vaccinator'. While it is always recommendable to incalculated the attitude of the local community into the

action plans, one puts the cart before the donkey if one lets popular believes dictate technical policy.

The argument was only settled when the main donors urged to cut back target groups to the smallest ones because of lack of funding.

5. LESSONS LEARNED

A. Although deviation from worldwide recommended general health policies may be possible on exceptionable basis, following precautions should be taken:

* detailed documentation should be given why the deviation was deemed necessary;
* key indicators should be identified to urge reassessment of the factors the urged the exception; and
* an explicit time table should be set up to re-assess the factors that influenced the decision for exception.

B. Choosing appropriate indicators to follow program progress from the beginning is very important. The indicators chosen by the AHSSP to follow the EPI progress may be challenged, but they have provided a tool to assess progress over time. In the environment of the AHSSP they also provided technical arguments for certain policy decisions, challenged as "political" by some. Recognizing the problems for reporting early on and good communication about the chosen indicators, prevented misunderstandings between U.S.A.I.D., AHSSP and counterparts.

C. Direct and rather uncensored interaction between PMD and the VSF personnel and their technical counterparts in MSH together with a relative big degree of autonomy of the same in operational decisions, including handling of program funds, certainly helped to keep up the momentum of the EPI component, despite periods of national and international turmoil.

D. The choice of EPI as first intervention focusing on children and women in the specific environment seems a good one. The available implementation strategies allow for different degrees of vertical versus horizontal intervention, both in time and in place.

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VII. PROCUREMENT AND SUPPLIES MANAGEMENT

Vimal S. Dias, Advisor

1. INTRODUCTION

Procurement activities during the nearly eight years of the Afghanistan Health Sector Support Project (AHSSP), varied considerably in terms of range of products procured, volume of purchases, medical logistics training, and degree of sophistication in using procurement systems and procedures. Hence, it would be useful to describe procurement activities in terms of three separate development stages, as outlined below.

Initial Stage: At the inception of the Project in 1986, attention was mainly focused on providing relief to the war wounded mujahideen. During this initial period, about 50 drugs and a small range of medical supplies were procured to cater to the needs of a few Basic Health Workers (BHWs) and clinics set up for providing Health Services. Medical kits used by MSH at this time was greatly influenced by what the Swedish Committee for Afghanistan (SCA) was using for their health delivery systems in Afghanistan. At this time, procurement activities were handled as a part of Field Operations.

The Second Stage of Rapid Expansion: With the rapid expansion of health services and training of BHW'S, *dai*'s and doctors, the need for using new types of kits increased very significantly. Hence, the volume and range of medical supplies needed for assembling a wider range of medical kits also increased substantially. This in turn, placed a very heavy work load on procurement activities, demanding the use of advanced systems for planning and controlling inventories.

At this stage, it was quite evident that procurement activities could no longer function efficiently under Field Operations. Hence in 1989, a separate Procurement Department was set up for providing procurement services to a rapidly expanding cross-border health delivery system. This unit consisted of a team of four persons headed by an expatriate Procurement Advisor, and assisted by a senior Pakistani pharmacist.

It was soon becoming evident that current procurement systems and procedures were rather inadequate in supporting a rapidly expanding health system. Hence, much time and effort were directed towards designing and implementing appropriate information systems to support procurement needs for drugs, medical supplies, equipment and general supplies. In addition to designing new systems, much time was spent on training and developing procurement staff in using of new computerized systems.

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Final Stage of Phase Down: The growth period in procurement activities which began around 1989 continued until around 1992. However after 1992, volume of purchases started to decline heavily for many reasons. As there was some doubt about the level of future donor support for Afghanistan, it was decided to reduce operating costs, through Combined Procurement, kit standardization and rationalization. Through such cost reduction efforts, substantial savings were achieved in terms of reducing cost of supplies.

Even though this was a period of relatively low purchases, it was rather a difficult time, not knowing exactly how best to respond to procurement needs at a time when the Project's future was in doubt. Finally, the decision to completely close down the Project in April 1994 without a follow up, compelled procurement and warehouse staff to empty the Warehouse at short notice. This certainly placed a heavy work load on the Warehouse, which was already operating with a limited staff in line with the planned phase down.

The three periods described above is best portrayed in Figure VII - 1, showing the weight of medical kits shipped to Afghanistan in metric tons over the entire life of the Project. The relatively high level of shipments towards the end of the Project in 1993 and 1994, reflect large shipments of bonus BHW and clinic kits issued in order to empty the Warehouse.

2. OBJECTIVES

The main objective in operating the medical supply system was to maintain efficient systems for procuring, warehousing and issuing drugs, equipment, medical and general supplies required by MSH, and other U.S.A.I.D. specified external organizations under Combined Procurement, for supporting Afghan cross-border health delivery systems. In achieving this broad objective, the MSH Procurement Department adhered to the following set of key sub-objectives.

* Procure from suitable suppliers, a broad range of supplies needed by different departments of the Project, at the best possible prices, according to required specifications and quality, and within the standard lead time period of 3 months set for local procurement.

* Through regular audits for Good Manufacturing Practices (GMP) and Good Laboratory Practices (GLP), prequalify drug manufacturers for ensuring drug quality.

* Through good storekeeping procedures, minimize waste, pilferage, losses and drug expiry.

* Maintain appropriate Management Information Systems for procurement, inventory control, warehousing and kit management.

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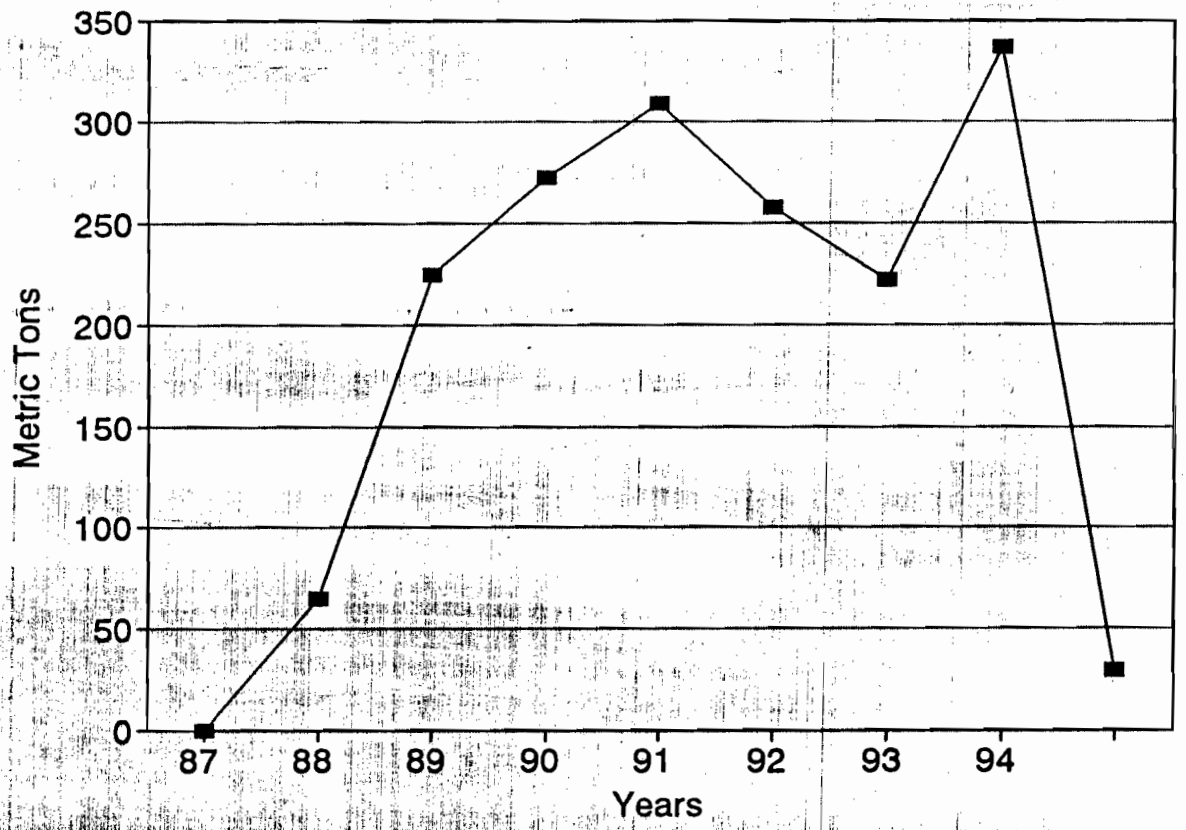
Figure VII - 1

Shipment of Medical Supplies



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* Assist in setting up drug depots inside Afghanistan and train workers in operation of medical logistics systems.

* Operate an efficient kit assembly program at MSH Warehouse to meet kit needs of MSH, and those of MCI and IMC under the common kit system.

3. ACCOMPLISHMENTS AND OUTPUTS

Much has been accomplished in areas of procurement, inventory control and warehousing over the life of the Project. Some of these major achievements, problems encountered, and lessons learned are described in the following sections.

A. Use Of A Kit System

A close parallel could be drawn between military logistics and medical logistics. In fact, many modern techniques could be traced back to methods that were discovered by the military many years ago. Some of these old techniques and some new, have been used in providing cross-border logistic support to Afghanistan based in Peshawar.

Considering the somewhat unusual nature of this cross-border program, the need for developing and maintaining efficient logistics systems were well recognized from the very inception of the Project. Logistics support constitutes a series of related activities that are critical for maintaining an efficient health delivery system in Afghanistan. These functions basically consists of procurement, warehousing, kit assembly and distribution, and accounted for over 40% of the program budget. Further, these activities have a significant impact on availability of medical supplies in Afghanistan and their therapeutic benefits.

Moving drugs and medical supplies from the MSH Central Warehouse in Peshawar to over 1500 Basic Health Workers and 180 health facilities spread all over Afghanistan across a 2000 km border with Pakistan was no easy task. There were many options for distributing medical supplies, but it was important to select a method that would be conducive to harsh conditions prevailing in Afghanistan, and still achieve program objectives.

From the very inception of the Project, supplies have been issued in the form of kits, and this practice has continued ever since. A kit system is basically *supply driven* (push system) as apposed to *demand driven* (pull system). It continued to be used for supplying medical supplies until the end of the Project, as it offered the following advantages.

i. Ease of transport and handling.

ii. Less breakages in transit.

iii. Inability to supervise prescribing habits and logistics operations within Afghanistan.

iv. Lack of trained and experienced personnel inside Afghanistan for ordering medical supplies and managing drug depots.

v. Less likelihood of pilferage.

vi. Ease of accountability.

vii. Limited access to Afghanistan due to severe weather conditions during winter.

viii. Lack of proper storage facilities within Afghanistan.

ix. Last but not least, kits offered the quickest way of moving large quantities of medical supplies under difficult conditions.

At the time of Project termination in 1994, about 25 standard kits were employed. For a complete set of these standard kits showing kit contents, refer to Appendix VII - 1

For most kits supplied to BHWS and facilities, an initial kit was provided for the very first issue. Thereafter, resupply kits were provided once in every six or 12 months. The initial and resupply kits are basically similar, except that the initial kit contained certain additional durable items which were required only when a new health facility was created, or when a BHW started his practice. All kit contents were determined by the Medical Advisor, and were revised frequently to reflect changing needs of the program. Standard kits that were utilized at the close of Project were as follows.

Basic Health Worker Kits

Basic Health Worker D Carton
Basic Health Worker D1 Carton
Basic Health Worker Field Kit (Initial)
Basic Health Worker Equipment Kit (Initial)

A basic health worker resupply Kit consists of one D1 Carton and five D Cartons, and is the presumptive needs for a period of six months.

Clinic Kits

Clinic Initial Kit
Clinic Resupply Kit

Small Hospital Kits

Small Hospital Initial Kit
Small Hospital Resupply Kit

Big Hospital Kits

Big Hospital Initial Kit
Big Hospital Resupply Kit

Special Kits

With the growth of health services and training, certain health facilities were upgraded to provide special services requiring use of special kits. Hence, the program began issuing a series of special kits to meet these demands. These include:

Abdominal Initial and Resupply Kits.
Emergency Kits
Amputation Initial and Resupply Kits
Dental Initial and Resupply Kits
Laboratory Initial and Resupply kits.
Xray Initial and Resupply kits.

MCH Kits

In line with the policy of developing MCH activities in Afghanistan, from 1990, the following MCH kits were also added to the range of standard kits.

Dai Kits
Special Midwifery Kit
MCH Initial and Resupply kits
Voluntary Health Sister Kits
Community Health Visitor Kits

BHW, clinic initial and clinic resupply kits accounted for the major cost of all standard kits shipped to Afghanistan. Figure VII - 2 and Figure VII - 3 illustrate the number of BHW, and clinic initial and clinic resupply kits issued each year during life of the Project.

B. Kit Plus For Kit Management

Maintaining an efficient kit system for supplying medical supplies is not merely a case of putting products in card board boxes and shipping them to Afghanistan. While proper systems and procedures were essential for the physical handling of kits, there was also a need for good information. As suitable computer packages for kit management were not commercially

Figure VII - 2

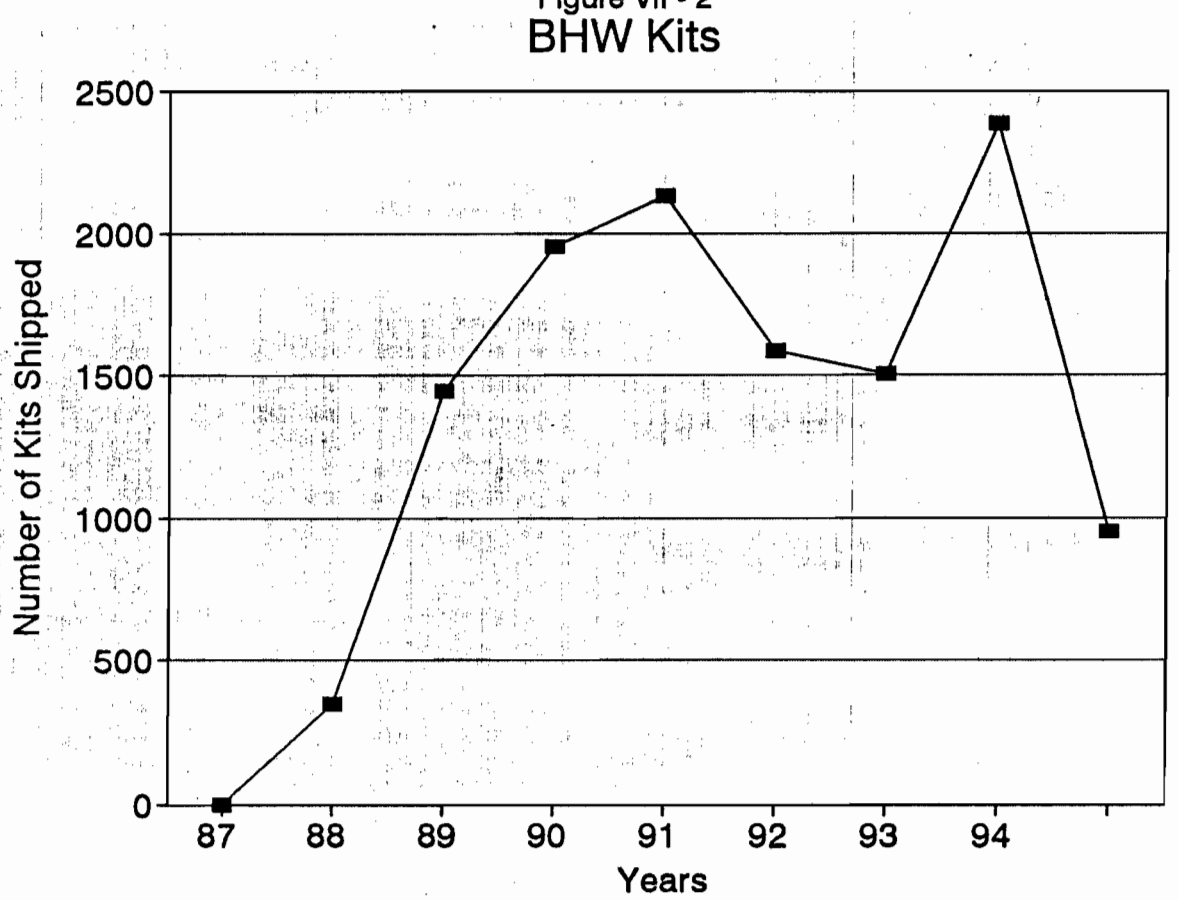

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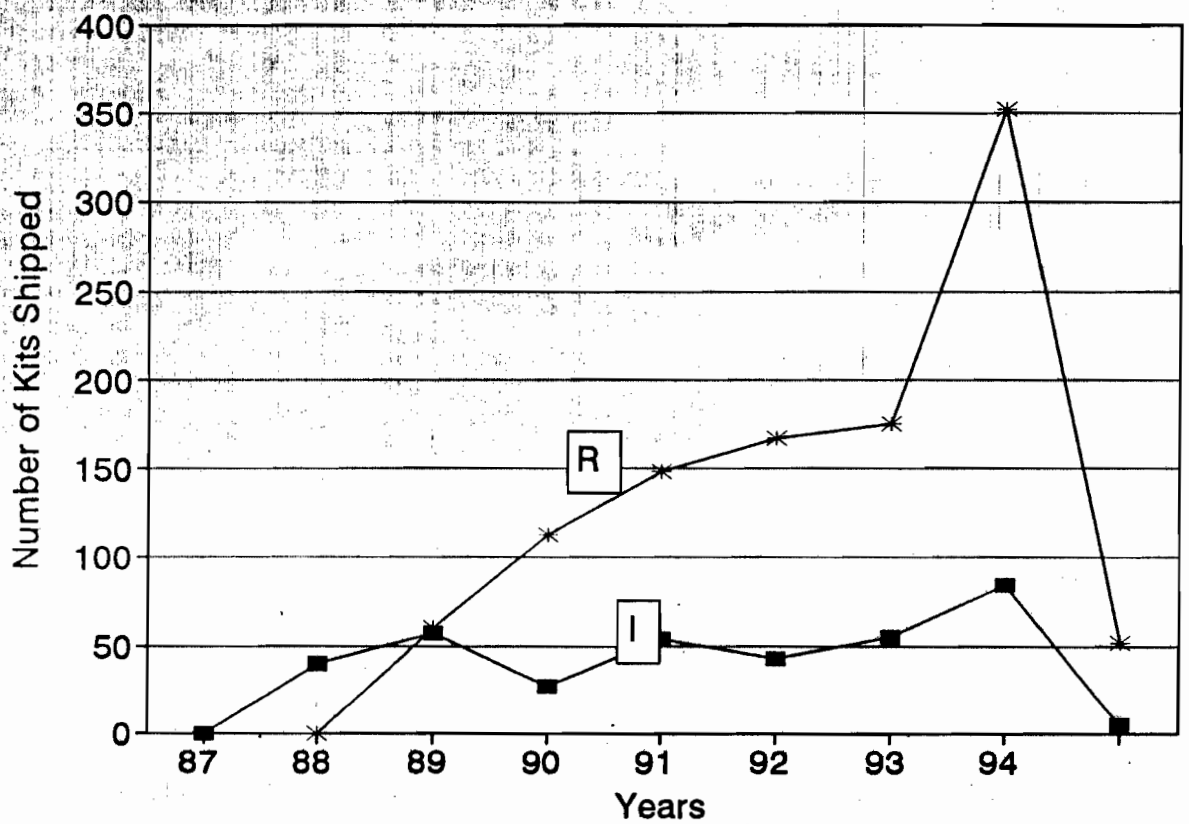
Figure VII - 3

Clinic Initial and Resupply Kits



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available, it was decided to develop a special purpose package for this purpose. In 1989, such a comprehensive user friendly menu driven package called "Kit Plus" was developed in dBase. Kit Plus has many useful features making it ideal for kit management. Some of these included:

i. Ability to create new kits, delete, and add individual items to kits, modify kit contents such as product names, codes, specifications, prices and kit quantities etc.

ii. Forecast kit requirements based on information provided by field operations, and order generation.

iii. Value kits using multiple currencies, and printing kit lists.

iv. Monitoring outstanding orders, up to the time of receiving supplies at the MSH Warehouse, and many other useful features.

Developing and maintaining a cross-border logistic system based in Peshawar for a country like Afghanistan requires good management. Having to deal with a variety of constraints such as harsh climatic conditions, a war torn country, poor transport and communication facilities necessitated the need for good planning and use of appropriate logistics systems. A wealth of experience has been acquired over the last few years in developing and maintaining logistic systems, and some of these are described below.

C. What was Procured

At the beginning of the program in 1987, purchases were mainly restricted to a few essential drugs that were issued to BHWS and clinics. With program expansion and training of health workers, both the number of kits and the range of individual items procured increased considerably. At the time of closing the Project, about 25 different types of initial and resupply kits were in use, utilizing nearly 600 individual stock items for their assembly.

A complete list of drugs, medical supplies, and equipment procured for assembling standard kits are listed under Appendix VII - 2. In addition to these medical supplies, the Procurement Department also procured all other supplies required by the Project for maintaining health services inside Afghanistan, MSH and RHA liaison offices in Peshawar.

These included:

Office equipment:	computers, printers, typewriters, stationery, airconditioners, photocopiers, and generators.
Vehicles:	bicycles, motorcycles, and pickup trucks.
Training equipment:	overhead projectors, slide projectors, and printing equipment.
EPI equipment:	refrigerators, freezers, cold boxes, and other EPI equipment.

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Figure VII - 4 illustrates the value of annual purchases of medical supplies.

D. Use of a Procurement Agent

MSH Procurement Office was not involved in all aspects of procurement, but only determined, "what", "when" "how much" of each item was to be purchased and in the selection of suppliers. Other routine procurement functions, such as identification of suppliers, inviting bids, receiving quotations and making supplier payments were undertaken first by AMEG until 1989, and thereafter by Ronco Consulting Corporation based in Islamabad. These procurement agents were appointed by U.S.A.I.D. for undertaking procurement for all U.S.A.I.D. funded projects.

Initially, MSH expressed it's desire to undertake all aspects of procurement. Considering the specialized nature of drug procurement, MSH's worldwide experience in drug supply management, and specialized software for drug procurement, it would have been best for MSH to have undertaken all aspects of procurement. However, U.S.A.I.D. assigned this task to a procurement agent having experience with U.S.A.I.D. procurement procedures. Even though it would have been best for MSH to have undertaken all aspects of procurement, the system of procuring through Ronco worked out quite satisfactorily.

E. Selecting Suppliers

Selection of suitable sources for medical supplies was important, as it had a big impact on price, quality and delivery. There were many potential sources for procuring drugs and other supplies needed by the program, as listed below.

* Strictly follow the "Buy America Policy" and import all drugs and medical supplies needed by the program from the US.

* Use open tenders by accepting offers from suppliers on a worldwide basis.

* Purchase majority of drugs and medical supplies from reputed manufacturers and distributors in Pakistan, and only import those items which are difficult to procure locally.

The initial reaction was to follow the "Buy America" policy. However, it was soon realized that such an approach would give rise to the following problems.

* Cost of medical supplies would be significantly increased, if purchases were made from U.S. based suppliers.

* Would need to deal with longer procurement lead times, making inventory control and procurement that much more difficult.

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* Standardization of drugs would be more difficult among NGOs participating in the Afghan health delivery effort.

For above reasons, the need for procuring from U.S. was dropped and a waiver was obtained against the "Buy America" Policy. Later each of the above mentioned procurement options were considered for price, quality and delivery. A decision was made to follow a policy of procuring drugs and other medical supplies from sources in Pakistan provided they adequately met desired quality standards. Only those items which were not readily available in Pakistan were imported. This policy coupled with a strict quality assurance program has worked well, thus reducing the cost of purchases and supply lead times to around three months.

F. Quality Assurance

When the Project was spending over three million dollars annually on purchases, most of it on drugs, it was important to obtain value for money. This was particularly so for drugs, where quality and prices varied so much.

The pharmaceutical industry in Pakistan has developed quite rapidly over the last decade. The industry consists of units ranging from small scale manufacturers to big multinationals. Use of manufacturing and quality control techniques varied quite considerably from one unit to another, and so did prices. For certain drugs, the difference in costs was as much as 10 times, as in the case of Multivitamin Compound. Hence identifying manufacturers producing good quality drugs at reasonable prices was one of the biggest challenges facing the Procurement Department

In line with U.S.A.I.D.'s policy of allowing local procurement of drugs, provided they met good quality standards, made it very important for MSH to follow strict quality assurance practices. Hence, as part of it's quality assurance program, MSH employed a system for prequalifying drug suppliers. Under this program, potential drug manufactures were subjected to Good Manufacturing Practice (GMP) and Good Laboratory Practice (GLP) audits on a regular basis. These audits on currently prequalified manufacturers and new suppliers, were carried out by experienced and a well recognized expatriate Industrial Pharmacists. Each manufacturer was prequalified to supply different types of pharmaceuticals such as, injectables, capsules and tablets, antibiotics and creams etc. At the time of closing the Project, there were about 45 prequalified manufacturers, consisting of an equal proportion of multinationals and local companies. Each prequalified manufacturer was audited once in two years. All drug purchases through Ronco were subjected to this process of prequalification as part of the quality assurance procedure.

G. Forecasting & Inventory Control

Forecasting kit requirements and inventory control are two related functions which need to be undertaken carefully, as it affects both availability and cost of operating the logistic system. Forecasting demand for anything is usually difficult, and forecasting requirements of medical supplies for Afghanistan poses special problems. It is not possible to use conventional

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forecasting techniques based on morbidity or past usage patters. Basically the demand depends on the resupply interval set for a particular facility or a BHW, and it's last resupply date. However, resupply times do not usually coincide with expected values of three, six and 12 months, due to a variety of reasons. Drop outs, cancellations, deaths, war, and lateness in picking up supplies due to unfavorable weather conditions and other reasons make a considerable difference between expected resupply intervals and what is actually achieved. This had a major impact on procurement practices, storage requirements and buffer stock levels.

As a means of improving forecasts, an attempt was made to study the variance between actual average resupply interval achieved in practice, and scheduled resupply interval established for each category of health workers and facilities. This helped in setting average lateness factors for each category of BHWs and facilities, rather than assume a global lateness factor for all categories. By incorporating individual lateness factors in making forecasts, as apposed to using a global lateness factor, the accuracy of forecasting kit needs significantly improved.

Due to the large number of kits, different resupply intervals, types of facilities and the number of individual users exceeding 1600, use of manual methods for forecasting would have been extremely tedious. Hence, a menu driven computer package called "Forecast" was specially developed in dBase to perform this important repetitive task for forecasting kit requirements.

Forecasts serve as inputs to the inventory control system, which basically helps in determining, "what needs to be ordered", "when to order", and "how much to order". Many commercial inventory control packages were available, but it was not possible to identify one which could cater to the special needs of the program. Various systems have been used from the inception of the program and have been continuously modified and improved. Over the last four years, a system of quarterly ordering was in use, where orders were placed four times a year, during January, April, July and October each year. Since orders have to be placed for individual items and not kits, it first became necessary to convert kit requirements to individual product requirements. Since a particular product could be in multiple kits, this complex task of estimating aggregate needs of each item was accomplished through a spread sheet program. This exercise provided each item in inventory, with an aggregate requirement over a given planning period.

Once aggregate kit requirements were identified, this information was fed to yet another spread sheet, which actually determined the quantity of each item that needs to be ordered for the planning period. This program took into account factors such as, current stock in hand and on order, Level of Buffer Stocks etc., in making out an order to be placed with Ronco.

It is important to mention that conventional inventory control techniques would not have been effective for conditions prevailing in Afghanistan due to the complex ordering system and large variations in demand patters during a given year.

Important steps undertaken for initiating quarterly orders are summarized below.

i. Employ "Forecast" dBase program on a quarterly basis for forecasting kit requirements over the planning period on a monthly basis.

ii. Convert kit requirements to individual item requirements using "KITCON" lotus program.

iii. Identify which items need reordering and their order quantities using Lotus program "MULTI".

iv. Order approved by U.S.A.I.D. and forwarded to Ronco for action.

H. Warehousing

Introduction: The MSH Central Warehouse in Peshawar has grown from a small unit consisting of a few small rooms to a large warehouse with over 28,000 square feet. At the peak of it's operation, it had a staff of over 60. This staff consisted of mostly Afghans and was managed by a former Pakistan Air Force Group Captain with many years experience in stores management. An organization chart of the Warehouse is illustrated in Appendix VI - 3.

The key operations involved in warehousing are as follows.

* Receive all items procured through Ronco and on local purchase.

* Store individual items in a Bulk Store.

* Issue individual items from the Bulk Store to the Assembly Shop, for preparing kits.

* Transfer assembled kits to the Kit Store.

* Issue completed kits to individual parties on instructions received from MSH Field Operations.

Receiving and Storage: At the point of receiving, all products are checked for conformity with supply contracts established by Ronco, the MSH procurement agent based in Islamabad. This vital function was carried out by an Afghan pharmacist in charge of the receiving section. Experience showed that maintaining strict product acceptance policies had paid off well, as it has greatly reduced the incidence of receiving poor quality products.

Over the years, many improvements have been carried out on storekeeping procedures. The Warehouse practiced many good storekeeping methods such as, locating items in alphabetical order for easy identification, use of First in First Out for issues for minimizing risk of drug expiry, continuous stock checks, and use of bin cards etc.

Kit Assembly Shop: The Assembly Shop is the hub of activity where individual items are assembled into cartons to form kits. This is a very labor intensive operation that involves repackaging drugs from large packs provided by suppliers to small poly bags containing a few hundred tablets or capsules. Hence, this operation needs to be undertaken carefully and under hygienic conditions. For this purpose, drugs such as tablets, capsules and injections are counted manually, placed in poly bags and heat sealed to protect contents. The task of sealing poly bags has to be done carefully to ensure that they are well sealed to stand extreme climatic conditions in Afghanistan.

Repackaging of drugs is an important step where much of the advantages derived from good procurement practices could be easy lost through poor repackaging and handling. Poly bag seals are frequently examined visually for good seals. This may not be the best test, but the failure to locate a suitable seal testing method has not left any other options.

Over the last few years, the packers at the MSH Warehouse have developed the operation of packing cartons into quite an art. This process has adapted many assembly line techniques to increase productivity. Further, special packing techniques were utilized for minimizing breakage and spoilage of kit contents, while in transit to far off destinations in Afghanistan. These include, ensuring that breakable and crushable items are put in the middle of cartons where possible and cushioned by soft items such as bandages and gauze pads etc. Further all cartons are enclosed by polyethylene covers to make them water proof. In addition, all kits were marked on the outside with a kit code for easy identification. Date of assembly was also marked on the outside of kits, so that users could employ kits with earlier dates first as a means of minimizing drug expiry. These techniques made it possible to reduce incidence of breakages, spoilage, mix ups, and expiry quite considerably.

Inventory Records & Computerized Inventory Control: No warehouse operation is complete without adequate records on management information and systems required for purposes of accountability. From the inception of the Project, information on inventory transactions such as issues, receipts and stock balances have been recorded for individual items and kits using a manual system using a set of stock cards. This practice continued until the end of the Project, but in 1990 a Computerized inventory control system was introduced for bulk and kit store operations. Since it was not possible to select a suitable inventory control package for controlling drug inventories, a special menu driven inventory control package called "Drug Inventory Control Package" (DICP) was developed in dBase.

DICP proved to be a valuable tool for exercising tight control over inventories, providing information for MSH management and U.S.A.I.D., and responding to many emergency situations in Afghanistan. DICP has generated a variety of useful information for managing the Project that was not available before using manual systems. These include, information on different batches of a given drug such as expiry dates, batch quantities and suppliers, year to date and month to date information on receipts and issues, and quantities on order and back orders.

The computer operator was initially given intense training on the use of this package. This contributed much towards the maintenance of a trouble free and upto date Computerized system right up to the end of the Project.

I. Combined Procurement

In early 1991, U.S.A.I.D. requested MSH to undertake a price comparison study on a sample of high value drugs commonly procured by MSH and two other U.S.A.I.D. funded NGOs, namely International Medical Corps (IMC) based in Peshawar, and Mercy Corps International (MCI) based in Quetta. This study revealed that prices paid by MSH for many of these common drugs were lower than prices paid by the two above mentioned NGOs. Further, MSH drug prices were for purchases from manufacturers prequalified for GMP and GLP. On the basis of this analysis, U.S.A.I.D., requested MSH to initiate a system of Combined Procurement with twin objectives of reducing procurement costs, and extending the benefits of procuring quality drugs through a system of prequalification to IMC and MCI.

Initially, the list of drugs coming under Combined Procurement was restricted to a short list of only 10 class "A" drugs (drugs with high dollar usage value). The merits of using this system was quickly apparent, and U.S.A.I.D. extended the system to cover all drugs and later to include medical supplies as well.

Under Combined Procurement, IMC and MCI raised their own procurement requests to fit in to MSH's quarterly procurement cycle. When placing quarterly orders with Ronco, an aggregate order was prepared showing separate needs of MSH, MCI and IMC. The supplies however, where shipped directly to IMC and MCI to minimize handling and shipment delays. In this Combined Procurement process, MSH's Procurement Department played a vital role coordinating operations between MCI, IMC, Ronco and U.S.A.I.D..

Under this Combined Procurement system, MSH raised orders for drugs and medical supplies worth $ 357,716 and $ 446,519 for MCI and IMC respectively.

J. Common Kit System

In 1992, the Combined Procurement system was replaced by a Common Kit system at the request of U.S.A.I.D.. The main reason for introducing the Common Kits system was to ensure that major U.S.A.I.D. funded health projects maintain common kits in providing health delivery to Afghanistan. The other reasons for it's introduction were to minimize transport delays, and communication problems experienced in dealing with MCI Quetta.

Under the Common Kit system, both MCI and IMC placed orders for ready kits with MSH Procurement instead of placing orders for a large number of individual items. When placing quarterly procurement requests with Ronco, needs of MCI and IMC were also considered. On receipt of supplies at the MSH Warehouse, kits for MCI and IMC were assembled separately, and transported by truck and train directly to IMC and MCI. The Common Kit system

continued until 1993, and kits to the value of $ 49,363 and $109,451 were assembled and distributed to IMC and MCI respectively.

K. Kit Standardization and Rationalization

By 1992, there was considerable doubt as to whether it would be possible to maintain the current level of donor support in future. Hence, cost containment was identified as the first step towards sustainability. Considering the fact that over 45% of the program budget accounted for supplies, and most of it for drugs, it was rather obvious that any cost reduction efforts should focus on supplies.

With this in view, contents of all MSH standard kits were critically reviewed, jointly by MSH, U.S.A.I.D., MCI and IMC. The objective was to explore ways of reducing kit costs by balancing therapeutic benefits and cost of supplies. Under this kit rationalization and standardization exercise, many items were completely deleted, number of the item included in kits reduced, items substituted by other cheaper products, and in some instances new items added to kits. In doing so, systematic cost reduction techniques of ABC and VEN Classification Systems were used effectively for maintaining a good balance between therapeutic benefits and costs. This was expected to lead to maximization of scarce resources and make sustainability plans more realistic.

The extent of cost reduction achieved with respect to commonly used kits were as follows.

Kit	% Cost reduction
D Carton	31%
D1 Carton	37%
Clinic Initial	43%
Clinic Resupply	48%
Dental Initial	49%
Dental Resupply	63%
Dai Kits	21%

L. Afghan Drug Depots

At the beginning of the Project, kits were issued directly from the MSH Warehouse in Peshawar to BHWS and all other facilities such as clinics and hospitals. However, in 1990, a decision was made by Field Operations to set up drug 10 depots inside Afghanistan managed by the four RHA health committees. Once kits were received by a particular depot, they were expected to be issued to all BHWS and facilities served by a depot. This system of preposting kits, significantly reduced the work load relating to issues at MSH Warehouse and also minimizing kit transportation costs to Afghanistan through bulk delivery.

Names and locations of the 10 drug depots are included in Appendix VII - 4. A typical drug depot had a small staff of about four persons headed by a storekeeper. MSH assisted these depots by providing stock record cards needed for maintaining inventories, basic furniture, office stationary, minor building improvements, pallets, and reimbursing depot rents. In addition MSH provided training in medical logistics to many storekeepers attached to these depots. An account of such training activities is described in the next section.

M. Medical Logistics Training

Afghanistan did not have a functioning medical logistics system that was centrally or regionally managed. The 10 regional drug depots, were created with the expectation that they would play a dominant role in building centralized or regional logistics systems in future.

All systems are as good as those who operate them. Hence, the need for providing training in basic general management skills and supplies management in particular were recognized from the very inception of the Project. From 1990 until the end of the Project, a total of 39 persons attached to Afghan drug depots were trained by MSH Procurement Department in Peshawar. This training consisted of:

* Basic class room training in general management, and supplies management.

* Providing hands on experience at the MSH Warehouse in Peshawar.

* Identifying weaknesses of current logistics systems, opportunities for improving performance and how financial assistance could be obtained through the Project for upgrading storage facilities in Afghanistan.

A course schedule of a typical supplies management course is included in Appendix VII - 5. However, it was not practical for all personnel attached to drug depots in Afghanistan to attend supplies management training courses conducted in Peshawar. Hence, a training of trainers workshop was conducted in Peshawar in 1991. The 18 persons who attended this course were expected to train their colleagues attached to drug depots in supplies management.

4. CHALLENGES AND CONSTRAINTS

In achieving results described above, the Procurement Department and the Warehouse had to operate under many constraints, facing many challengers. Some of these are discussed below.

A. Management Development

Over 1,700 tons of medical supplies have been delivered to Afghanistan over the life of the Project. While this has been a major achievement, procurement and warehousing operations

have also provided a great opportunity for Afghan staff to improve their management skills. Perhaps this is an invisible benefit that is rather difficult to quantify, but yet very significant.

Afghans attached to drug depots in Afghanistan needed logistics and management training for operating their current systems based on kits, and also for facing even greater challengers in the future. The type of training discussed earlier was undertaken with this in view. However, in conducting such training, many problems and constraints were faced. An account of these are given below.

In Afghanistan, logistics issues are usually misunderstood, and given very low priority within the health delivery system as a whole. Problems of war, politics, poor salaries, job insecurity and for other reasons, drug depots have not always been able to attract and maintain the best personnel.

While undertaking training, constraints were many, as explained below:

i. Majority of participants were very keen on learning, but were rather slow in absorbing new concepts. Many had either lost touch with basic language and math skills on account of the war, or have not had sufficient schooling at all. This problem necessitated the use of appropriate, but time consuming teaching methods employing practical examples familiar to participants for conveying key messages. This procedure severely slowed down the learning process.

ii. Many participants did not consider their attachment to drug depots as being permanent, enabling them to follow a career in logistics. Perhaps, this factor further limited their incentive for self development.

On the whole, logistics training perhaps only tickled the desire for learning, and hence it is doubtful whether it had the desired impact. Hence, it appears that the following conditions would be important prerequisites for undertaking any results oriented logistics training in future.

i. Selection of participants with suitable language and numerical skills for receiving training.

ii. Logistics training is a practical subject. While theory is important, developing necessary practical skills for designing, implementing and managing a supply system is vital. For this, it would be necessary for expatriate staff to visit Afghanistan frequently for long periods, and work closely with logistics personnel. This was not possible under this Project, and was the main reason for not been able to develop systems much beyond the use of a simple kit system.

B. Lack of Competent Logistics Managers

It is not very clear what would replace the logistics systems developed and introduced by MSH over the last several years. When peace returns to Afghanistan some day, one of the most

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important components of developing a health system would be to build appropriate medical logistics systems. At this time, identifying suitable persons who could assume leadership roles for key positions would become vital. Examples are many, where poor leadership has had disastrous impacts on programs and created much frustration among managers, workers and patients alike.

Experienced Afghan managers are rare in Afghanistan, and in Pakistan. Qualified and experienced Afghans currently working abroad are unlikely to return home soon. Hence, leaders would most probably have to emerge from those who were attached to the MSH Project in Peshawar, MSH field staff in Afghanistan, those attached to other Peshawar based development projects and from those attached to the Afghan Ministry of Public Health. Even from this group, it is not very sure as to how many would be available for work in Afghanistan if and when their services are required in future.

In the area of logistic support, the three key positions, namely Warehouse Manager, Chief Pharmacist and Computer Operator responsible for generating orders and inventory control were occupied by Pakistanis. These persons are most unlikely to work in Afghanistan. The Ministry of Public Health too has shown very little interest in acquiring logistic management skills.

Further, many key decisions regarding logistics and related issues were taken by expatriate staff. This, and use of the kit system, severely restricted decision making powers of Afghan logistics personnel.

Sooner or later, Afghans would need to assume leadership roles and make key decisions, with or without the help of expatriate staff. Since results could only be achieved through people, developing people and upgrading logistics operations to reflect their true value, would need to be high on the list of priorities of any future health development project.

C. Reliance On Kits

While the kit system served the Project well, like most systems it had it's weaknesses. Due to regional variations in disease patterns and prescribing habits, certain drugs were some times in short supply, while others piled up due to lower usage at certain user units. This would have contributed to waste and had a negative impact on patient care. Program managers were aware of this situation, but had few options, except changing over to a demand driven system. The feasibility of changing over to a demand driven system was frequently considered, but had to be abandoned due to problems of, setting up and operating suitable drug depots inside Afghanistan, uncertainty regarding future donor support, problems of providing proper training, and last but not least the inability to guide and supervise the introduction of new management systems in Afghanistan.

D. Post Purchase Drug Testing

A system for prequalifiying drug manufacturers is only one safeguard against poor quality. In addition to this check, it would have been best to have undertaken post purchase drug testing.

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This should have been especially important for high value items and those drugs likely to pose health hazards on account of poor quality. Many attempts were made for identifying suitable drug testing laboratories within and outside Pakistan. Unfortunately, due to lack of suitable laboratory facilities within Pakistan, problems of high cost, and delays in testing drugs abroad, it was not possible to implement this important step in quality assurance.

Another way of obtaining useful information regarding quality was to obtain feed back on drug efficacy from prescribers and patients. Even though it was not possible for expatriates to visit health facilities in Afghanistan, some feed back on drugs was regularly obtained through monitors visiting BHWS and health facilities. Further, information on drugs was regularly received while conducting many refresher courses for doctors, BHWs and others. The feed back received so far regarding the effectiveness of drugs has been generally positive, without any major complaints.

E. The Future

Even if peace returns to Afghanistan relatively quickly, it is highly unlikely that Afghanistan would be able to build a strong economy in the near future. As a result, it would be extremely difficult for the MOPH or RHAs to support basic health services without significant donor assistance. Hence, Afghanistan will have to continue to rely heavily on donors, as has been the case for over the last 10 years or more. However, what is not very clear at present is whether other major donors are willing to fill the vacuum created by the withdrawal of U.S.A.I.D.'s support for the health sector.

Even if new health projects are set up very quickly, it would certainly take time to be implemented. Further, there may not be provision in such new projects for providing medical supplies in large quantities for supporting BHWS and health facilities throughout Afghanistan. Considering the heavy capital requirements (approximately 40%) for medical supplies, the chances of receiving assistance in supplies appear to be remote. Hence, some of the most likely scenarios for BHWS, and health facilities for obtaining future medical supplies are as follows.

* Certain health facilities and BHWs may continue to function by charging fees for service or through sale of drugs, or both. The last batch of medical kits provided by MSH could be employed as seed capital for setting up revolving drug funds. However, much would depend on the ability to manage simple revolving drug funds, and also on patients ability and willingness to pay for drugs and medical services. As seen from past experience, such systems may not last long in most places due to a combination of poor management and dire economic conditions.

* There is some possibility for BHWs and facilities supported by MSH to be taken over by other donors, and medical supplies continued to be provided. However, chances of this happening quickly throughout Afghanistan is rather remote.

* Without fresh supplies, it would be difficult for many facilities and BHWS to operate successfully for long. Most consumables would probably last another 6 to 12 months the most, and the equipment a few years with good usage. If successful revolving drug funds are not in place, or new donor assistance is not forthcoming at this point in time, many would cease to operate. With this, patients would have no choice, but to procure their medical supplies from local pharmacies. If so, chances are that benefits of using primary health care, rational prescribing habits and use of drugs over the last several years may diminish very quickly.

If the above worst case scenario becomes the reality, most of the effort taken in developing logistics systems and investment in personnel development would be lost. Hence, any attempt in developing medical logistics systems in future, would need to start virtually from scratch. This would most certainly be a very formidable challenge.

5. LESSONS LEARNED

During the course of the Project, many valuable lessons were learned regarding different operational aspects of the cross-border medical logistics system. These would be invaluable for those attempting to design future cross-border health delivery projects in general, and for Afghanistan in particular. An account of major lessons learned are described below.

A. It Pays to Develop Tailor Made Software Packages

The decisions to develop user friendly tailor made computerized systems for inventory control, and kit management paid rich dividends. These included ability to control inventories tightly in a rapidly changing environment, respond to sudden emergency medical needs in Afghanistan, and cater to demanding information needs of MSH and U.S.A.I.D.. The effectiveness of special purpose software that was developed, and operator competence is demonstrated by the fact that;

* There was never a major break down of computer systems.

* There was never an external need for software development, and support.

* It was possible to operate the Procurement Department with the minimum of staff, while procuring a very wide range of supplies worth several millions of dollars per year.

The message is simple; that it pays to develop tailor made computer systems when regularly dealing with large amounts of information, operating under special conditions such as those found in Afghanistan, rather than attempting to adapt general purpose packages.

B. All Systems Are As Good as Those Who Operate Them

Development of appropriate computerized and manual systems are important, but they would only be as good as those who operate them. This point was well recognized at the very beginning of setting up the Procurement Department. Recruitment of suitable persons, attractive wages, and a big investment in terms of training at the beginning went a long way towards building a small, but an efficient procurement team. The fact that there was little or no staff turnover during the life of the Procurement Department is ample testimony of job satisfaction. The situation at the Warehouse was similar. Recruiting a former Pakistani Air Force officer with many years of stores experience as the Warehouse Manager, went a long way towards making the MSH Warehouse a model for others doing similar operations. Under his leadership, a total of 1,718 tons of medical supplies were despatched to Afghanistan, often under very difficult circumstances. Yet, major stockouts were very rare, while holding losses due to drug expiry and waste to a bare minimum. The Warehouse Manager and his team of dedicated staff achieved results through good communication, discipline, and strict adherence to established systems.

C. Procuring From Pakistan Was a Sound Decision

The decision by U.S.A.I.D. at the beginning of the Project to permit procurement of drugs, equipment, medical and general supplies, from Pakistan was a very sound decision. Failure to do so would have definitely led to long and variable procurement lead times. This would have made it necessary to hold much larger buffer stocks in an effort to keep a smooth supply line to Afghanistan. This, coupled with problems of getting supplies through to Afghanistan and problems of forecasting demand for supplies, would have increased drug expiry, stockouts and operating costs.

D. Kits Helped to Deliver Large Quantities of Supplies Quickly and Efficiently

At the beginning of the Project, it was decided to use kits to deliver large amounts of medical supplies safety, economically and quickly to remote areas of Afghanistan. While the kit system had it's own share of drawbacks, the decision to continue it's usage until the end of the Project was a wise decision. A decision to change over to a demand driven system or any other at the middle of the Project most probably would have produced adverse results, thus severely affecting the health delivery system as a whole.

E. Drug Depots Encouraged Responsibility and Simplified Distribution.

Creation of drug depots using a system of preposting medical supplies in 1991 helped much towards simplifying logistics operations through bulk kit issues, minimizing transport costs, and providing Afghans with an opportunity for assuming greater responsibility in managing logistics issues.

F. Combined Procurement - A Step in the Right Direction

The decision by U.S.A.I.D. for undertaking Combined Procurement on behalf of IMC and MCI was a step in the right direction. It is important to procure good quality medical supplies at attractive prices. While this is so, decisions concerning "What to Order" and How Much to Order" are also very important decisions having significant financial and therapeutic impacts. Hence, it would have been best to have improved inventory control techniques at MCI and IMC in order to derive the best benefits of Combined Procurement.

G. Standardization and Kit Rationalization Produced Mixed Results

After the introduction of Combined Procurement and Common Kit system, the next most logical step was to standardize and rationalize kits. The U.S.A.I.D. initiated exercise involving MSH, MCI, and IMC in 1992 for rationalizing kits was useful. However, it appears that it was undertaken too late. Elimination of many items from kit lists, and reduction of quantities assigned per kit, made certain items to become obsolete, or slow moving. The decision for MCI and IMC to return excess stocks to MSH, and the sudden decision to close the Project without a follow up project, made many items to be highly excessive. Towards the end of the Project, these items had to be forced issued, thus nullifying some of the benefits derived from this exercise.

Hence, it shows the importance of undertaking any rationalization exercises at the early stages of a project rather than at the end.

H. Ronco Another Layer To The Procurement Process

Considering the specialized nature of medical supplies, it would have been best for MSH to have undertaken all procurement functions. This would have eliminated one big extra step in the procurement cycle. Much time and money could have been saved by dealing directly with suppliers, and thus reducing lead times. This would have been specially so with MSH's worldwide experience in drug supply management and specialized software for drug procurement. However, using Ronco as the procurement agent worked out well, especially when compared to the bad experience with AMEG, the former procurement agent. With Ronco recruiting the former MSH Pharmacist to deal with procurement of medical supplies, the situation greatly improved. Also the fact that Ronco was familiar with U.S.A.I.D. procurement procedures also helped to a great extent. In general, working through Ronco for bulk supplies and resorting to local supplies from Peshawar based suppliers in emergencies proved to be a satisfactory arrangement.

I. Forecasting Kit Needs Was not Easy

Forecasting kit needs is the first step in a series of related operations necessary for estimating order quantities for individual products on a quarterly basis. Usually forecasting anything is rather difficult, and particularly forecasting kit needs for Afghanistan over a planning horizon

of six months. Hence, forecasting kit needs for maintaining a smooth supply operation was always a big challenge.

Procurement Department used a quantitative approach to forecasting kit needs using computer files maintained by Field Operations. While this method worked satisfactorily, the forecasting model was unable to capture all salient factors influencing demand for kits. This often resulted in kit needs being over estimated, resulting in bigger order quantities leading to higher stock levels.

Perhaps this problem could have been solved to some extent if Field Operations was responsible for estimating kit needs. Using specialized knowledge on conditions prevailing in Afghanistan, it would have been possible to fine tune aggregate quantitative forecasts, for reflecting more closely the realities in Afghanistan.

VIII. MANAGEMENT INFORMATION SYSTEMS

Paul Ickx, M.D.,Advisor

1. INTRODUCTION AND OBJECTIVES

In order to assure basic quality of the offered services, the team tried to find satisfying answers to five questions:

* what was the population to be served by the planned health systems;

* which health problems did that population face;

* what health services were being offered;

* did the offered services cover the needs;

* how did the beneficiaries appreciate the offered services;

Another preoccupation was the chance of sustainability present and additionally needed interventions.

One task was to establish baseline data, estimating actual needs and assess present efforts to answer the needs, from which additional interventions would be identified. Another task was the monitoring of Project activities and expenditures, for reasons of accountability and to observe the Project's impact, and cost of that impact, to be able to evaluate the sustainability of different interventions.

The extensive use of microcomputers, even in a setting where in 1986 hardly any computer skills were available, became quickly one of the major assets of the Project. One of the main restrictions in the beginning of the Project was the limited number of experienced computer users available in Peshawar; by the time the Afghans picked up advanced computer skills on the job they were often hired away by other agencies.

The task of gathering data from multiple sources, combining and processing those data to obtain concise information on the multiple aspects touched upon by the Project was substantial. But certainly in a situation where rumors and myths are fostered for different reasons by different individuals, it is of extreme importance to be able to have access to the best data available on short notice, and extract the needed information in a form, presentable to a multi-cultural audience.

short notice, and extract the needed information in a form, presentable to a multi-cultural audience.

2. ACCOMPLISHMENTS AND OUTPUTS

2.1. Population Data

2.1.1. Before 1978

Afghanistan has never had a complete census, and estimates of its population have varied substantially. In the early 70's, the Afghan Demographic Studies (ADS) project suggested a low figure for the settled population of slightly more than 10,000,000, which came as a surprise in Afghanistan, where informal estimates ranged between 16 and 19 million[1]. Indeed, in the sixties and seventies, when budgets for development were calculated on the number of possible beneficiaries, the population of target regions for development programs was routinely exaggerated[2].

In 1978-79, the People's Democratic Party of Afghanistan (PDPA) regime and the United Nations undertook a complete census, which was disrupted just after the pre-census stage, since spreading resistance made most of the country inaccessible. However, estimates were published as the Central Statistic Office (CSO) data, and gave national figures 6.5% higher than the projected ADS data for 1979[3].

Figures for different ethnic groups are subject to even more variation, not in the least because of the changing definition used by different authors to describe each group. Table VIII-1 gives low and high estimates of some of the groups[4]:

Table VIII - 1

Population by Ethnic Group

Ethnic Group	Low Estimate	High Estimate
Pashtun	4,800,000 (Janata)	7,000,000 (Snoy)
Tajik	2,200,000 (Jentsch)	4,500,000 (Dupaigne)[5]
Hazara	600,000 (Dupree)	1,500,000 (Dupaigne)[6]
Uzbek	750,000 (Kuhn)	1,360,000 (Weekes)
Aymaq	500,000 (Jentsch)	830,000 (Janata)
Turkmen	125,000 (Dupree)	400,000 (Janata)
Nuristani	66,000 (Weekes)	100,000 (Dupree)

Baluch	20,000 (Gregorian)	207,000 (Weekes)
Pashai	10,000 (Klimburg)	100,000 (Wutt)

The existence of a nomad population of unknown number increases the confusion. According to Janata, the U.N. counted less than 500,000 nomads in 1978[7]. This number is presented in the same publication, where R. Palwal says "Most Western nomadists who have studied nomadic pastoralists in Afghanistan have estimated their number to be over 2 million."[8]

2.1.2. After 1978

The consequences of the war (external refugees, internal refugees and war casualties) changed the total number of the in-country population, as well as its ethnic composition and its settlement pattern. It took almost ten years before different efforts to sort out the changes led to some consolidated picture.

In 1988 the numbers available in Peshawar were estimates provided by the UNHCR. They were based on the CSO data, UNHCR sub-office refugee registration data, M. Sliwinski's estimates and interviews conducted by different agencies[9]. Though very approximate, they represented a first nation-wide effort to re-establish a baseline for vital statistics. These data were used in the First Consolidated Report of the Office of the United Nations Co-ordinator for Humanitarian and Economic Assistance Programmes Relating to Afghanistan (UNOCA, Operation Salaam). They permitted the team to negotiate BHW and Clinic redistribution with the AHC according to population on province level. The data proposed by F.Hobbs[10] were never widely distributed and were generally considered too high for the in-country population.

T. Eighmy adapted the 1973 estimates for refugees, war deaths and internal displacement, for in-house use in the summer of 1989. They permitted to evaluate the degree of equity in distribution of health resources of the AHSSP on district level. After formal publication in 1990, they were accepted as the most reliable baseline data on district level for planning in Afghanistan and were used for further program planning.

T. Eighmy divided the 1990 population of Afghanistan up as shown in Table VIII-2 between areas under mujahideen control (mostly rural), under PDPA control (mostly urban), Afghan refugees emigrated to Pakistan and Afghan refugees emigrated to Iran [11]:

Table VIII-2

Distribution of Afghan Population in 1990

Dwelling place	Estimated Population	Number of Districts
Rural mujahideen controlled:	8,004,235	279 districts
Urban PDPA controlled:	4,358,990	46 districts
Refugees in Pakistan:	3,271,580	
Refugees in Iran:	1,277,700	

At that date, the AHSSP was supporting activities of its counterparts in 283 districts, a number which triangulates close enough to the claimed 279 under resistance control by T. Eighmy.

The provinces neighboring Pakistan provided the greatest number of refugees, assisted by numerous refugee aid programs (*see* Map VIII - 1). Although many districts in these provinces were largely depopulated, cross-border aid tended to be concentrated in these same provinces (Map VIII -2). Add to this that 85% of all the Pakistan-based refugees belonged to one ethnic group and one sees the danger that ethnic tension and strife could be exacerbated by unbalanced distribution of cross-border assistance. Inequity in distribution of cross-border resources, caused by lack of exact information, difficult logistics and lack of adequate monitoring systems, could be interpreted by those left out as intentional discrimination. Estimates of the distribution between refugee and non-refugee of the major ethnic groups by Sliwinski[12] show a dramatic change in importance of each group inside Afghanistan (Table VIII-3):

Table VIII-3

Prewar and 1987 Ethnic Distribution

Ethnic Group	Afghanistan 1979	Refugees 1987	Afghanistan 1987
Pashtun	39 %	84.6 %	13.1 %
Tajik	26 %	6.0 %	37.3 %
Hazara	10 %	0.1 %	15.6 %
Uzbek	10 %	0.5 %	15.4 %
Turkman	3 %	0.1 %	4.1 %
Other	12 %	8.7 %	14.5 %

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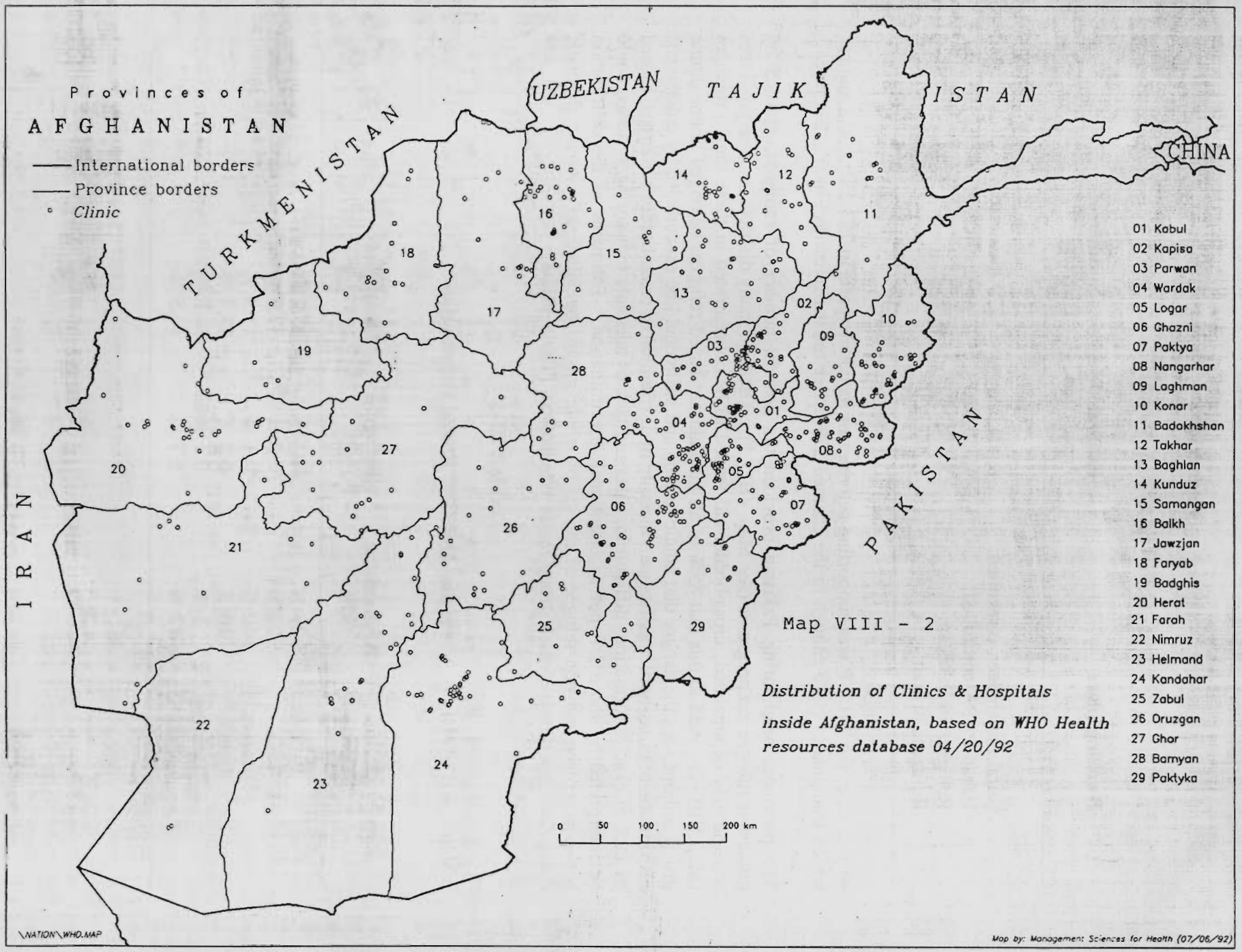

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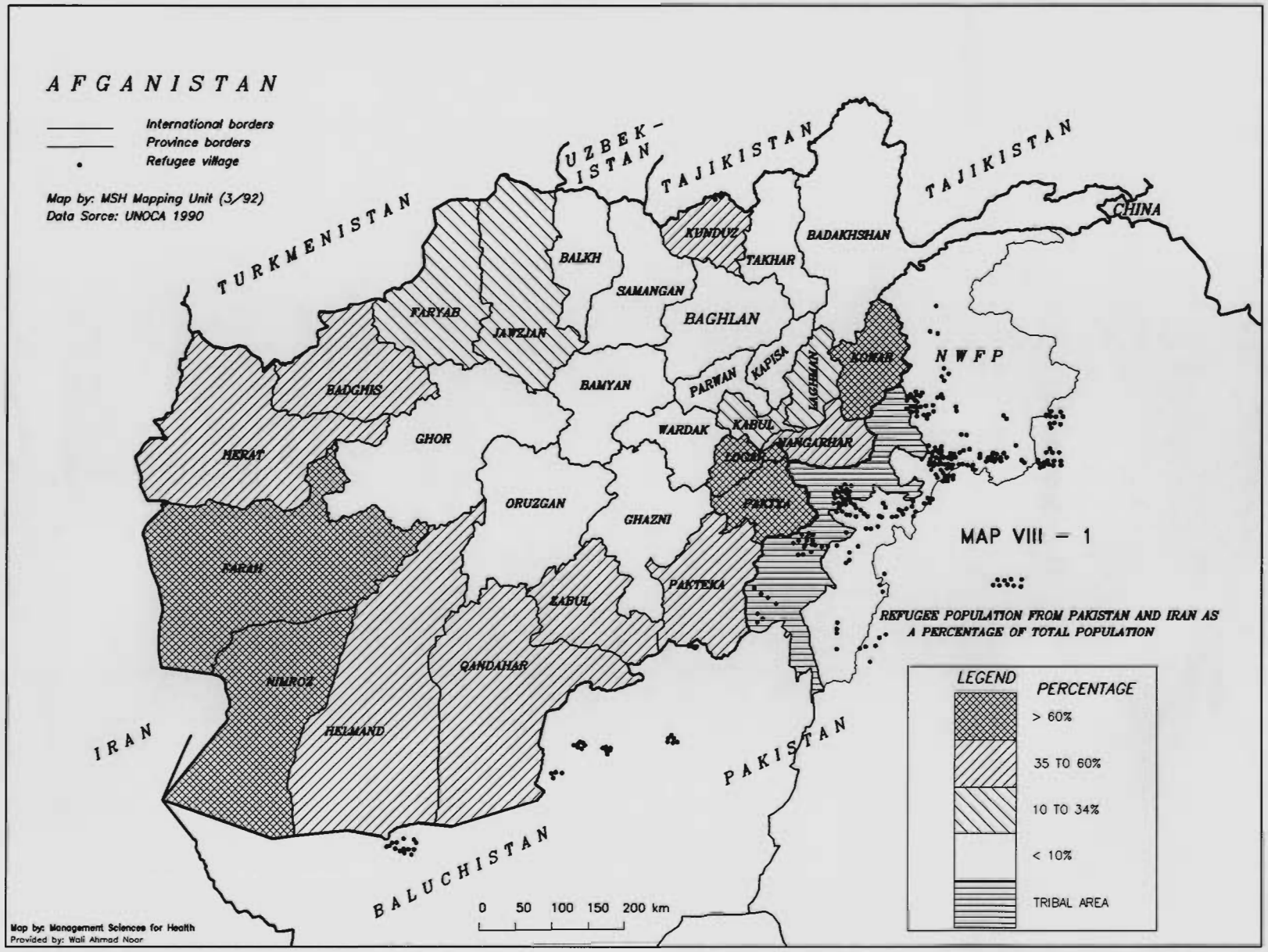

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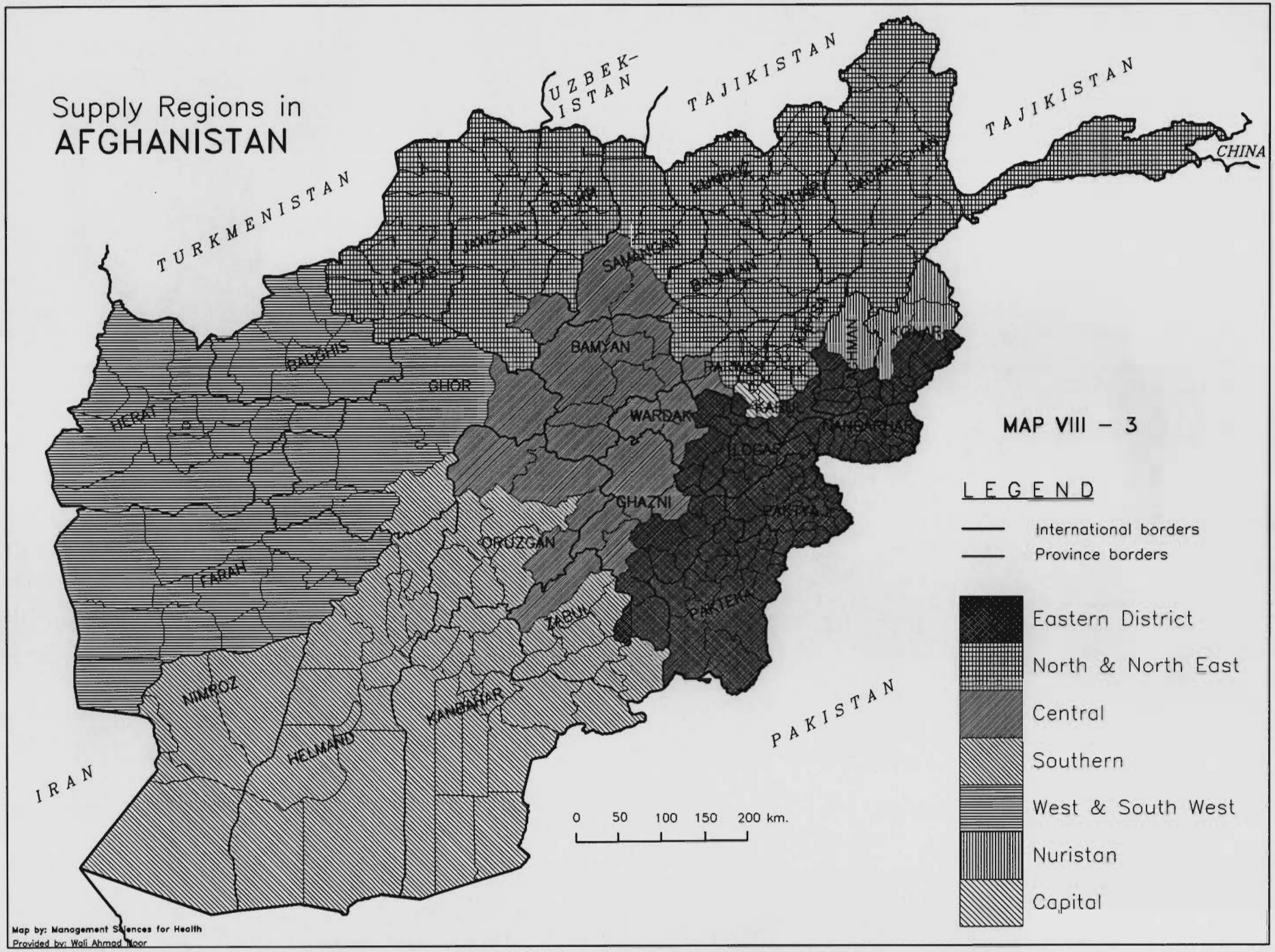

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Discussions on population distribution inside Afghanistan were often very animated: it took the EPI Coordination group 18 months before a compromise acceptable to all was reached.

2.2. Quantifying Health Needs

2.2.1. Early assessments

Clinical impressions of the what the most important health problems were, lead to an overestimation of the importance of war-related injuries. Most agencies working since some time in Afghanistan have tried to quantify health intervention needs, based on the disease patterns extracted from patient visits. French doctors used the disease patterns from previous teams to assess the pharmaceutical needs for the new teams. The SCA based the contents of its kits on an analysis of health problems recorded in Greenbooks by Afghan health workers. In the Greenbook, each patient visit is recorded: patient identification with sex and age, date of visit, diagnoses and treatments. It also contains a monthly summary form for diagnoses and drug consumption. The representativeness of these data was questionable, but at least genuine concern existed from early on to match existing needs with adequate resources.

From 1986 the Coordination of Medical Committees (CMC) became a platform of standardization for various cross-border health committees. An attempt was made early on to compare patient visit records from different organizations. It proved extremely difficult to try to match retrospectively diagnoses written down by a variety of nationalities (Afghan, French, German, American, ...). The CMC tackled the problem by developing standard definitions for different health problems, and adapting the Greenbook format accordingly. When the AHSSP started, the Greenbook was accepted by the AHC as patient visit record.

2.2.2. Initial Greenbook Analysis

The enormous number of Greenbooks awoke interest to computerize the analysis process. Some challenged the validity of the data, and at the same time the usefulness of the analysis. Like all routine reporting, the Greenbook was not always filled out as required. Some health workers would keep it safely in Peshawar, and fill it out on return, from memory or scarce notes. Others would never work and conjure the whole thing when their "resupply time" was due. Even for those who filled out the Greenbook at their duty station, there was no certainty that all patients were recorded. The ability to screen Greenbooks for reliability depended largely on the supporting agency's capacity for systematic monitoring inside Afghanistan. As we know from the F.O. section, although most agencies performed occasional spot checking inside Afghanistan, only the AHSSP and IMC had something that resembled a monitoring *system* inside Afghanistan. Disagreement over the most appropriate database software delayed further the implementation of the computerization of the Greenbook Analysis.

In 1989, a first batch of Greenbooks of AHSSP supported BHW was entered with a menu driven routine developed by MSH. A 30% random sample was taken from Greenbooks coming from

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10 provinces, of 13,712 patient visits between mid-1987 till early 1988. Two percent (low 0 and high five) of the patients seen were under 5, seven percent (low one and high 20) of patients seen were female. Drug use/prescription was low (1.6 per visit). The diarrheal diseases cluster was recorded in an unclear way, the ARI cluster suggested an appropriate difference in treatment of "common cold" and bronchitis.

Differences in prescription patterns between different parts of the country needed more investigation, though BHW seemed to prescribe more in regions were more drugs were available.[13]

The same entry system was set up with the CMC to enter Greenbooks of mid-level and senior health workers, supported by member committees, while the AHSSP entered several batches of Greenbooks of the BHWs.

2.2.3. Morbidity patterns

The CMC analysis (a 10% sample of 300,000 patient visits for the period 1989-1991) showed that respiratory system disorders (including all respiratory tract infections and asthma) and infectious & parasitic disease (including acute diarrhea, dysentery, malaria, and tuberculosis) accounted for 48 % of all clinic visits[14]. In the Household Survey (HHS) the same group of diseases accounts for more than 60% of all mentioned diseases.

Acute bronchitis, malaria, intestinal parasites, acute upper respiratory tract infection, acute diarrhea, tonsillitis and pharyngitis, conjunctivitis, and pneumonia figure among the ten most frequently reported diseases. This at least indicates where the focus for major health interventions should be.

The HHS also showed that children under five years of age and women of childbearing age together made up 50% of the "sick" two weeks prior to the interview (28% for the children and 22% for the women), while the under five group accounted for more than 50% of the deaths 12 months prior to the interview.

2.3. Available Health Resources

When the Project started, an almost general consensus prevailed in Peshawar that as far as health services and systems were concerned, "nothing" existed inside Afghanistan. Strangely enough, this can still be heard in meetings today. Possible reasons why this consensus went largely unchallenged for many years are discussed in more detail in the F.O. section. One of the consequences was that with few exceptions, agencies tended to disregard efforts made by others, and implemented health services without considering what was already in place. The initial planning team of the AHSSP went through great trouble identifying "empty spots" for the AHSSP to fill in.

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2.3.1. Location of Offered Services

A first step was to obtain a complete inventory of what was available, and where the facilities were located. The CMC made a first attempt to compile such an inventory in 1987, but one of the major implementors was reluctant to communicate health center locations beyond province level because of security reasons: if made available on district level it was feared that "the enemy" would have an easier task seeking out the health centers and destroying them. By mid 1988 this reluctance had diminished and ACBAR compiled a database, listing facilities by district.

In 1989, WHO took over the responsibility of updating the health database from ACBAR and corrected the claimed levels of facilities against the by then established standard levels. The WHO database became soon the most comprehensive database on health in Peshawar: many agencies, for various reasons reluctant to share the location of their activities with other databases, provided their data regularly to WHO.

A concern was the validity of the data, listed in the WHO database. Besides the occasional intentional over-reporting by some agencies, the lack of adequate filing and data processing procedures made it impossible for many agencies to report regularly with up to date data. Another concern was that the database only listed health facilities and personnel *at least partially dependent on external support*. In fact, no indigenously sustained activities figured in the ACBAR database, since a condition for inclusion in the database was an (external) input of at least 100,000 Pakistani Rupees (about 4,000 US$) per year. WHO included all facilities - activities reported by agencies in Peshawar, Quetta and Kabul. Private practitioners were excluded.

2.3.2. Provincial Health Resources Survey

Near the end of 1989, MSH and WHO decided to undertake a major "Provincial Health Resources Survey" (PHRS). By combining the WHO data and the experience and resourcefulness of the MSH monitors, all provinces would be surveyed to match the data in the WHO database with facilities and health workers actually in the field.

The setting up and field testing of the survey material took several months. One problem was the inability of most monitors to read and write English: all survey lists were designed in English, translated in Dari, reviewed and altered by the monitors, retranslated in English, reviewed by WHO and MSH, retranslated in Dari for testing. Meanwhile, a menu-driven data entry and analysis routine was being developed.

On return, the surveyors were debriefed as usual and the surveys were then translated. Several minor unclear points were clarified after the first provinces.

The mandatory evacuation interrupted for several months the further development of the analysis routine. After return of the MSH team to Peshawar, a ban on shipping cross-border program

resources inside Afghanistan, interrupted finalization of data collection for the seven remaining provinces. When the ban was lifted, many of the regions had become inaccessible by snowfall.

The data collection and analysis of 28 provinces was finalized in November 1992. Copies of the field questionnaires were sent to BHW to be sure that as much data as possible was incorporated in the WHO database.

In early 1992 the data of 22 provinces, containing almost 80% of the in-country Afghans was analyzed. In these provinces, the original WHO listing was 382 clinics and hospitals. Of these, 254 (66%) were found working, 27 (7%) temporarily closed for resupply and 101 (264) not working definitively. An additional 161 were found, that were not listed in the WHO database. (Fig. VIII-1) Some of these were established after the printed lists were prepared for the monitors, other were independent from outside funding. For some provinces the WHO database seemed acceptably "updated" in the sense that all listed facilities were actually providing care: Wardak, Kapisa, Faryab and Badakhshan. In other provinces such as Laghman more than 60% of the listed facilities could not be located.

The results also pointed out that, taking into account the total number of 543 facilities listed and found, only 4 provinces showed a need for more health facilities. Even taking into account only the "active" facilities, six provinces would be considered "under-served" by the AHSSP criteria of one facility per 30,000 people. This calculation does of course not take into account the accurate geographical implantation of the facilities, which determines the accessibility for the local population. The total sample of 28 provinces showed no different picture.

Detailed information about the surveyed facilities showed:

Type of Facility:	H-1	1%
	H-2	1%
	H-3	9%
	C-1	18%
	C-2	55%
	C-3	16%

Laboratory:	Claimed	20%
(Fig. VIII-2)	Functioning	14% (71% of claimed)
	Not functioning	6% (29% of claimed)
	of which	29% had no supplies
		48% had no laboratory technician available
		18% needed equipment repair
		7% for another reason.

X-ray Unit:	Claimed	8%
	Functioning	3% (42% of claimed)
	Not functioning	5% (58% of claimed)

of which 24% had no supplies
24% had no X-ray technician available
19% needed equipment repair
33% for another (often unspecified) reason.

A surgeon was claimed present in 27 (6%) facilities, but in 18 of these no separate operating room was available.

Patient visit records were kept in 93% of all facilities and in 81% of the facilities this was the Greenbook (Fig. VIII-3).

Some form of transportation was available in 49% of the facilities, 8% had an ambulance or truck, 34% a bicycle of motorcycle, and 7% a horse.

Only 15% claimed to have a female health worker in the facility , 9% had either special hours or a special waiting area for female patients, and 2% did prenatal check-ups. Some form to dai-training was performed at 5% of the facilities.

Almost 25% claimed to engage in some special form of child care visits, but only 9% had child weight scales, 2% used growth charts and 1% had special hours for child care visits.

Some form of tuberculosis treatment was given at 23% of the facilities, but only 6% kept separate T.B. patient registers and 3% had a special T.B. microscopist.
Anti-malaria activities were claimed by 35% of the facilities, of which 1/3 had a special malaria microscopist. Only 1% of the facilities claimed to engage in spraying, 9% in public education and 4% in other activities.

Some kind of formal health training was claimed to be given at 10% of the facilities, while 62% claimed to engage in community education: 49% mentioned regular meetings with community leaders, 17% held meetings with the whole community, and 14% used posters.

2.4. Assessment of Needs Met

2.4.1. Accessibility of Resources

A first condition is that the population should have easy access to the place were health services are offered. A first requirement is equity in the distribution of the health resources by known administrative units.

Until 1989, any assessment of the equity of distribution of program resources was difficult: no acceptably reliable population data were available on district basis, neither was there a comprehensive inventory of health resources delivered cross-border. The rough provincial

Figure VIII - 1

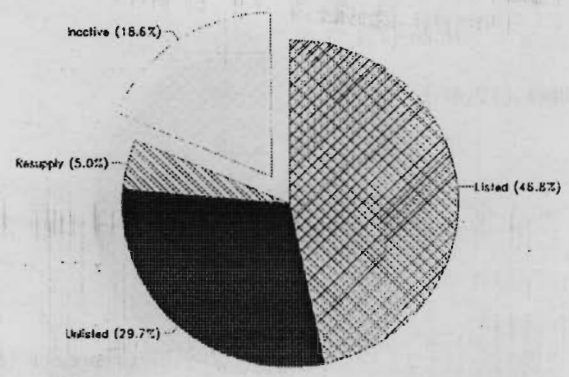

Figure VIII - 2.

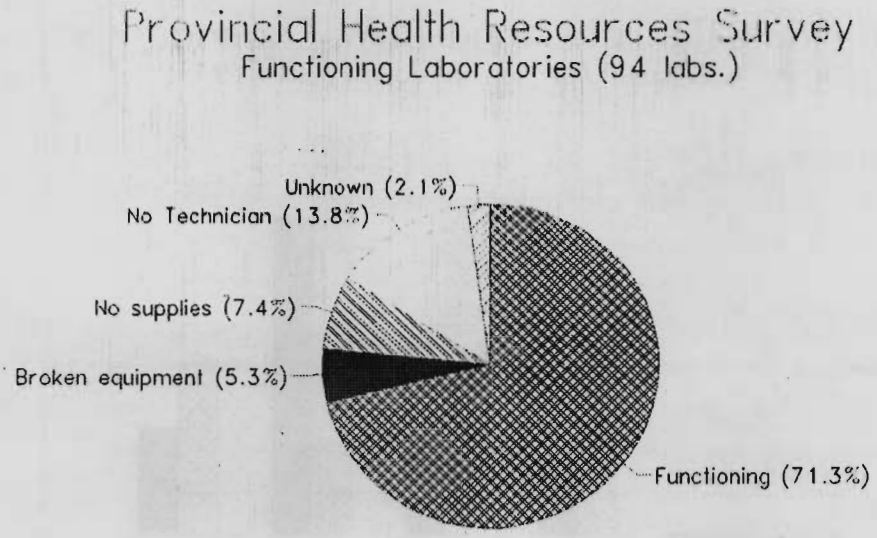

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Figure VIII - 3.

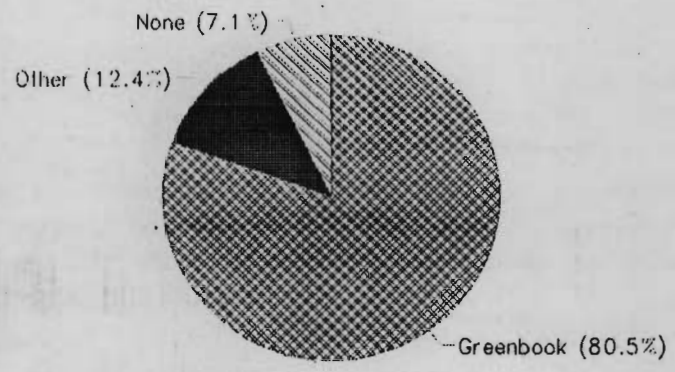
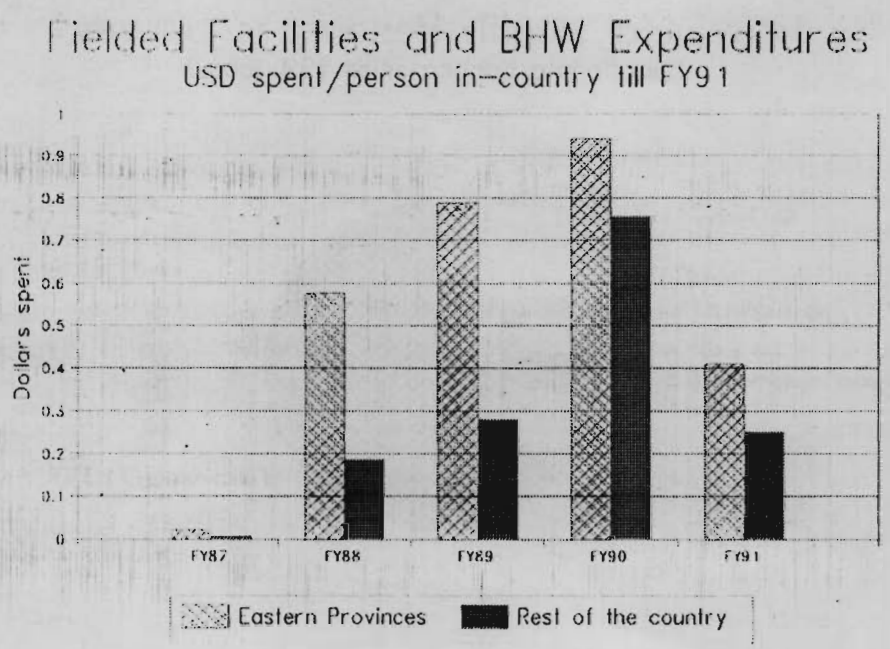


Figure VIII - 4.



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population estimates and the patchy lists on health resources all pointed in the same direction: over-emphasis on the Eastern Provinces for all cross border aid. Why this could be expected is discussed in Section IV in greater detail. The team spent a great effort to transmit the available information to its counterpart, but to no avail. The only way to assure better equity in distribution proved to be the identification of additional counterparts, for those areas where the Peshawar-based parties apparently lacked the necessary influence to efficiently establish health systems.

Another impediment to readily assess the equity of distribution was the habit of reporting inputs - achievements - relief province-wise. Like in many other countries, Afghanistan's province border cut through existing social and economic entities (e.g. Hazarajat includes more than 20 districts and subdistricts of several provinces). The districts and subdistricts proved a more reliable entity to work with. Regrouping districts according to their accessibility from Peshawar and their dominant ethnic and political authority, the team came up with roughly six regions: the East, Nuristan, North & North East, Central, South and West & South West (details, see map "Project regions in Afghanistan").

The detailed tracking of resources up to their final beneficiaries by F.O., allowed for analysis of the cross-border expenditures for BHWs, clinics, hospitals, MCH facilities and administrative units on district basis. These cost centers account for 76% of the programs expenditures (see table in finance section). For the East, an average of US $ 2.61 had been spent per person still in place. For the rest of the country, that average was 1.42 US$. (Fig. VIII-4)

The effort of the AHSSP to go against the "natural flow of resources" is shown in Fig. VIII-5 The % of the total of the above listed expenditures, gone to east and the rest of the country are shown against the % of the population still in Afghanistan. The amount going to the east, diminishes with a proportion, that would have given roughly a regional equity in distribution by FY-91, using the zones as defined. However, the mandatory evacuation of expatriate personnel and the subsequent ban reversed the trend for 1991. It is interesting to see how the ban, invoked for security accidents in mainly some eastern districts, inflicted greater loss in the non-concerned districts.

The fact that program expenditures went to certain districts signifies not necessarily that equity in distribution existed within the district. The available data did not allow to match population settlement patterns of each district with health worker/facility implantation, nor to assess the percentage of the population of each district actually living within the catchment area of a health worker/facility. Following the distribution of resources up to district level, matched with a tight monitoring activity (*see* Section IV) gave the team enough comfort to suppose that resources were made available on a level where local community control could prevent at least gross inequities.

3.4.2. Use of the Resources

The Greenbook Analysis proved useful to get an idea about the patient population seen by the BHW and facilities, supported by the Project. An early analysis of a limited sample gave alarming indications of only 7% females and 2% under fives in the patient population of the BHWs. It pointed to little over-medication and probably reasonable use of the therapeutical arsenal.

Analysis of 5% samples of larger numbers of Greenbooks gave the following:

Table VIII - 4

Greenbook Analysis Results

	BHW 1988	BHW 1989	BHW 1990	CMC 1990	Clinics
Total Sample	4,116	16,107	2,431	15,000	6,803
% female	7 %	15 %	17 %	30 %	28 %
% under fives	2 %	7 %	7 %	15 %	7 %
% women 15-45 yrs		13 %	14 %	15 %	15 %
% girls under five		24 %	29 %	38 %	35 %
# of treatments/visit	1.6	1.5	1.5	1.8	1.9

Of the children under five years of age, only 1/3 were female in all samples. It is clear that the both women of childbearing age and children under five are not represented as they should. It is encouraging that refresher training does seem to have some impact, as shows the difference in percentage for the BHW in 1988 and 1989.

The number of treatments per patient visit seems acceptable, but questions can be raised whether prescriptions have been noted down as frequently as the drugs actually dispensed. Hardly ever were quantities prescribed or dispensed noted.

Also an estimation of patient visits per month could be made from the Greenbook data.

BHW see on the average 11 patients a day. With a 5 day work week and a 44 week work year (when they come for resupply, nobody works at their site), a BHW will see 2,420 patients per year for a cost of roughly 1,200 US$ per year, which gives .50 US$ per patient visit. The BHW's of the whole program would account for about 3,380,000 patient visits a year.

Facilities (C-2,C-3,H-1) see an average of 24 patients a day. With a 5 day work week and a 52 week work year (in theory the clinic has always one health worker in place), a facility will see 6,240 patients per year for the cost of 1.17 US$ per patient visit. The facilities of the whole program would account for about 1,154,400 patient visits.

These figures are of course on the high side, since one can assume that due to the screening before entering the Greenbook data, only the "good" books are entered, reflecting activities of the more active BHW's and facilities.

Although the possibility of transferring the data entry and analysis capacity to the HSD of the MOPH was one of the reasons for training several counterpart employees in the use of the software, the transfer was never started. In the phase-down period of the Project, the data entry of Greenbooks was discontinued because of personnel cuts.

2.5. Household Survey

During the eighties there was almost consensus in Peshawar that Afghans were "too poor" to pay for health services. Suggestions to the AHC, later AIG that health services might be paid for, were dismissed as anti-jehadic. The same attitude was found in many NGOs.

The Household Survey (HHS) was largely conceived with the idea of gathering baseline information on the behavior of the rural Afghan population when confronted with health problems. In nine districts, divided equally over three provinces (Ghor, Takhar and Wardak) 930 households were interviewed. The data gathered on 921 households (4,923 persons) were analyzed.

Although Afghanistan is not densely populated, people live in very crowded conditions in rural Afghanistan: more than three persons per room. None of the houses had electricity, more than 50% use surface water as primary water source and less than 10% of the households lives closer than 5 minutes from its primary water source. None had adequate toilet facilities.

The overall sex ratio is 107 and the average total number of persons per household is 5. The sample had an estimated crude death rate of 17/1000, a crude birth rate of 59/1000 and a rate of natural increase of 42. Children under five account for more than 60% of all reported deaths, and for many of these the cause of death was unclear. More than 90% of the families had husband and wife (wives) living together, with the husband being 10 years older than the wife on average. Only 5% of the husbands had more than one wife.

Only 30% of the males and less than 1% of the females claimed to be able to read and write, while 40% of both had access to radio in the house. 60% of the adult males have a farm-related profession and 16% had no work at all. About 11% of the male population older than 5 years claim to have followed more than primary school, while 69% had no school at all.

Of the women that delivered in the 12 months before the interview, 25% consulted some source of health care. Differences between provinces are explained by the presence of properly trained (female) health care providers (Fig. VIII-6). For delivery, 95% identified the person who assisted, which was the dai or a woman of the immediate family in 90% of the cases.

All children in the sample started out with breastfeeding. The average age to stop breastfeeding is 20 months. Less than 10% of the children is given additional food before the age of 6 months, average age to start complementary feeding is 8 months. This could explain why between 12 and 18 months less than 1/4 of the children have a satisfactory mid-arm circumference. This increases to more than 80% by the age of four years (Fig. VIII-7).

Claimed average income per household is the equivalent of 10,238 Pakistan Rupees, which amounts to 2,201 rupees per head. The lowest income quartile accounts for 7% of the total income claimed, the highest income quartile for 60%.

Sixteen percent of the sample population reported sick in the two weeks before the interview, 28% of these were children under 5 and 22% were women of child bearing age. Both groups are proportionally as well represented in the population of 'clients' (sick that consulted a source of health care) and the population of paying clients (Fig. VIII-8). 76% of all the sick sought help somewhere (became 'client'), and 62% of all clients paid something to the health care source. The average paid per episode was the equivalent of 281 Pakistani Rupees (about US $12) Under fives and women are more frequently sick, consult more and pay more frequently. We used amount paid for health care per episode as percentage of the biweekly income (the Relative Health Expenditure or RHE) to get a weighted expenditure for comparison. The highest RHE is paid for adult males, followed closely by 45+ and adult women. The lowest RHE is paid for the children. About 50% of the biweekly income was spent per case for those who paid.

The most frequently mentioned health care source is the BHW (30%), followed by the clinics and hospitals (19%) and the private physician (17%): in total 56% of all sick visited one of these sources. The mullah and shopkeeper are visited in about 10% of the cases and traditional healers (including the mullah) were more frequently consulted by the adult women.

The average income of the paying clients is higher than that of the total population. In conclusion one could say that the higher income quartile :

- is less frequently sick
- consults more frequently when sick
- pays as frequently
- pays twice as much per case in absolute value
- pays more than three times less in relative value
- feels more frequently improvement

than the lowest income quartile.

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Figure VIII - 5.

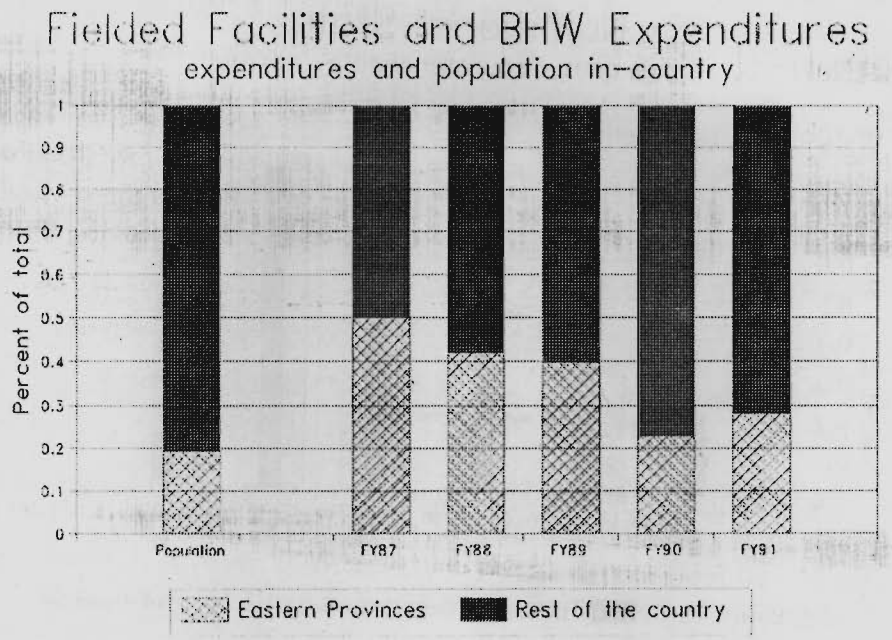

Figure VIII - 6.

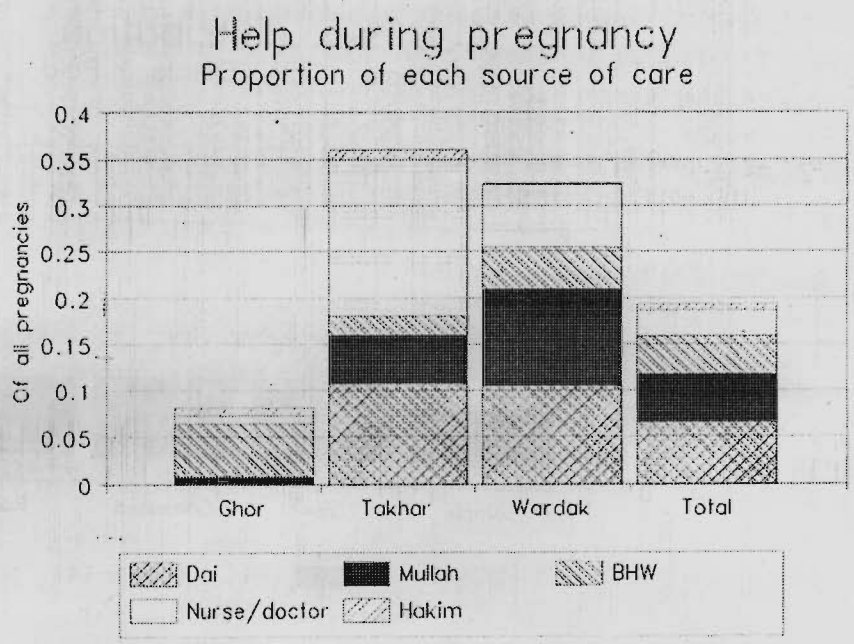

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Figure VIII - 7.

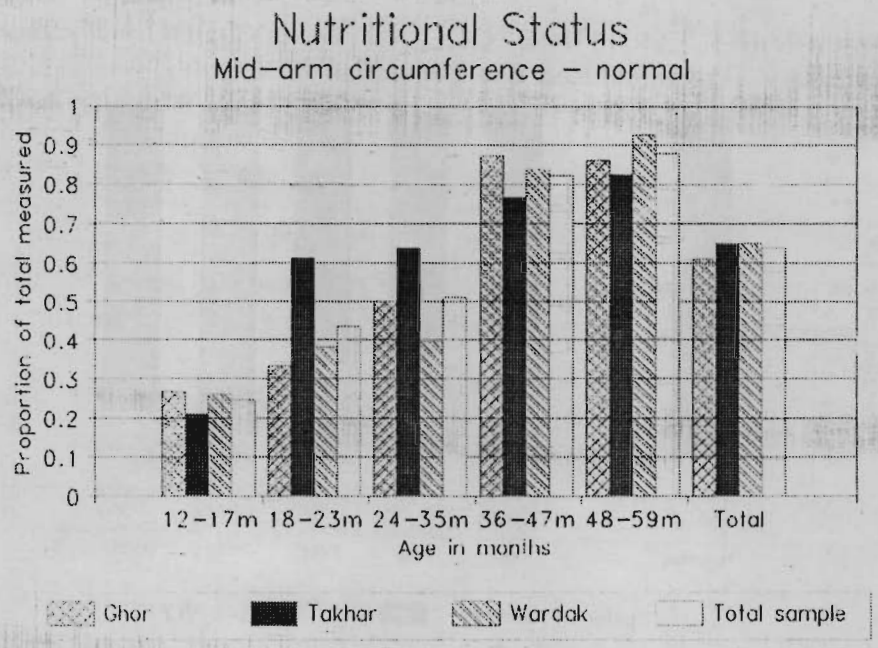
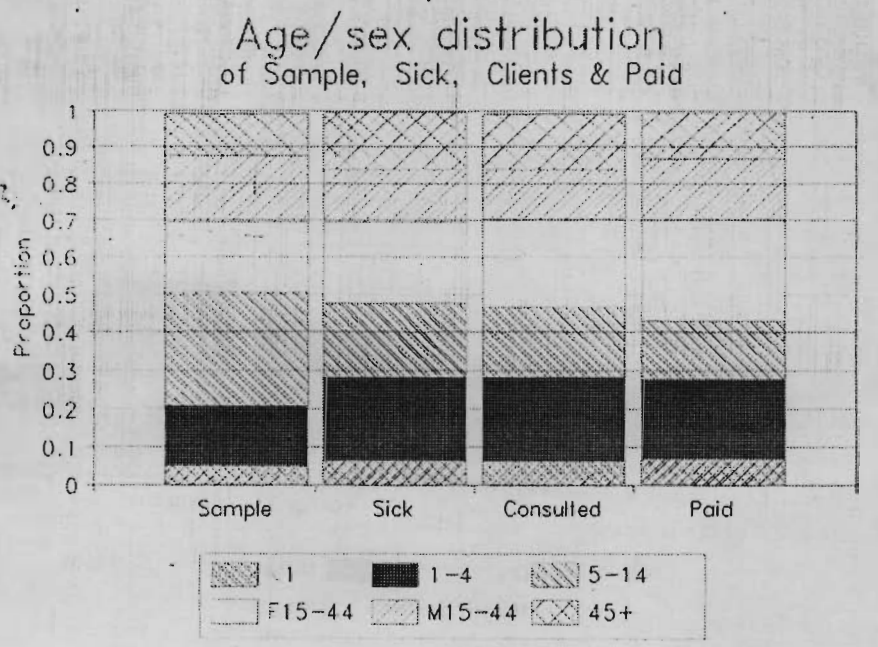


Figure VIII - 8.



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People are willing to pay, and apparently quite a lot in some cases. However, only 42% of the sick become paying clients in the survey population. Western medicine is the most frequently used source of health. Most of this is delivered through sources that are not paid. People might start visiting less frequently is they had to pay. When they pay, people definitely prefer to pay for treatment: both the highest frequency and the biggest amounts. Presently amounts paid vary with the income of the paying client.

Taking away "free" medical care without replacing it with a well-thought out alternative will probably put the heaviest burden on, and limit access to appropriate care for on those that presently benefit most of it: the children.

2.6. Program Support

The selection of hardware and software and its maintenance took a lot of the time of the MIS department, in as much that a specific department (the Data Processing Unit) was created and maintained during the years of largest program expansion.

2.6.1. Hardware.

Since the Cooperative Agreement under which the Project was run has been amended many times, with increase in funding, and extension of the end of Project date, the hardware used by the Project has been purchased at different moments. Going for the best buy at each moment, the program ended up with a variety of computers, with increasing capacity. What was the state of the art in 1986 ended up as the machine barely useful for simple wordprocessing at the end of the Project. In an environment like Peshawar with unstable net supply and frequent load shedding laptops with extensive battery power are preferable over desktops. The money spent on a reasonable supply of spare parts available on-hand is quickly recuperated, when ordering the parts at the time they break down will cause computers to go unused for weeks, if not months. For the same reason it pays to invest in in-house basic repair capacity for printers and computers.

The AHSSP relied on local commercial repair shops. This proved hazardous in the early years, but worked rather well in the last Project years.

2.6.2. Software

From early on, the AHSSP tried to stick to a software package that included:

* a wordprocessor
* a spreadsheet program
* a database manager
* a variety of utility programs (including anti-virus and disk managers)

Tight interface with the MSH-Boston MIS department ensured timely update of the packages and transition to more performing packages when they became available.

If a non-latin script is routinely used in the host country, one should take this into account by selecting hardware and software. Very little was available when the program started, but presently almost any script can be managed by one of the existing wordprocessor packages. Two packages (Multi Lingual Scholar and Alkatib-Vazhe Negar) were extensively used by MSH and the counterparts for processing the multiple manuals, pamphlets and workshop material in Dari and Pashtu.

Introducing a logbook containing the configuration of each computer in mid 1991 and then standard configurations and startup routines early 1992 for all the computers has greatly reduced software maintenance and troubleshooting.

2.6.3. Program Routines.

Given the complex and changing nature of the Project, most Project supporting software was developed specifically for the AHSSP. Some was adapted from existing non-commercial packages for the Project, on a need basis. In a setting like the AHSSP, it is important to assess the readily available local programming capacity, before building large program-specific routines. As mentioned before, while Pakistan has very good computer programmers, hardly any of them wanted to work in Peshawar at the offered benefits. If this is the case, the programmed routines should not exceed the available programming skills. It also pays to invest in crash courses to update the team member's knowledge about the program's software.

When local computer skills are low, better data integrity is obtained and applications are used more extensively by assigning people responsible for the computerized data management in each department rather than by isolating data management as a separate program activity or - department. They will understand much faster the link between computer data and what they represent in reality, and be able to keep data clean from rubbish. A separate department should ideally function as a service department, which it can only do if it has significantly higher computer skills than the individual users.

The F.O. Monitoring System was computerized to a high degree and has been changed and updated several times, either to allow for swift access to knew information when the focus of the AHSSP changed over time, or to allow to take advantage of the new database managers as they were purchased for Project use. The last update was dictated by the need for swifter data exchange with the GIS unit and with WHO and SCA.

The Clinic Selection System is described in detail under the F.O. section.

BHW Selection System resembles the clinic system, but focuses on 'solitary health workers' and was developed in 1989. In August 1991, a routine was given to Training, allowing to assess additional needs by district and evaluate former performance in the same district.

A menu driven database routine kept track of EPI monthly reports on district basis. The table was converted into the spreadsheets for program progress monitoring and the UNICEF

spreadsheet for semi-annual progress monitoring per province. The CS/DC field operations system used the same computer routine as F.O.

F.M. used a combination of a database routine and a commercial package for keeping track of all program expenditures both were installed and adapted for Project use by consultants from MIS-Boston. For budget planning the available program spreadsheet software was used.

Numerous routines have been written by program staff to facilitate specific reporting. Among the larger ones are the Procurement Forecasting routine, the processing routines for the HHS and PHRS data, and several routines extracting focused detailed information from the F.O. files.

The use of microcomputers enabled the Project to have updated information at hand on many levels. At different moments, arguments had been made to integrate the different software used in Procurement, Field Operations and Finance into one local network. The physical environment and the limited availability of sophisticated computer users made the team decide otherwise. The disadvantages of tracking the same operations through different and physically separate systems are obvious: more data entry work, data exchange via floppy diskettes, maintenance of the same reference files in different systems is difficult. The advantages in the Peshawar environment included limiting computer viruses to one station at a time, the consequences of destroyed hard disks would be limited, and enhancing comparability of data tracked differently by the different systems: a useful cross check.

The set-up of the information systems of each department has been discussed in the concerned sections.

2.6.4. Computer Training.

Between February 1990 and November 1991 twelve formal courses of generally two weeks were organized by the DPU covering the basics of most of the software packages used by the AHSSP, with in total 100 participants, of which 30% counterpart employees.

Several counterpart computer operators have been initiated through individual tutorial sessions in the use of the AHSSP F.O. monitoring software and specific applications of the project's software.

2.6.5. Geographic Information Systems

Even when data is processed and converted into information, a major challenge remains to transmit the information in a manner, accessible to the user. Coverage of target populations, geographic distribution of health services, additional needs by district, overlapping catchment areas all are difficult to represent nation wide. One ends up with long and often cramped tables, with accompanying notes, which are necessarily printed out in one language. Experiencing the difficulty of transmitting available information in a multi lingual environment the Project looked

for suitable means. In Peshawar, computerized mapping was introduced by Roger Helms, working on a contract basis for different agencies and later for the DC&A unit of the U.S.A.I.D. The team was interested in computerized mapping if this could be done with local computer talent, and if the maps could be printed out by the available laserjet printers. Maps become useful as a management tool, when they can be easily reproduced and distributed, and regularly updated. Once adapted, the mapping capacity of the Project became an important and extremely useful tool in reporting and planning.

The most difficult part of the mapping operation was to find coordinates for all claimed localities inside Afghanistan. While a listing of "villages", compiled by the Afghan government in 1975 existed[15], these listings were far from complete. In addition, many localities existing in 1975 had been deserted, destroyed or renamed, and new ones created. Also, major localities would have different names in the different languages used in the region. Finding back about 60% of claimed localities on existing maps took a major effort. The remaining were extrapolated, based on distances from known places, given by different informants (BHW's, vaccinators, monitors, etc. ...).

The mapping effort of the AHSSP has been performed in close cooperation with all other agencies involved in computerized mapping. This was greatly enhanced by the fact that the DC&A mapping unit took a central place in both data gathering and mapping. The combined effort of both AHSSP and DC&A enabled the Project to reverse the process. Once locations were mapped with exact coordinates, the distance ("as the crow flies") between one facility and all surrounding ones could be calculated through a simple routine.

3. CHALLENGES AND CONSTRAINTS.

A. When the program started, Peshawar was as good as computer void. Some were very skeptical about the use of computers in the environment as it existed in 1986-87. The AHSSP introduced computers from the start. Care was taken not to go beyond the skills of the local operators. Through gradually upgrading these skills, more complex and a bigger variety of tasks could be performed by computers.

However, when it came to transferring computerized administration to the counterparts, the lack of good administrators became a problem. Unless management skills of a certain level are put to good use, computers only allow to make more and bigger mistakes in less time. Shortly put: if no good-quality paper filing system exists, computerization will only increase the confusion. After a short period of enthusiasm where transfer of a lot of the AHSSP routines to the counterparts was considered, computers were used mainly for wordprocessing in English, Dari or Pashtu.

A few exceptional individuals in the MOPH, SCNA and HCCA proved tenacious enough to go beyond this stage and use the computers for different aspects of their management.

B. In the beginning of the Project the general assessment of the in-country population of Afghanistan was "nobody knows". More accurately, everybody claimed a certain number that suited his/her purposes best. The relative importance of segments of the population would be inflated or deflated according to the target group of the activities of the speaker: refugees, Kabul-based, cross-border. The AHSSP stuck to those figures that were the most transparent in their method of assessment.

C. The over-estimation of the directly war-related health problems (injuries) was wide-spread. At the same time, arguing that there was an over-estimation always risked to be seen as an attempt to sabotage *jihad*. Switching from "clinical impressions" to analysis of actual patient visit data from several sources provided acceptable arguments for the AHSSP to focus on primary health instead of war casualty care.

4. LESSONS LEARNED

A. Population data are an issue in many countries. Rather than to work in the blind, which inevitably gives too much room to the local political power games, any estimation that has a "transparent" calculating method (sample selection, assumptions made, correction factors used, etc...) can serve as base. Additional corrections can be made, e.g. applying different annual growth rates to rural and urban populations, when data become available.

B. Morbidity patterns in a setting like Afghanistan do not drastically change. The number of war-related injuries increases, but the main morbidity and mortality picture does not change. This means that in order to start a program like the AHSSP, one can use statistics from before the "conflict" to assess basic needs, allow for a 5 to 10% of war-related injuries and then calculate the effect of the disruption of existing control programs that need an intact supervision and referral system up to the central level (e.g. malaria, TB, leprosy, leishmania).

C. The most commonly stated reason for people to request cross-border aid heard in the cross-border setting even at this date is that "nothing exists" and "everything is destroyed". With a few exceptions this should be translated to "nothing exists that is owned by me" and "everything that is not under my immediate control should be considered as destroyed". Although tedious and sometimes politically difficult to accept by the counterparts, making an inventory of existing health services and physically checking that inventory should be an absolute priority for any cross-border health program. This is also an on-going activity and it helps to shift away the attention of the counterparts from "grabbing goodies" to making the most out of what is already available (management). Most of the relief and emergency oriented agencies are an obstacle rather than a help in this process: it is easier to spend your money quickly by assuming that you work in a vacuum or by disregarding or discrediting any data that indicates the contrary. That a reasonable amount of money should be made

available for this is clear, but it balances favorably the money that would be wasted otherwise.

D. Specifically for the GIS, a few

i. Stick with the package that gives the highest performance with the lowest computer skills. In our experience Atlas-GIS, rather than ArcInfo for example.

ii. Stick with easily photocopied black and white maps, that can be made available at low cost to all interested. Presently a sturdy laserjet can be operated almost anywhere and is affordable for most projects.

iii. Be aware that a mapping unit needs two (2) full-time employees. If not, one risks months of inactivity because a new employee has to get acquainted with the software after the old one left.

iv. Like any other complex task, the GIS becomes useful through close cooperation and coordination between the managers who know what info they need and the mappers who know what info can benefit from GIS. A requested map should monopolize the GIS unit only to the extend the information it contains is valuable to the Project.

v. The relative success of the GIS by different agencies in Peshawar was due to almost absolute free flow of information concerning the topic. Newly digitized map layers and updated data related to the subjects mapped were shared with all involved in the process. If there is no free and complete exchange, mappers will lose their time performing tedious jobs already performed elsewhere.

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15. "A Provisional Gazetteer of Afghanistan", A.D.S., C.S.O., Prime Ministry (Kabul, 1975)

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IX. FINANCIAL MANAGEMENT

Mary M. Gasper, Fiscal Officer

1. INTRODUCTION

With the war in Afghanistan, the financial requirements became essential to meet the medical needs of women, children and families who were surviving on minimal basis of life. The Afghanistan Health Sector Support Project (AHSSP) served to alleviate some of the health problems of the Afghans and also provided salaries to Basic Health Workers (BHWs), and clinic and hospital workers.

The Project, funded by the United States Government also aimed at providing technical and financial humanitarian assistance to expand and strengthen health facilities inside Afghanistan.

Initially a U.S. $15.7 million dollar project, Management Sciences for Health was assigned the responsibility to manage the funds. In October 1986 a makeshift office was arranged in Deans Hotel Peshawar which ultimately was shifted to Old Bara Road, University Town, Peshawar and was to remain the MSH administrative center of activity until the end of the Project. Personnel on board were Mr.Richard Johnson and Dr.Laurence Laumonier who at the start reported to Dr.Jack Lesar and who remained joint signatories until Dr.William D.Oldham, Team leader arrived in January 1987. From then Richard Johnson and William Oldham were authorized signatories to the end of the Project.

Staffing in Finance Office

Formal financial activity began with the arrival of Len Chang, Fiscal officer in February 1987. Prior to this, Mr.Ariff Jan, the Liaison Officer assumed financial responsibilities. With the Fiscal Officer in place, staffing of the finance department commenced and initially two persons were hired Zulfiqar Ahmad as Budget Accountant and Tariq Khattak as Accounts Officer. When activities increased two accounts assistants were hired. During the first three years, the responsibility of budget preparation also rested with the Accounting Manager (Budget Accountant promoted after a year to Accounting Manager's position).

With the arrival of the new Fiscal Officer, Mary Gasper in July 1989 a new position of Budget Manager was created which also assumed internal control on Project cash and other financial matters in Pakistan. Gradually the department developed and ultimately the Finance Department consisted of Fiscal Officer, Accounting Manager, Budget Manager, Senior Accountant, an Accountant, three Accounts Assistants and a Cashier. This staffing remained in place until

February 1994 when the phase-out reduction was initiated for Project completion on April 30 1994.

Cooperative Agreement

Itemized Budget

The approved financial plan for October 01,1986 through September 30, 1989

		10-1-86 To 9-30-87	10-1-87 To 9-30-88	10-1-88 To 9-30-89	Total
I.	Technical Assistance	$1,632,788	$1,447,357	$1,490,093	$ 4,570,238
II.	Logistic Support	$ 341,000	$ 103,875	$ 113,143	$ 558,018
III.	Program Cost	$1,526,212	$4,548,768	$4,496,764	$10,571,744
Total Project Cost:		$3,500,000	$6,100,000	$6,100,000	$15,700,000

Management Sciences for Health operated under these obligations until 1988 when the Project agenda was renegotiated.

The approved financial plan
for October 01, 1989 through April 30, 1994

		Original Agreement	Obligations to Amendment 20
I.	Total Technical Assistance Cost	$ 11,241,404	$ 12,703,999
II.	Total Logistic Costs	$ 1,836,264	$ 2,043,339
III.	Total Program Costs	$ 46,622,332	$ 42,263,662
TOTAL		$ 59,700,000	$ 57,011,000

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2. ACCOMPLISHMENTS AND OUTPUTS

Budget Development

The Program budget (excludes TA & Logistics) of 10.6 million dollars for the first three years, October 1986 through September 1989 was prepared by Jack Lesar and Anibal Mejia. The basis adopted consisted mainly of statistics for training of personnel and the staff needed for the field. Segregation was made to highlight the main areas (technically) of the activities. Procurement was shown as separate activity with allocation to the specific areas, all grouped together. The same budget was adopted for the purpose of reporting the periodic expenses and the comparison of budgeted figures to the actuals. It was a manual spread sheet without the capability of matching outputs to expense categories. This format had its flaws e.g. it could not segregate the expenses into geographical as well as technical areas at a time, it had no facility to have summaries according to either natural classification or departments. The main flaw was its grouping the different activities and classifying them in a haphazard manner. As the budget format in itself was flawed therefore should only have been adopted for reporting format with the changes required to meet the demands of all concerned.

In 1989 the new Fiscal Officer introduced significant changes in the format. The new format developed, allowed for measurement of professional requirements and produced management reporting. The Budget for FY-1990 was prepared with micro computers introducing spread sheets basically prepared from the statistics provided in the annual Project Workplan to maintain a number of activities for a specified period of time. Its classification into departments was made in such a manner that the various activities were grouped together with a geographical and political division within the department. A uniform pattern of line items known as natural classifications was adopted for expenses. Forms were designed for distribution to department heads to be completed for inputs into the budget format and all the managers were trained to provide the workplan data for which each department was responsible . These forms for input data included: statistics, personnel, operations and a capital expenditure budget for equipment over $500.00.

The format was complete in every respect and it matched the annual budget with the annual workplan. This format adopted in 1989 remained in effect to the end of the Project (*see* Table IX - 1)

Operations

On May 3,1987 Ariff Jan delivered envelopes stuffed with vouchers to the Budget Accountant as well as expense reports prepared up to March 1987 for submission to Boston. The first consideration was to reconcile the bank, cash and advances. This momentous task when accomplished was the commencement of the Finance Department Operations.

AFGHANISTAN HEALTH SECTOR SUPPORT PROJECT
MANAGEMENT SCIENCES FOR HEALTH, PESHAWAR - PAKISTAN
BUDGETED UNIT COST - OCTOBER 1, 1990 THRU SEPTEMBER 30, 1991

Table IX - 1
(page 1 of 2)

DEPARTMENT NAME	CODE	COST CENTER NAME	UNIT COST PER STATISIC
TRAINING	501	Training Center	$10,521.25 per month of operation
	502	Training BHWs, MOPH	$281.74 per BHW in training
	503	Training Doctor's Refresher, MOPH	$378.94 per participant trainee
	505	Training BHW's Refresher, MOPH	$77.86 per participant trainee
	507	Mid-level Training, MOPH	$218.50 per participant trainee
	508	Field Assessment	$68.62 per assessment
	511	Training BHWs, AHSA	$165.93 per BHW graduate
	512	Mid-level Training, AHSA	$462.16 per participant trainee
	514	Trang BHW's Refresher, AHSA	$171.68 per participant
	518	Participant Training	$4,177.33 per participant
	519	Specialized Training	$294.12 per participant
	591	Buddy Care Training, MOPH	$1.96 per trainee
	-	Primary Health Centers-Female Training	$312.72 per trainee
HEALTH SERVICES DELIVERY	521	Fielded BHWs, MOPH	$1,960.05 per annum per fielded BHW
	522	Basic Health Centers, MOPH	$11,188.19 per annum per clinic
	525	Comprehensive Health Centers, MOPH	$15,143.45 per annum per health center
	523	Primary Care Hospitals, MOPH	$58,843.20 per annum per hospital
	531	Fielded BHWs, AHSA	$1,960.04 per annum per fielded BHW
	532	Basic Health Centers, AHSA	$11,188.20 per annum per clinic
	535	Comprehensive Health Centers,AHSA	$16,600.51 per annum per health center
	533	Primary Care Hospitals, AHSA	$58,842.69 per annum per hospital
	534	Referral Hospital, AHSA	$94,472.00 per annum per hospital
	541	Monitoring - Pakistan	$2,539.88 per annum per monitor
	542	Monitoring - Afghanistan	$3,242.57 per annum per monitor
CHILD SURVIVAL & DISEASE CONTROL	551	PMD-Administration & Training, MOPH	$52.70 per person trained
	552	PMD-Child Vaccination, MOPH	$0.50 per doze - child
	553	PMD-Women Vaccination, MOPH	$0.45 per doze - women
	555	PMD-Administration & Training, AHSA	$137.53 per vaccintor trained
	556	PMD-Child Vaccination, AHSA	$0.29 per doze - child
	557	PMD-Women Vaccination, AHSA	$0.26 per doze - women
	558	Other Programs, AHSA	$1,515.82 per activity
MCH & HEALTH PROMOTION	561	MCH Training, MOPH - Pakistan	$293.89 per month per staff member
	562	Health Centers & Posts, MOPH	$1,302.01 per month per staff member
	563	Health Centers & Posts, AHSA	$1,414.76 per month per staff member
	564	Teaching Clinics, MOPH - Pakistan	$361.43 per trainee

DEPARTMENT NAME	CODE	COST CENTER NAME	UNIT COST PER STATISIC
MANAGEMENT SERVICES	571	Warehouse & Procurement, Field Operation	$17,755.92 per month of operation
	572	Warehouse & Procurement, PMD	$1,011.33 per month of operation
HEALTH ADMINIS-TRATION	581	MOPH - Peshawar	$96.36 per month per staff member
	582	SCNA - Peshawar Liaison Office	$299.39 per month per staff member
	583	SSWA - Peshawar Liaison Office	$284.24 per month per staff member
	584	Hazarajat-Peshawar Liaison Office	$136.58 per month per staff member
HEALTH SERVICES DEVELOP-MENT	601	Health Management Training, MOPH	$194.70 per participant
	-	Participant Training, NATIONAL	$9,908.00 per survey
	602	Provincial Health Services, MOPH	$1,260.76 per month of operation
	604	Health Management Info., NATIONAL	$0.00 per unit installed
	605	Surveys(House,Community), MOPH	$8,000.00 per survey
	611	Administrative Units & Depots	$697.09 per unit
	612	Surveys(House,Community), AHSA	$8,000.00 per survey
	613	Health Management Training, AHSA	$194.70 per participant

Documentation of FY-1991 used for report because it is a full component budget.

The book-keeping system adopted at this time was advised by the Boston Office. It was a spread sheet with multiple columns to record the banking and cash transactions on one hand and their allocation to advances and expenses on the other. This sheet served more of a purpose of cash book rather than a ledger. All the expenses had to be re-allocated manually to all the line items provided in the management report adopted from the initial budget format. This again was a hectic exercise which at times took a week to reconcile and only then a report for submission to the management could be prepared. In other words the system needed revamping to the extent that once a transaction was entered it should get posted to all the reports required.

The problem disappeared in 1989 when Mary Gasper joined MSH Peshawar, and Kip Eckrod, the MIS specialist, was sent from Boston to install the Paradox Accounting Software. He incorporated the Finance Department newly established cost centers and natural classification.

The Paradox software implemented by Kip solved many problems e.g. the manual advances report was replaced by a computerized system which automatically cleared the advances and marked those outstanding. Boston's report for allocation of advances according to the Boston Chart of Accounts was made possible with the production a of Management Report and Expenses Summary Report on the basis of natural classifications. Paradox had one major flaw. The system was not programmed to produce a Balance Sheet which resulted in a manual reconciliation of Asset Accounts.

Apart from the role of operations, the Finance Department assumed an advisory role to interfacing with the departments. In order to accomplish this, forms were designed especially for control and adherence to U.S.A.I.D. regulations. Policies were formulated for extending the financial assistance to training facilities and administrative posts in Pakistan and the health facilities inside Afghanistan. Here it is worth mentioning that for inside Afghanistan Finance provided payments in Afghanis for all expenditures at the start of the Project, however changed to payments in Pakistan Rupees in July 1989 for salaries and paid Afghanis for the cost of transportation and expenses emanating inside Afghanistan only. The rate schedule of transportation for various locations was provided by the monitors, who updated the information on a regular basis.

Afghanis were purchased from the market at the prevailing rates. At the start of the Project, the procedure to buy Afghanis was telephone for the rate of Afghanis from at least three dealers in the money market. However, the number of dealers we contacted rose to six in 1991 because of the collusion of the dealers. The rate of Afghanis was volatile changing from as high as 198 Afghanis to a dollar in 1987 and as low as 1800 Afghanis to a dollar in 1994. The money dealer, in a rickshaw, delivered the Afghanis himself for security reasons as Peshawar for a major part of Project was rather lawless at times. The bulk of Afghanis arrived at the MSH office delivered in sacks of jute and individuals outside the organization (always under the responsibility of Finance employee of MSH) counted the Afghanis. The highest denomination was 500 Afghani note and at times notes of more than 1.7 million notes had to be counted.

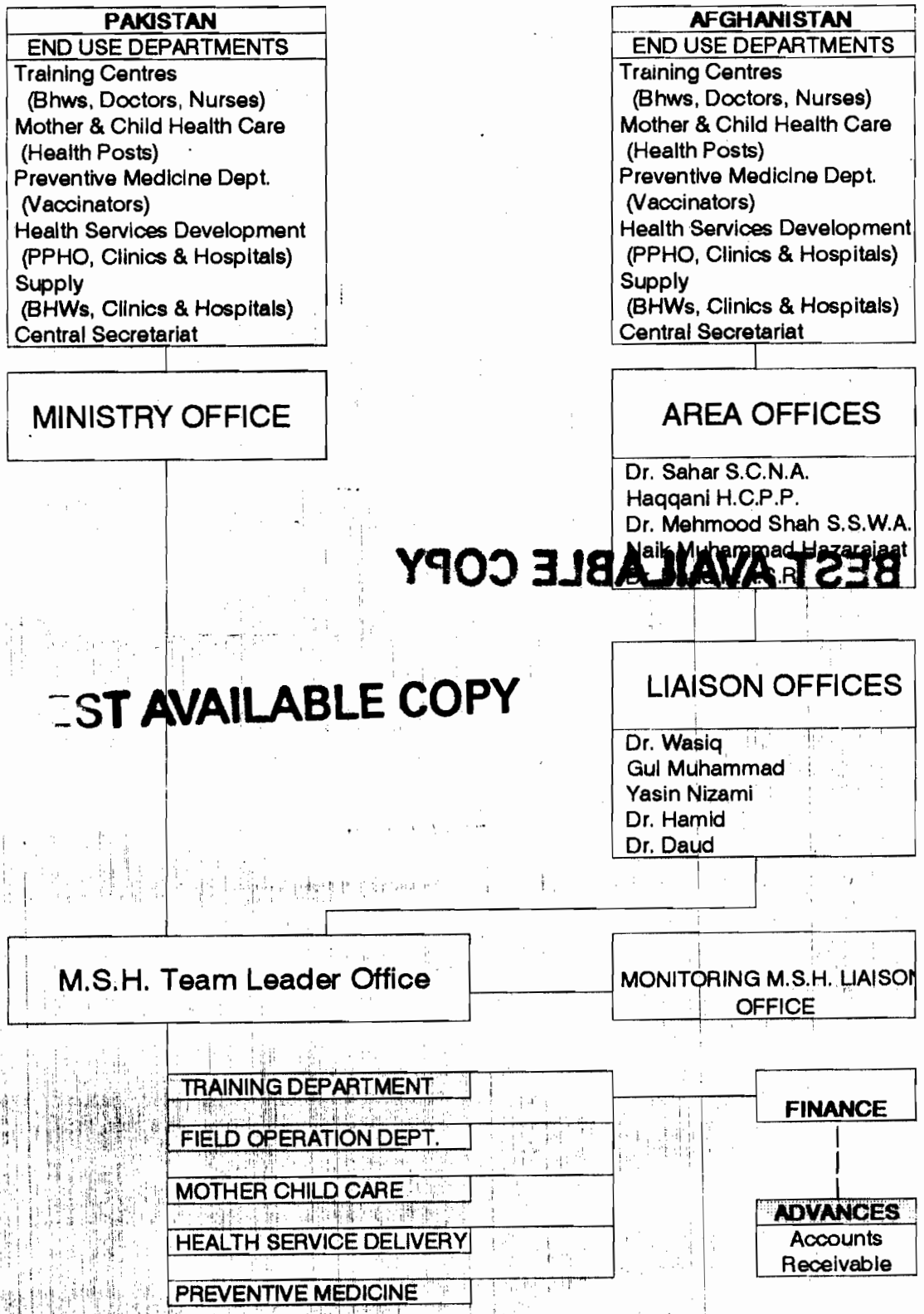
The banking system collapsed with the war inside Afghanistan. Therefore, the transfer of cash to Afghanistan was extremely precarious, so many of our counterparts used to avail the *hundi* system, which was the safest system. Through this system, a Peshawar business vendor would receive the Afghanis in Peshawar and an IOU was issued. After a lapse of agreed time the specified vendor issued Afghanis to the authorized recipients inside Afghanistan. Millions of Afghanis have been purchased by MSH and sent to Afghanistan using the *hundi* system. Utilizing this system MSH lost no funds to pirates, robbers etc. and this was not true of most NGOs (*see* Flow Chart IX - 1).

A major activity of the Finance Department was the payment of salaries to the staff in the field. A monthly pay period was adopted and the basic document was a personnel/payroll 9"x12" card maintained for each payee and a record of payroll payments was maintained on each card. Cards were filed in the respective departments (Field Operations and Child Survival and Disease Control) and on receipt of satisfactory work performance report from the field for the previous period, the cards would be processed for the next few month (usually three or six months). With the authorized signature of the department manager, cards were sent to the Finance Department for payment. Finance then thoroughly checked for arithmetical accuracy , taped and processed for payment after assigning a check number on each card. Payments to Ministry of Health personnel were made with attendance of MSH cashier in coordination with representatives of the appropriate departments of the Ministry and MSH. For area personnel the payments took place at MSH in the presence of the area representative and a person of the concerned department (Field Operations Child Survival and Disease Control) of MSH. The cashier prepared envelopes for each person, a white envelope for salaries in Pak Rupees while a brown envelope for cost of transportation in Afghanis. Due to time constraints the cashier often sought help from other finance staff to accomplish this hazardous task.

Another important activity of the Finance Department was the preparation and distribution of payroll to the Ministry's staff and the liaison offices with advances for their administrative expenses. One major activity was the Training Department. Training conducted courses and refresher courses for the BHWs, doctors, nurses and technicians. BHW training was conducted in the training camps and other staff training activity was in the Training Center. For camps, advances were given for the food @ of Rs.25 at the start but was later increased to Rs.30 per day. Also a stipend of Rs.10 per day was paid to each BHW. All this was given as advance through the Ministry to the individual camps and on submission of the paper work on advance for the next period would be given. Also outstanding advances would be off-set. Payroll was prepared at MSH on the basis of monthly time sheets submitted, signed by the employees and department supervisor. Normally payments to all the employees of the Ministry were made through a check to the Ministry and the accounts department would distribute the salaries themselves. But in 1992 a significant problem developed. Signatures were not matching the specimens. This forced MSH to distribute the salaries through its own cashier through their representative to the Ministry's premises and this procedure remained until the end of the Project. For the area liaison offices employees based in Peshawar, payroll was prepared on the basis of the time sheets and on receipt of signatures for payment of previous payrolls, their payments were received by their representatives for distribution.

AFGHANISTAN HEALTH SECTOR SUPPORT PROJECT
MANAGEMENT SCIENCES FOR HEALTH PESHAWAR

FLOW CHART
REQUEST FOR ADVANCES



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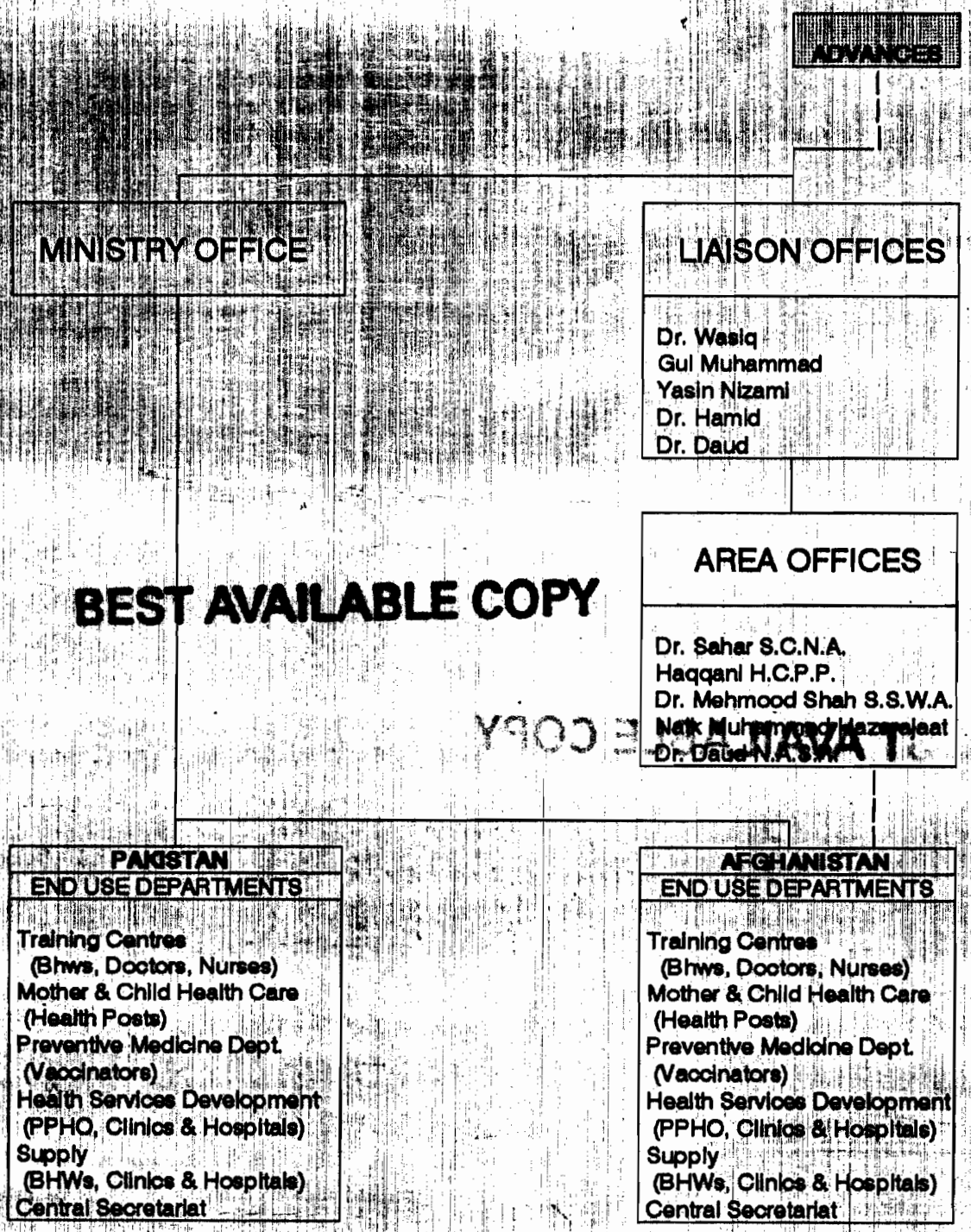
AFGHANISTAN HEALTH SECTOR SUPPORT PROJECT
MANAGEMENT SCIENCES FOR HEALTH PESHAWAR

FLOW CHART
DISBURSMENT OF ADVANCES



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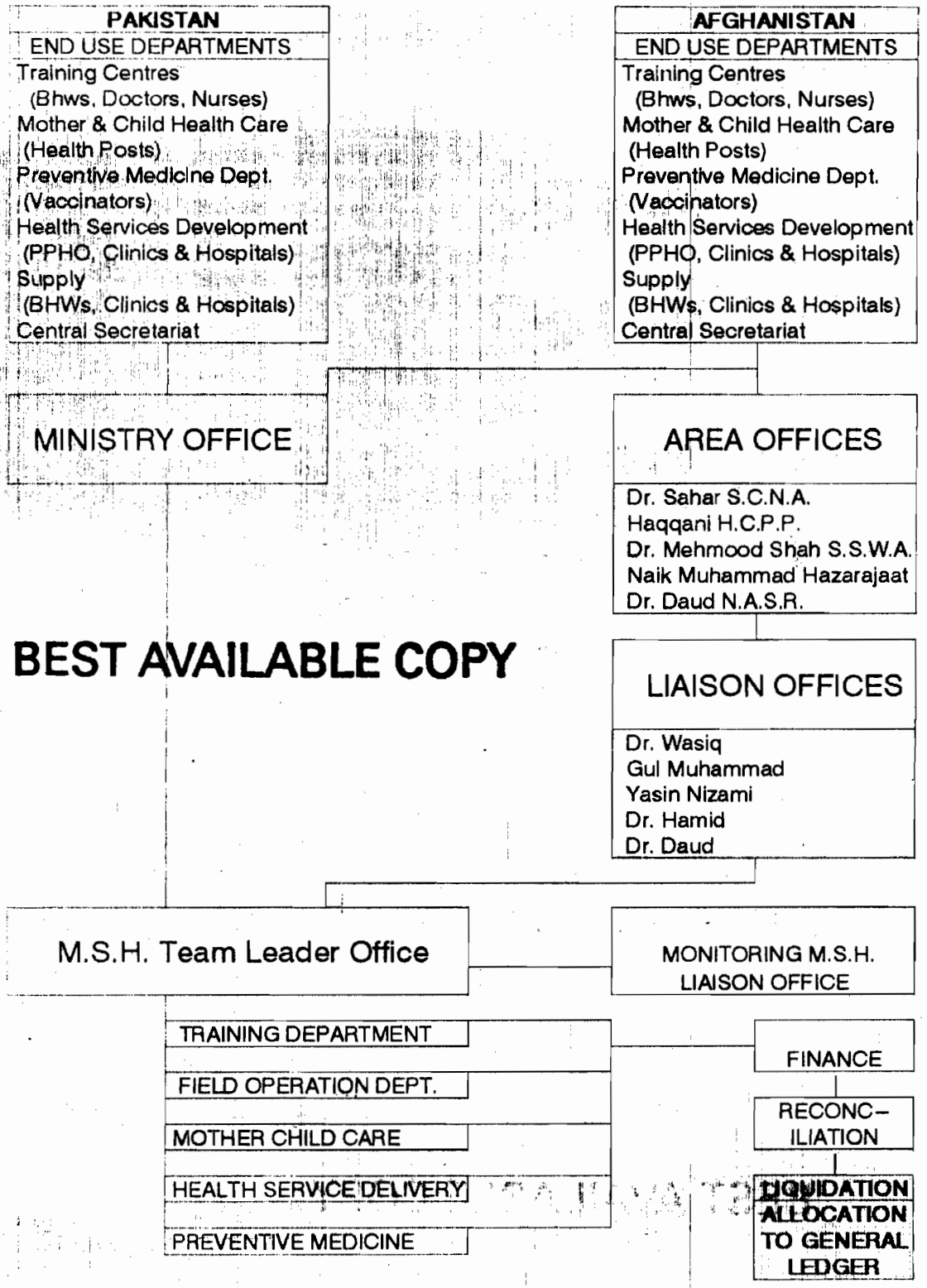
AFGHANISTAN HEALTH SECTOR SUPPORT PROJECT
MANAGEMENT SCIENCES FOR HEALTH PESHAWAR

FLOW CHART
LIQUIDATION OF ADVANCES



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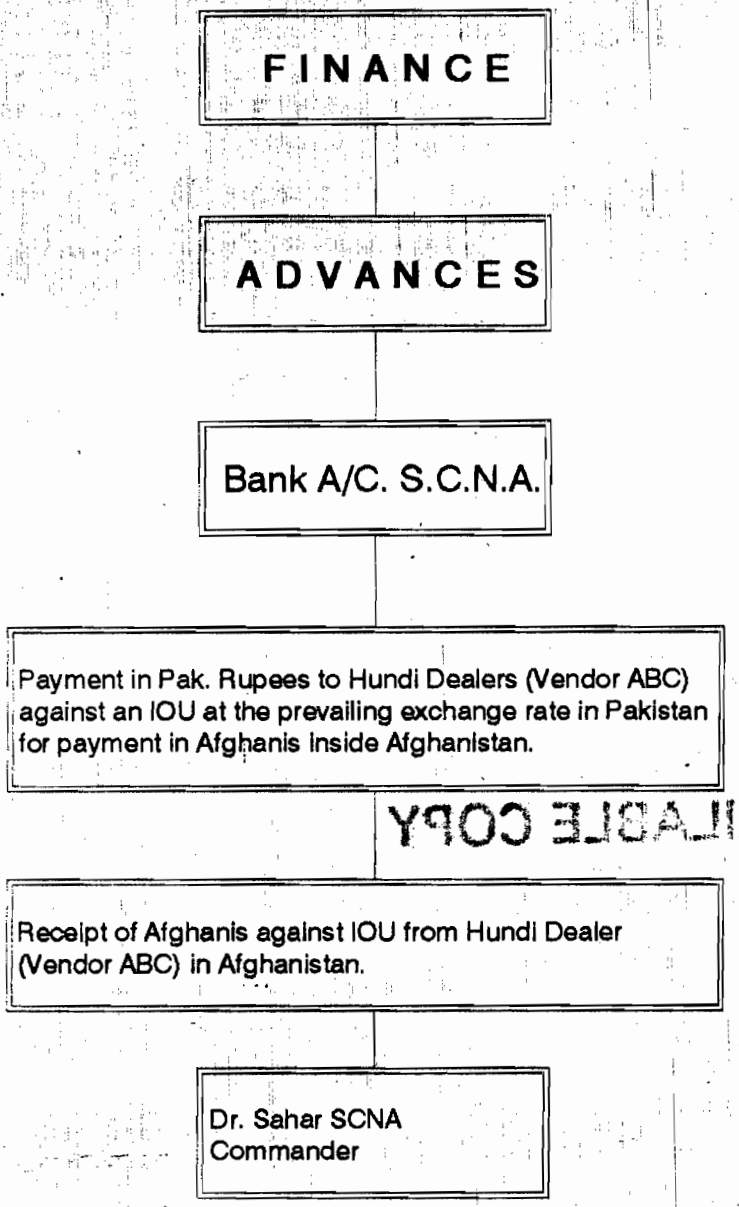
LIQUIDATION: Receipts received in Finance for specific services or products for which specific advance was issued.

AFGHANISTAN HEALTH SECTOR SUPPORT PROJECT
MANAGEMENT SCIENCES FOR HEALTH PESHAWAR

ADVANCE PAYMENT (HUNDI SYSTEM) FOR AREA



LIQUIDATION Of ADVANCE : Same flow chart for Liquidation

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For the employees directly hired by MSH, U.S.A.I.D. procedures were followed. Bi-weekly payments to all the employees including Warehouse and Monitoring Unit were on the time sheets procedure. The compensation plan follows the U.S.A.I.D. employees, however the payroll was always a lower rate. The Liaison Office, which was responsible for Technical Assistance procurements and administration was also given the responsibility of managing personnel affairs.

Payments in advance were regular features of the Finance Department, due to limited resources of Afghans. In most cases personnel did not present themselves to receive their salaries, specifically with respect to area employees. Payment requests for other expenditures were entered into the General Ledger as an advance payment (accounts receivable). These advances would remain outstanding until specimen signatures of personnel and receipts for the expenses were verified by the appropriate department head. The most tedious procedure was tracking of advances. Due to time consuming nature of the procedure, an accounts assistant was hired to track advances and prepare reports. The responsibility entailed maintaining complete individual records and control of all advances and clear them after receiving acceptable receipts. The ensuing advance could only be made to an individual or a party after having a authorization from the accounts assistant. In cases where the complete advance could not cleared the next payment issued would be subject to offsetting the previous advance.

MSH expenses were allocated under three different headings Program, Technical Assistance and Logistic Support. These expenses were either incurred on payments to the directly hired personnel of MSH or procurement by MSH staff. Technical assistance staff expenses were either TA or Logistics as required by the Cooperative Agreement. Logistics or un-billable expenses were those normally incurred by U.S.A.I.D. themselves but to share the administrative load, MSH incurred these expenses and billed U.S.A.I.D. for reimbursement. These expenses were incurred in Pak Rupees and the reimbursement was sent by check in the same currency.

Another regular activity included payment of advances to monitors. When monitors visited an assigned area and verified the presence and performance of personnel, they reported back to the supervisor of the particular department. The individuals were paid in Pakistan Rupees for travel cost within Pakistan and for inside Afghanistan, Afghanis. Also, a food allowance was provided to them. Most of the monitors were employed under contract but about 90 were permanent employees. Normally a team of two monitors would be constituted, one from the pool of permanent monitors drawing their salaries from MSH and the other from outside to undertake a particular monitoring mission. Eighty percent of the travel cost and food allowance was paid in advance to the MSH employee.

To the outside hire, fifty percent of his salary,travel cost and food allowance would be paid as advance. The mission would entail the monitoring of specified people. On their return, their field report would be examined by the Field Operations Department and on their recommendation after deduction for the proportionate work not accomplished, payment of the balance would take place.

Vaccinators operated under the same procedure basically as Field Operations staff. Personnel functions were maintained on same card format. Groups of vaccinators would travel to a particular area, and they would be given a special per diem to compensate the hardship in reaching all the areas for vaccination of the rural people. Also the cold boxes required special treatment for keeping the vaccines under required temperature and gas cylinders to provide energy. The atypical nature of transporting the vaccines has always been a source of concern for Finance as the receipts provided to the department always were on plain paper signed or thumb printed by the transporters. There was no way to verify the transportation cost and the only remedy was to rely on the verification of the head of vaccination department. However, a predetermined schedule was maintained by the Monitoring Unit , but due to the war these costs changed constantly.

To reduce the spur of the moment requests for small amounts of Rupees, petty cash funds were provided to service departments. Fixed amounts of revolving funds were issued to Accounting Manager, Liaison Office, Warehouse, Monitoring, Training Center and the Ministry. Except for Accounting Manager's petty cash, all others were meant to meet minor day to day expenses of the respective departments. Guidelines were established for each petty cash fund depending on department. On submission of authorized receipts an amount equal to the sum of receipts would be replenished. The Finance Department's petty cash was only used for emergency payments i.e. in cases where the check could not be cashed on that day and the money was required on urgent basis. The largest of these was the petty cash fund of the Liaison Office and almost weekly the responsible employee would prepare a voucher for its replenishment.

As noted in the attached graphs expenditures varied considerably from year to year. Although there was a carefully prepared budget the unexpected would occur. Mainly bans on activity from Washington, DC as well as mid-year changes from U.S.A.I.D.. Notably the Gulf war with the evacuation of the expatriate staff had its impact also (*see* Figures IX - 1,2&3).

Alliance Health Committee, Ministry of Public Health

All the seven major political parties engaged in the war against the Russians and communist regime of Afghanistan, were in one form or the other providing medical support to their people inside Afghanistan. There was a determined need for a common platform to coordinate the health activities. In May 1987 Alliance Health Committee (AHC) was formed which consisted of the health committees of Afghan National Liberation Front (ANLF), National Islamic Front Alliance (NIFA), Jamiat-e Islami Afghanistan (JIA), Harakat-e Islami Afghanistan (HIA) and Ittihad-e Islami Afghanistan (IIA). Only two parties both Hezb-e Islami of Gulbadeen Hekmatyar and Maulvi Younas Khalis did not participate. According to the initial understanding, presidents were to hold office for a revolving period of three months. AHC was to have all the departments which could interact with the counterparts in MSH. From the start MSH Finance Department's goal was to create a self-sufficient AHC Finance Department. The Finance Department's objective was to provide technical assistance to the AHC staff in order for them to function independently on major activities. An agreement of salaries for employees working in Pakistan and across the border in Afghanistan was achieved in collaboration with all

Figure IX - 1

ANNUAL PROGRAM EXPENSES - 1986 TO 1994

(Excludes Technical Assistance and Logistics)

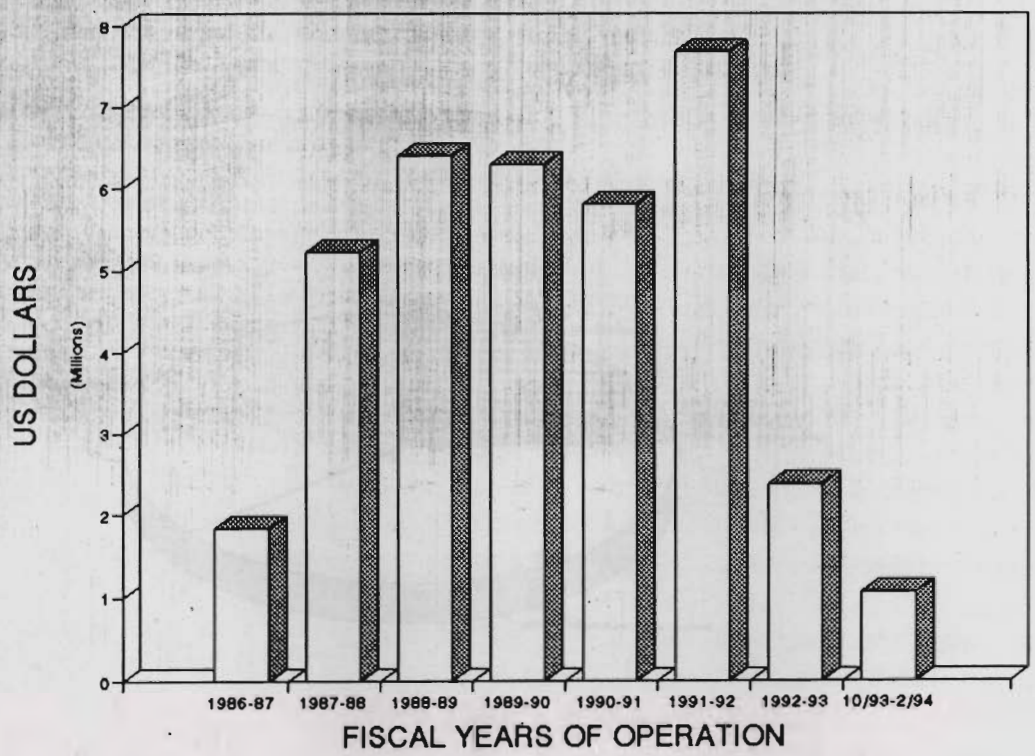

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Figure IX - 2

ALLOCATION OF PROGRAM EXPENSES - 1988 TO 1994

(Excludes Technical Assistance and Logisitics)

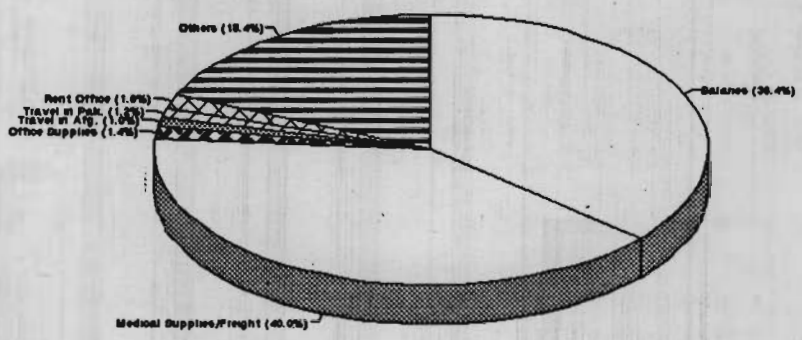

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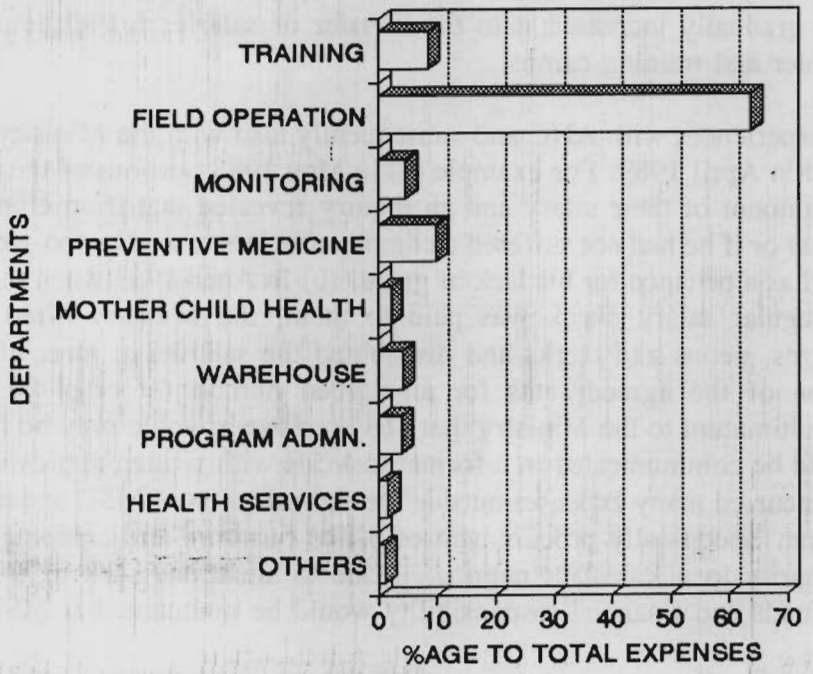
Figure IX - 3

Departmental Expenses

(Inception to February 28, 1994)



the members of AHC High Council in October 1987. In February 1988 an increase of 7 % was established on their payroll schedule. Salaries remained at this same level until a 50 % reduction was initiated in 1992. Finance and Administration were one department in the AHC headed by Muhammad Akram Mohmand Baba as Director and Shinwari as the Deputy Director. Shinwari with a banking background was responsible for the finance section. MSH held training sessions with the AHC finance staff and prepared books of accounts for them with forms for reporting to and replenishment from MSH. MSH started by providing AHC with an advance for petty expenses and gradually increased it to the transfer of salaries for all employees including the training center and training camps.

MSH had some bitter experiences with AHC and subsequently also with the Ministry of Public Health (MOPH) formed in April 1989. For example (a) in May 1988 portions of the AHC staff were not paid the full amount of their salary and an inquiry revealed that if an employee was considered junior in *jihad* or if he had not suffered a comparative less to another co-worker, then his pay might be docked as a penance for his lack of grace. (b) In April 1989 when the Ministry was formed and the regular salary check was paid to them, the Ministry hired excessive employees such as guards, peons and clerks and distributed the salaries in most of the cases lower rates, a violation of the agreed rates for an agreed number of employees. MSH categorically issued an ultimatum to the Ministry that 163 employees would only be funded and personnel changes would be communicated in a format to MSH with written approval. (c) The Ministry when formed incurred many expenses outside the authorization of MSH and in violation of U.S.A.I.D. regulation. Specifically procurement of office furniture and equipment went to the extent of giving charity to a Pakistani national. Due to situations such as these, MSH decided all control of funds and financial responsibility would be maintained at MSH Finance Department.

Afghanistan had not adopted the conventional accounting system nor were there professional accountants available. This has always been a dilemma with MSH as well as other NGOs. PVO organizations decided to hire individuals with elementary knowledge of Finance who could ultimately be transferred inside Afghanistan. Had MSH decided to shift to Kabul, one person hired by MSH was Abdul Qahir, who had the experience to work as cashier and in accounts department of Inter Continental Kabul and Abu Dhabi. Abdul worked as a cashier until the end of the Project. MSH was unable to find Afghans who at least had some basic knowledge of accounting. English was another requirement of the finance department as all government and MSH Boston transactions and reports were in English. AHC, and then the Ministry, were allowed to write all the letters in Dari and an interpreter was hired to translate them before sending them to the concerned department. Finance received these documents, many as receipts against their advance payments.

Regional (or Area) Health Committees

The war in Afghanistan was taking new dimensions which gave rise to different areas becoming strongholds of different commanders. It was not wise to ignore this development because without having liaison with these commanders MSH could have ignored to provide its

humanitarian assistance to a big chunk of population. With this in mind, commanders of the various areas were encouraged to contact MSH in order to get their share of the health facilities MSH could provide. It was tried that all these areas should be provided assistance on the same lines as to the people in AHC. These areas included Supervisory Council of the of the North Areas (SCNA), South and Southwestern Areas (SSWA), Health Committee of Central Afghanistan (HCCA), and Health Committee of Paktya and Pakteka (HCPP). To all areas funds were provided in the form of advances for salaries to training staff, stipends and allowances for trainees, salaries to BHWs, doctors, nurses, technicians and administrative staff, construction of health facilities, procurement of food stuff and supplies for office and health facilities, freight to transport the medicines and sometime for the procurement of camels and pickups. The advances procedure would be followed as discussed earlier. Administration centers were established in all the areas to do the administrative jobs for the health facilities, record the financial transactions and collect receipts for submission to MSH. But in spite of all this it was an uphill struggle to receive the receipts before issuing the next advance. Forms of every nature were designed on which they could report back to MSH, for various types of expenses.

Each area had a liaison office in Peshawar and the staff of these offices required their salary each month. The leader of these offices was usually responsible for collection of money on behalf of their respective areas. Other than SCNA and HCPP, cash payments would be made. SCNA was asked by MSH to open an account in Grindlays Bank, Peshawar, to avoid any incidents of risks. They would be paid checks for Rupee payments and the Afghanis would be paid in cash. They would then draw the money as required from Grindlays Bank and then dispatch it to Afghanistan. The same procedure was followed for HCPP except an account was opened in Miram Shah close to their activity area and they received a draft to avoid 15-30 days of clearing time required for checks.

3. CHALLENGES AND CONSTRAINTS

As with any job certain aspects bring challenges as well as restrictions in accomplishing specific objectives. The following major areas are presented.

A. The Afghans were devoid of professional accountants or modern bookkeeping skills. To compensate for this deficiency Pakistanis with accounting degrees and work experience in Pakistan audit firms were hired for various finance positions. The skilled Afghan recruited by MSH had d 10 years work experience as a Cashier and an Accounts Clerk for Intercontinental Hotel Abu Dhabi.

B. The Afghan counterparts found it difficult to conform to the regulations of U.S.A.I.D.. The general impression was that the funds once given to them should be spent with the authority of their own designated official without any regard to rules implied. This behavior at times forced MSH to impose penalties such as withholding salaries until receipts had been submitted and off- setting other payments due to them.

C. Due to the failure of the Afghanistan banking system because of war, and the developmental stage of the Pakistan banking system, there was no alternative than join the cultural society of CASH. That is the minority (10%) of people in Pakistan maintained bank accounts and individual Afghans were not allowed to open bank accounts in Pakistan. MSH sponsored two Afghan checking accounts which were for the convenience of cross-checks. MSH at the end of the Project closed these accounts as Afghans could not utilize these for themselves. With circumstances as these ensues a high risk for pilferage, robbery, embezzlement and fraud. However, during the seven years of MSH operation no major incident occurred. The atmosphere in Peshawar and Afghanistan during 1988-92 was like the wild west never knowing when you were trailed or a Kaleshnikolf would be pointed at you, or a terrorist would hit the Warehouse. Insurance was purchased to cover cash in transit in Pakistan (Afghanistan was in such a high risk that no insurance company would issue policies). Also a policy covered the $4,000,000 medical supplies in the Warehouse. This action was approved by the Contracting Officer in Islamabad.

D. Receipts for advances from inside Afghanistan was a time consuming affair particularly in the summers when the resupply schedules coincided with the expatriate staffs' R & R leave. Afghans always expected Finance to have their payments within three to five working days, but for them, days and even months were taken receiving receipts on past advance payments. Decisions were made to send the supplies first, paying freight only and the corresponding salaries to be released on the receipt of signatures. This procedure split the activity and created many man hours of additional work in the finance department.

E. Finance experienced, almost unheard of in USA, the inability to purchase supplies to operate the department for the first two to three years of the Project. Supplies for computers and other electronic equipment was almost non existent. Usually supplies were ordered from Boston, later Karachi or Lahore. For computer repairs Boston sent parts etc., a turnaround time of two to three months. Later a reliable shop was established in Islamabad but it took months for job completion. Initially Uninterrupted Power Supply (UPS) was unavailable and at load-shedding or power breakdowns finance was at its mercy, much of the data at times was lost due to abrupt power failure.

F. Signature verification at times was cumbersome, as occasionally they did not match with the specimen signatures on file. For example a BHW in the beginning would place a thumb print or ring print (rings carved with the names), for the resupply they would improve to signing in Dari or Pushto and eventually learned to write signatures in English which would land the finance staff at an impasse of finally resorting to confirmations from the identity cards and personal inquiries. Also, the signatures of different employees in Dari would always look alike.

G. Initially, it was conceived that the MSH finance department by 1990 could establish the finance operations at the Ministry of Public Health Finance Department. MOPH process the funds and MSH finance staff audit. It became clear early this was inadvisable to attempt due to several factors:

a. Lack of skilled Afghan staff and MOPH refusal to have Pakistanies in their finance department.

b. The high risk of corruption as the Minister was the only signatory on the checking account and in 1989 there was a diversion of funds. (this was totally recovered by MSH Finance)

c. The Ministry co-mingled funding sources in their financial record-keeping. It was clear their administration would not allow MSH reviewing the finances.

4. LESSONS LEARNED

i. The foremost lesson learnt on this Project was that professional accountants should always be involved to prepare the budget, process operations and fulfill reporting requirements.

ii. The activity of selection, pay schedules, performance analysis and custody and preparation of cards for payment to personnel was all controlled by the concerned departments of MSH. The last step of custody and preparation of salary should have been controlled by the finance office. Salaries could be prepared by finance department on the basis of the data provided by the departments concerned for specified people, such as to enable the finance department exercise adequate financial controls.

iii. In MSH, 64 % of the funds disbursed were through a single department. Technically speaking there should have been more diversification.

iv. The interaction between Pakistani and Afghan collegues in the finance was admirable. Each assisted the other in language i.e. Dari to Pushto to English and financial system procedures.

X. CONCLUSION

William D. Oldham, M.D., Team Leader

The Project terminated on April 30, 1994 after phasing down for a number of months. We believe we achieved all of the important objectives, both relief and development. We left behind in Afghanistan a well trained and experienced cadre of primary health workers and a well trained and motivated nucleus of supervisors and senior managers, many of whom had had participant training in public health in the United States under Project funds.

The Important Lesson Learned

All the department heads have responded, each listing a number of lessons learned in each activity area. I have tried not to duplicate here what has already been listed in the nine previous sections but have tried to state what I think is the most important lesson learned overall during the implementation of the Afghanistan Health Sector Support Project.

The fact that health services can be developed in a cross-border support program was well demonstrated. It requires close coordination and motivation of the health leadership and health personnel who are well supplied and trained. Actually most of the lessons listed by the individual departments are required to achieve the development objectives of the program.

Even though the support of the program was cut off, the personnel are there and most are ready to pick up where things were left off. Other donors are required or a government established that can produce enough revenue to reinstate the health program.

APPENDIX VI-1

COLD CHAIN EQUIPMENT

The cold chain equipment used at different levels of the cold chain are listed below. Between brackets is the origin of the equipment:
(E) = Electrolux, Luxembourg
(Q) = Quatro Elle Spa, Italia
(S) = Sibir International AB, Switzerland
(T) = Thermos Ltd., U.K.
The exact combination of the listed equipment depended on the needed storage capacity of each of the facilities/teams/VSF.

Central cold room, Peshawar:

1- Refrigerator or freezer, compression type, Model TCW 1151 Icelined (E)
2- Icepack freezer, compression type, Model TFW 791 (E)
3- Refrigerator & freezer, absorption type, Model V 240 GE, Gas and Electric (S)
4- Refrigerator & freezer, absorption type, Model RA 1302 EG, Electric & Gas (E)
5- Icepack freezer, absorption type, Model RCW 65 Gas (E)

Vaccine Storage facilities

1- Refrigerator & freezer, absorption type, Model V 240 GE, Gas and Electric (S)
2- Refrigerator & freezer, absorption type, Model RA 1302 EG, Electric and Gas (E)
3- Icepack freezer, absorption type, Model RCW 65 Gas (E)
4- Icepack freezer, absorption type, Model FCW EG, Electric and Gas (E)
5- Refrigerator & Icepack freezer, absorption type, Model RCW 42 EG, Electric & Gas (E)
6- Long range vaccine cold box, Class A, Model RCW 25, with icepacks (E)
7- Long range vaccine cold box, Class A, Model RCW 12 (E)
8- Vaccine carrier, Class B, Model 3504/38 (T)
9- Vaccine carrier / Point-of-use, Class A, Model RCW 2 (E)
10- Vaccine carrier, 10 Litres "gross capacity" (Q)

Mobile Team

1- Refrigerator & Icepack freezer, absorption type, Model RCW 42 EG, Electric & Gas (E)
2- Long range vaccine cold box, Class A, Model RCW 25, with icepacks (E)
3- Long range vaccine cold box, Class A, Model RCW 12 (E)
4- Vaccine carrier, Class B, Model 3504/38 (T)
5- Vaccine carrier / Point-of-use, Class A, Model RCW 2 (E)
6- Vaccine carrier, 10 Litres "gross capacity" (Q)

Facilities with EPI

1- Refrigerator & icepack freezer, absorption type, Model RCW 42 EG, Electric and Gas (E)
2- Long range vaccine cold box, Class A, Model RCW 25, with icepacks (E)
3- Long range vaccine cold box, Class A, Model RCW 12 (E)
4- Vaccine carrier, Class B, Model 3504/38 (T)
5- Vaccine carrier / Point-of-use, Class A, Model RCW 2 (E)
6- Vaccine carrier, 10 Litres "gross capacity" (Q)
7- Icepack freezer, absorption type, Model FCW EG, Electric and Gas (E)

EPI Results ordered by USAID Fiscal Year

FY	BCGU1	BCGU2	BCGTOT	MEASU1	MEASU2	MEASTOT	DPT1U1	DPT1U2	DPT1TOT	DPT2U1	DPT2U2	DPT2TOT	DPT3U1	DPT3U2	DPT3TOT
1988	377	849	1,715	498	1,296	3,852	943	1,912	6,355	0	0	5	0	0	0
1989	874	1,861	4,643	684	3,147	10,725	2,202	5,251	18,322	91	919	5,752	0	7	51
1990	17,054	34,979	64,797	10,711	33,274	67,402	15,680	36,240	72,741	1,818	5,280	12,875	335	1,633	5,801
1991	23,203	40,474	57,383	23,746	54,917	84,676	34,817	61,928	94,626	7,200	14,795	26,655	961	3,846	8,561
1992	42,901	89,886	121,293	27,080	72,728	104,244	40,673	89,168	123,957	23,131	53,573	77,714	7,950	20,663	33,561
1993	70,482	140,402	159,018	39,429	103,733	141,740	66,164	143,379	165,449	44,132	99,479	119,962	32,604	77,256	92,338
1994	8,547	16,903	17,172	5,084	13,546	17,637	8,833	16,292	16,876	5,865	11,830	12,429	5,033	10,831	11,823
	377	472	866	498	798	2,556				0.00%	0.00%	0.08%	0.00%	0.00%	0.00%
	874	987	2,782	684	2,463	7,578				4.13%	17.50%	31.39%	0.00%	0.13%	0.28%
	17,054	17,925	29,818	10,711	22,563	34,128				11.59%	14.57%	17.70%	2.14%	4.51%	7.97%
	23,203	17,271	16,909	23,746	31,171	29,759				20.68%	23.89%	28.17%	2.76%	6.21%	9.05%
	42,901	46,985	31,407	27,080	45,648	31,516				56.87%	60.08%	62.69%	19.55%	23.17%	27.07%
	70,482	69,920	18,616	39,429	64,304	38,007				66.70%	69.38%	72.51%	49.28%	53.88%	55.81%
	8,547	8,356	269	5,084	8,462	4,091				66.40%	72.61%	73.65%	56.98%	66.48%	70.06%
	21.98%	27.52%	50.50%	12.93%	20.72%	66.36%									
	18.82%	21.26%	59.92%	6.38%	22.97%	70.66%									
	26.32%	27.66%	46.02%	15.89%	33.48%	50.63%									
	40.44%	30.10%	29.47%	28.04%	36.81%	35.14%									
	35.37%	38.74%	25.89%	25.98%	43.79%	30.23%									
	44.32%	43.97%	11.71%	27.82%	45.37%	26.81%									
	49.77%	48.66%	1.57%	28.83%	47.98%	23.20%									

FY	Under 1		Under 2		Total		Planned	
1988	1,818	3.46%	4,057	7.72%	11,927	22.69%	52,575	
1989	3,851	1.89%	11,185	5.50%	39,493	19.41%	203,495	
1990	45,598	12.41%	111,406	30.33%	223,616	60.88%	367,284	
1991	89,927	18.91%	175,960	37.00%	271,901	57.18%	475,550	
1992	141,735	17.52%	326,018	40.30%	460,769	56.95%	809,033	
1993	252,811	30.05%	564,249	67.07%	678,507	80.65%	841,284	
1994	33,362	NA	69,402	NA	75,937	NA	0	
===	=======	======	=======	======	=======	======	=======	
Total	569,102	24.44%	1,262,277	54.21%	1,762,150	75.67%	2,328,579	(1993 included for 50%)

Date: 31-Mar-94

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EPI Results ordered by Calendar Year

CY	BCG_0_11	BCGU2	BCGTOT	MEAS_0_11	MEASU2	MEASTOT	DPT1_0_11	DPT1U2	DPT1TOT	DPT2_0_11	DPT2U2	DPT2TOT	DPT3_0_11	DPT3U2	DPT3TOT
1988	435	998	2,040	783	2,440	7,760	1,415	3,256	10,901	5	14	95	0	0	1
1989	3,566	9,326	23,550	1,758	8,995	25,019	4,977	13,076	37,271	180	1,298	6,934	30	438	1,860
1990	20,881	37,644	60,054	16,298	40,167	68,839	22,378	41,821	69,633	4,864	10,630	19,775	951	2,955	6,596
1991	23,273	45,137	63,172	21,073	52,747	82,173	31,156	62,286	95,253	9,057	20,764	37,570	1,355	4,338	9,680
1992	43,696	91,922	124,027	29,242	79,050	116,368	41,141	91,543	127,703	23,103	54,803	77,546	10,368	24,254	39,921
1993	66,604	131,170	144,021	35,221	92,556	122,029	62,767	132,558	147,935	42,825	94,069	109,174	32,554	79,040	90,866
1994	4,983	9,157	9,157	2,857	6,686	8,088	5,478	9,630	9,630	2,203	4,298	4,298	1,625	3,211	3,211
		563	1,042		1,657	5,320				0.35%	0.43%	0.87%	0.00%	0.00%	0.01%
		5,760	14,224		7,237	16,024				3.62%	9.93%	18.60%	0.60%	3.35%	4.99%
		16,763	22,410		23,869	28,672				21.74%	25.42%	28.40%	4.25%	7.07%	9.47%
		21,864	18,035		31,674	29,426				29.07%	33.34%	39.44%	4.35%	6.96%	10.16%
		48,226	32,105		49,808	37,318				56.16%	59.87%	60.72%	25.20%	26.49%	31.26%
		64,566	12,851		57,335	29,473				68.23%	70.96%	73.80%	51.86%	59.63%	61.42%
	21.32%	27.60%	51.08%	10.09%	21.35%	58.56%									
	15.14%	24.46%	60.40%	7.03%	28.93%	64.05%									
	34.77%	27.91%	37.32%	23.68%	34.67%	41.65%									
	36.84%	34.61%	28.55%	25.64%	38.55%	35.81%									
	35.23%	38.88%	25.89%	25.13%	42.80%	32.07%									
	46.25%	44.83%	8.92%	28.86%	46.98%	24.15%									

CY	Under 1		Under 2		Total		Planned	
1988	2,638	5.02%	6,708	12.76%	20,797	39.56%	52,575	
1989	10,511	5.17%	33,133	16.28%	94,634	46.50%	203,495	
1990	65,372	17.80%	133,217	36.27%	224,897	61.23%	367,284	
1991	85,914	18.07%	185,272	38.96%	287,848	60.53%	475,550	
1992	147,550	18.24%	341,572	42.22%	485,565	60.02%	809,033	
1993	239,971	28.52%	529,393	62.93%	614,025	72.99%	841,284	
1994	17,146	NA	32,982	NA	34,384	NA	0	
===	=======	======	=======	=======	=======	======	=======	
Total	569,102	24.44%	1,262,277	54.21%	1,762,150	75.67%	2,328,579	(1993 included for 50%)

Date: 31-Mar-94

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EPI Results corrected for supply delays

FY	BCGU1	BCGU2	BCGTOT	MEASU1	MEASU2	MEASTOT	DPT1U1	DPT1U2	DPT1TOT	DPT2U1	DPT2U2	DPT2TOT	DPT3U1	DPT3U2	DPT3TOT
1988	815	815	1,767	1,053	3,739	12,739	2,683	6,146	22,143	91	919	5,757	0	7	51
1989	10,337	23,151	47,235	7,589	23,183	51,079	9,788	24,483	53,865	404	1,588	5,108	262	1,072	3,865
1990	28,030	48,496	70,548	25,688	61,135	95,589	37,965	67,948	105,968	8,273	16,609	29,141	1,027	3,543	7,265
1991	29,047	57,317	73,883	18,961	47,257	63,104	30,509	63,436	83,612	15,506	34,144	50,544	4,065	10,649	17,354
1992	69,048	145,656	176,040	39,194	110,006	158,337	60,107	135,783	169,999	40,905	96,344	122,443	28,247	68,572	87,647
1993	26,161	48,967	54,337	14,747	37,321	49,428	28,260	56,374	62,739	17,058	36,272	42,399	13,282	30,393	35,953
	815	0	952	1,053	2,686.	9,000				3.39%	14.95%	26.00%	0.00%	0.11%	0.23%
	10,337	12,814	24,084	7,589	15,594	27,896				4.13%	6.49%	9.48%	2.68%	4.38%	7.18%
	28,030	20,466	22,052	25,688	35,447	34,454				21.79%	24.44%	27.50%	2.71%	5.21%	6.86%
	29,047	28,270	16,566	18,961	28,296	15,847				50.82%	53.82%	60.45%	13.32%	16.79%	20.76%
	69,048	76,608	30,384	39,194	70,812	48,331				68.05%	70.95%	72.03%	46.99%	50.50%	51.56%
	26,161	22,806	5,370	14,747	22,574	12,107				60.36%	64.34%	67.58%	47.00%	53.91%	57.31%
	46.12%	0.00%	53.88%	8.27%	21.08%	70.65%									
	21.88%	27.13%	50.99%	14.86%	30.53%	54.61%									
	39.73%	29.01%	31.26%	26.87%	37.08%	36.04%									
	39.31%	38.26%	22.42%	30.05%	44.84%	25.11%									
	39.22%	43.52%	17.26%	24.75%	44.72%	30.52%									
	48.15%	41.97%	9.88%	29.84%	45.67%	24.49%									

FY	Under 1		Under 2		Total		Planned	
1988	4,642	8.83%	11,626	22.11%	42,457	80.76%	52,575	
1989	28,380	13.95%	73,477	36.11%	161,152	79.19%	203,495	
1990	100,983	27.49%	197,731	53.84%	308,511	84.00%	367,284	
1991	98,088	20.63%	212,803	44.75%	288,497	60.67%	475,550	
1992	237,501	29.36%	556,361	68.77%	714,466	88.31%	809,033	
1993	99,508	11.83%	209,327	24.88%	244,856	29.11%	841,284	
===	======	======	======	======	======	======	======	
	569,102	24.44%	1,261,325	54.17%	1,759,939	75.58%	2,328,579	(including 1993 for 50%)

Date: 31-Mar-94

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EPI Results corrected for supply & distribution delays

FY	BCGU1	BCGU2	BCGTOT	MEASU1	MEASU2	MEASTOT	DPT1U1	DPT1U2	DPT1TOT	DPT2U1	DPT2U2	DPT2TOT	DPT3U1	DPT3U2	DPT3TOT
1988	815	1,767	3,978	1,053	3,739	12,739	2,683	6,146	22,143	91	919	5,757	0	7	51
1989	10,337	23,151	47,235	7,589	23,183	51,079	9,788	24,483	53,865	404	1,588	5,108	262	1,072	3,865
1990	30,356	53,245	77,325	26,997	65,712	102,837	41,171	74,702	116,036	8,614	18,487	34,422	1,034	4,407	10,497
1991	42,128	88,210	119,583	26,942	71,869	102,814	40,250	88,129	122,910	22,171	50,626	74,609	7,832	20,132	32,710
1992	71,075	141,817	160,467	39,000	102,928	140,919	65,539	142,102	163,419	44,324	100,838	120,807	32,113	76,153	90,848
1993	8,727	17,164	17,433	5,651	15,210	19,888	9,881	18,608	19,953	6,633	13,418	14,689	5,642	12,465	14,164
1994	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	815	952	2,211	1,053	2,686	9,000				3.39%	14.95%	26.00%	0.00%	0.11%	0.23%
	10,337	12,814	24,084	7,589	15,594	27,896				4.13%	6.49%	9.48%	2.68%	4.38%	7.18%
	30,356	22,889	24,080	26,997	38,715	37,125				20.92%	24.75%	29.66%	2.51%	5.90%	9.05%
	42,128	46,082	31,373	26,942	44,927	30,945				55.08%	57.45%	60.70%	19.46%	22.84%	26.61%
	71,075	70,742	18,650	39,000	63,928	37,991				67.63%	70.96%	73.92%	49.00%	53.59%	55.59%
	8,727	8,437	269	5,651	9,559	4,678				67.13%	72.11%	73.62%	57.10%	66.99%	70.99%
	20.49%	23.93%	55.58%	8.27%	21.08%	70.65%									
	21.88%	27.13%	50.99%	14.86%	30.53%	54.61%									
	39.26%	29.60%	31.14%	26.25%	37.65%	36.10%									
	35.23%	38.54%	26.24%	26.20%	43.70%	30.10%									
	44.29%	44.09%	11.62%	27.68%	45.37%	26.96%									
	50.06%	48.40%	1.54%	28.41%	48.06%	23.52%									

FY	Under 1		Under 2		Total		Planned	
1988	4,642	8.83%	12,578	23.92%	44,668	84.96%	52,575	
1989	28,380	13.95%	73,477	36.11%	161,152	79.19%	203,495	
1990	108,172	29.45%	216,553	58.96%	341,117	92.88%	367,284	
1991	139,323	29.30%	318,966	67.07%	452,626	95.18%	475,550	
1992	252,051	31.15%	563,838	69.69%	676,460	83.61%	809,033	
1993	36,534	4.34%	76,865	9.14%	86,127	10.24%	841,284	
1994	0	NA	0	NA	0	NA	0	
===	=======	======	=======	======	=======	======	=======	
	569,102	26.87%	1,262,277	59.59%	1,762,150	83.19%	2,118,258	(1993 included for 25%)

Corretions made for 1988, 1989, 1990 for vaccine pipeline (earliest date in the field = June)
for 1991, 1992, 1993 for the effect of the "ban".

The "planned" number is calculated on the ## of doses of vaccines available, any delay in delivery of the vaccine to the in-country VSF entails delay of the planned activities. Major factors of delay are beyond control even of the Peshawar office (UNICEF pipeline, "ban"). Therefore we assume that this spreadsheet reflects best the local/regional capacity for running EPI programs.

Date: 31-Mar-94

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EPI Results ordered by USAID Fiscal Year

Year	TT1U15	TT1FER	TT1PRE	TT1TOT	TT2U15	TT2FER	TT2PRE	TT2TOT	TT3U15	TT3FER	TT3PRE	TT3TOT	TT4U15	TT4FER	TT4PRE	TT4TOT
1988	0	2,838	0	2,838	0	0	0	0	0	0	0	0	0	0	0	0
1989	1,046	6,772	0	7,818	12	1,761	0	1,773	0	0	0	0	0	0	0	0
1990	16,727	30,610	0	47,337	4,545	5,031	0	9,576	763	757	0	1,520	0	0	0	0
1991	26,632	51,107	0	77,739	6,132	7,969	0	14,101	1,442	1,836	0	3,278	0	0	0	0
1992	51,287	67,208	0	118,495	25,225	40,299	0	65,524	10,696	15,821	0	26,517	0	0	0	0
1993	77,220	94,949	0	172,169	56,887	73,099	0	129,986	24,601	44,948	0	69,549	1,723	4,799	0	6,522
1994	3,589	6,265	0	9,854	4,028	5,218	0	9,246	2,701	4,883	0	7,584	616	1,054	0	1,670
	0.00%	100.00%	0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	13.38%	86.62%	0.00%		1.15%	26.00%	0.00%	22.68%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	35.34%	64.66%	0.00%		27.17%	16.44%	0.00%	20.23%	4.56%	2.47%	0.00%	3.21%	0.00%	0.00%	0.00%	0.00%
	34.26%	65.74%	0.00%		23.02%	15.59%	0.00%	18.14%	5.41%	3.59%	0.00%	4.22%	0.00%	0.00%	0.00%	0.00%
	43.28%	56.72%	0.00%		49.18%	59.96%	0.00%	55.30%	20.86%	23.54%	0.00%	22.38%	0.00%	0.00%	0.00%	0.00%
	44.85%	55.15%	0.00%		73.67%	76.99%	0.00%	75.50%	31.86%	47.34%	0.00%	40.40%	2.23%	5.05%	0.00%	3.79%
	36.42%	63.58%	0.00%		112.23%	83.29%	0.00%	93.83%	75.26%	77.94%	0.00%	76.96%	17.16%	16.82%	0.00%	16.95%

	Under 15		Fertile		Pregnant		Total		Planned
1988	0	0.00%	2,838	14.52%	0	0	2,838	14.52%	19,549
1989	1,058	1.91%	8,533	15.44%	0	0	9,591	17.36%	55,263
1990	22,035	10.11%	36,398	16.69%	0	0	58,433	26.80%	218,045
1991	34,206	14.25%	60,912	25.37%	0	0	95,118	39.62%	240,060
1992	87,208	9.60%	123,328	13.57%	0	0	210,536	23.16%	908,857
1993	160,981	45.06%	218,610	61.18%	0	0	379,591	106.24%	357,294
1994	11,081	NA	17,979	NA	0	NA	29,060	NA	0
===	======	=====	======	=====	======	=====	======	=====	======
	316,569	17.60%	468,598	26.05%	0	0	785,167	43.64%	1,799,068

Date: 31-Mar-94

EPI Results ordered by Calendar Year

Year	TT1U15	TT1FER	TT1PRE	TT1TOT	TT2U15	TT2FER	TT2PRE	TT2TOT	TT3U15	TT3FER	TT3PRE	TT3TOT	TT4U15	TT4FER	TT4PRE	TT4TOT
1988	0	5,185	0	5,185	0	45	0	45	0	0	0	0	0	0	0	0
1989	3,339	8,157	0	11,496	850	2,083	0	2,933	0	0	0	0	0	0	0	0
1990	19,828	37,280	0	57,108	5,946	7,471	0	13,417	1,063	1,013	0	2,076	0	0	0	0
1991	28,684	51,563	0	80,247	8,417	12,436	0	20,853	1,435	2,024	0	3,459	0	0	0	0
1992	53,329	70,808	0	124,137	27,542	43,450	0	70,992	12,770	18,329	0	31,099	0	0	0	0
1993	69,135	82,346	0	151,481	52,446	65,437	0	117,883	23,734	44,966	0	68,700	2,116	5,342	0	7,458
1994	2,186	4,410	0	6,596	1,628	2,455	0	4,083	1,201	1,913	0	3,114	223	511	0	734
	0.00%	100.00%	0.00%		0.00%	0.87%	0.00%	0.87%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	29.04%	70.96%	0.00%		25.46%	25.54%	0.00%	25.51%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	34.72%	65.28%	0.00%		29.99%	20.04%	0.00%	23.49%	5.36%	2.72%	0.00%	3.64%	0.00%	0.00%	0.00%	0.00%
	35.74%	64.26%	0.00%		29.34%	24.12%	0.00%	25.99%	5.00%	3.93%	0.00%	4.31%	0.00%	0.00%	0.00%	0.00%
	42.96%	57.04%	0.00%		51.65%	61.36%	0.00%	57.19%	23.95%	25.89%	0.00%	25.05%	0.00%	0.00%	0.00%	0.00%
	45.64%	54.36%	0.00%		75.86%	79.47%	0.00%	77.82%	34.33%	54.61%	0.00%	45.35%	3.06%	6.49%	0.00%	4.92%

Year	Under 15		Fertile		Pregnant		Total		Planned
1988	0	0.00%	5,230	26.75%	0	0	5,230	26.75%	19,549
1989	4,189	7.58%	10,240	18.53%	0	0	14,429	26.11%	55,263
1990	26,837	12.31%	45,764	20.99%	0	0	72,601	33.30%	218,045
1991	38,536	16.05%	66,023	27.50%	0	0	104,559	43.56%	240,060
1992	93,641	10.30%	132,587	14.59%	0	0	226,228	24.89%	908,857
1993	148,037	41.43%	199,017	55.70%	0	0	347,054	97.13%	357,294
1994	5,329	NA	9,737	NA	0	0	15,066	NA	0
===	======	=====	======	=====	======	=====	======	=====	======
	316,569	17.60%	468,598	26.05%	0	0	785,167	43.64%	1,799,068

Date: 31-Mar-94

EPI Results corrected for supply delays

Year	TT1U15	TT1FER	TT1PRE	TT1TOT	TT2U15	TT2FER	TT2PRE	TT2TOT	TT3U15	TT3FER	TT3PRE	TT3TOT	TT4U15	TT4FER	TT4PRE	TT4TOT
1988	138	8,843	0	8,981	12	1,761	0	1,773	0	0	0	0	0	0	0	0
1989	8,680	19,896	0	28,576	1,677	1,761	0	3,438	249	285	0	534	0	0	0	0
1990	30,382	54,133	0	84,515	6,879	9,462	0	16,341	1,122	1,436	0	2,558	0	0	0	0
1991	31,265	48,219	0	79,484	15,630	24,269	0	39,899	6,745	7,134	0	13,879	0	0	0	0
1992	83,361	100,937	0	184,298	56,065	78,834	0	134,899	23,039	46,692	0	69,731	1,418	3,758	0	5,176
1993	22,675	27,721	0	50,396	16,566	17,290	0	33,856	9,048	12,698	0	21,746	921	2,095	0	3,016
	1.54%	98.46%	0.00%		8.70%	19.91%	0.00%	19.74%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	30.38%	69.62%	0.00%		19.32%	8.85%	0.00%	12.03%	2.87%	1.43%	0.00%	1.87%	0.00%	0.00%	0.00%	0.00%
	35.95%	64.05%	0.00%		22.64%	17.48%	0.00%	19.34%	3.69%	2.65%	0.00%	3.03%	0.00%	0.00%	0.00%	0.00%
	39.33%	60.67%	0.00%		49.99%	50.33%	0.00%	50.20%	21.57%	14.79%	0.00%	17.46%	0.00%	0.00%	0.00%	0.00%
	45.23%	54.77%	0.00%		67.26%	78.10%	0.00%	73.20%	27.64%	46.26%	0.00%	37.84%	1.70%	3.72%	0.00%	2.81%
	44.99%	55.01%	0.00%		73.06%	62.37%	0.00%	67.18%	39.90%	45.81%	0.00%	43.15%	4.06%	7.56%	0.00%	5.98%

	Under 15		Fertile		Pregnant		Total		Planned
1988	150	0.77%	10,604	54.24%	0	0	10,754	55.01%	19,549
1989	10,606	19.19%	21,942	39.70%	0	0	32,548	58.90%	55,263
1990	38,383	17.60%	65,031	29.82%	0	0	103,414	47.43%	218,045
1991	53,640	22.34%	79,622	33.17%	0	0	133,262	55.51%	240,060
1992	164,053	18.05%	230,461	25.36%	0	0	394,514	43.41%	908,857
1993	49,737	13.92%	60,938	17.06%	0	0	110,675	30.98%	357,294
===	======	=====	======	=====	======	=====	======	=====	======
	316,569	17.60%	468,598	26.05%	0	0	785,167	43.64%	1,799,068

Date: 31-Mar-94

EPI Results corrected for supply & distribution delays

Year	TT1U15	TT1FER	TT1PRE	TT1TOT	TT2U15	TT2FER	TT2PRE	TT2TOT	TT3U15	TT3FER	TT3PRE	TT3TOT	TT4U15	TT4FER	TT4PRE	TT4TOT
1988	138	8,843	0	8,981	12	1,761	0	1,773	0	0	0	0	0	0	0	0
1989	8,680	19,896	0	28,576	1,677	1,761	0	3,438	249	285	0	534	0	0	0	0
1990	35,587	62,588	0	98,175	9,000	11,239	0	20,239	1,956	2,308	0	4,264	0	0	0	0
1991	50,615	66,439	0	117,054	23,121	37,801	0	60,922	10,493	15,539	0	26,032	0	0	0	0
1992	77,489	95,441	0	172,930	58,607	75,385	0	133,992	24,565	45,023	0	69,588	1,723	4,799	0	6,522
1993	3,992	6,542	0	10,534	4,412	5,430	0	9,842	2,940	5,090	0	8,030	616	1,054	0	1,670
	1.54%	98.46%	0.00%		8.70%	19.91%	0.00%	19.74%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	30.38%	69.62%	0.00%		19.32%	8.85%	0.00%	12.03%	2.87%	1.43%	0.00%	1.87%	0.00%	0.00%	0.00%	0.00%
	36.25%	63.75%	0.00%		25.29%	17.96%	0.00%	20.62%	5.50%	3.69%	0.00%	4.34%	0.00%	0.00%	0.00%	0.00%
	43.24%	56.76%	0.00%		45.68%	56.90%	0.00%	52.05%	20.73%	23.39%	0.00%	22.24%	0.00%	0.00%	0.00%	0.00%
	44.81%	55.19%	0.00%		75.63%	78.99%	0.00%	77.48%	31.70%	47.17%	0.00%	40.24%	2.22%	5.03%	0.00%	3.77%
	37.90%	62.10%	0.00%		110.52%	83.00%	0.00%	93.43%	73.65%	77.80%	0.00%	76.23%	15.43%	16.11%	0.00%	15.85%

Year	Under 15		Fertile		Pregnant		Total		Planned
1988	150	0.77%	10,604	54.24%	0	0	10,754	55.01%	19,549
1989	10,606	19.19%	21,942	39.70%	0	0	32,548	58.90%	55,263
1990	46,543	21.35%	76,135	34.92%	0	0	122,678	56.26%	218,045
1991	84,229	35.09%	119,779	49.90%	0	0	204,008	84.98%	240,060
1992	162,934	17.93%	221,463	24.37%	0	0	384,397	42.29%	908,857
1993	12,107	3.39%	18,675	5.23%	0	0	30,782	8.62%	357,294
===	======	=====	======	=====	======	=====	======	=====	======
Total	316,569	17.60%	468,598	26.05%	0	0	785,167	43.64%	1,799,068

Corrections made: for 1988, 1989, 1990 correction is made for vaccine pipeline (earliest date in the field = June)
for 1991, 1992, 1993 additional correction is made for the "ban"

The "planned" number was calculated based on ## of doses of vaccines available, any delay in delivery of the vaccine to the in-country VSF entails delay of the planned" activities. Major factors of delay are beyond control even of the Peshawar office (UNICEF pipeline, "ban"). Therefore we assume this spreadsheet reflects best the local/regional capacity for running EPI programs.

Date: 31-Mar-94

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Appendix II-1

LIST OF TRAINING MANUALS DEVELOPED BY INSTITUTE OF PUBLIC HEALTH AND MANAGEMENT SCIENCES FOR HEALTH, TRAINING DEPARTMENT

	Publication	Language	Pages
1.	Basic Health Worker Training Manual (Text)	Dari	399
2.	Basic Health Worker Training Manual (Text)	Pushto	379
3.	Basic Health Worker Training Manual (Text)	English	159
4.	Basic Health Worker Training Manual (Practical)	Dari	112
5.	Basic Health Worker Training Manual (Practical)	Pushto	91
6.	Basic Health Worker Training Manual (Practical)	English	36
7.	Basic Health Worker Medical Dosage Calculation	Dari	6
8.	Basic Health Worker Continuing Education Manual	Dari	110
9.	Maternal & Child Health Officer Training Manual	Dari	640
10	Maternal & Child Health Officer Training Manual	English	511
11	Maternal & Child Health Officer Instructor's Manual	Dari	150
12	Maternal & Child Health Officer Instructor's Manual	English	127
13	Rural Health Officer Training Manual	Dari	630
14	Rural Health Officer Training Manual	English	270

15	Management Training Manuals Vol. 1 - 4	Dari/English	731
16	Combined Mid-level Continuing Education Vol. 1 & 2	English	1106

ADDITIONAL PUBLICATIONS

1. Prime Messages
2. Strategy for Managing Primary Health Care at the District Level in Afghanistan, Rural Health Officer Program
3. A Workshop on Use and Maintenance of a Latrine
4. How Tuberculosis Spreads
5. Environmental Health
6. Orientation to Laboratory Technician Training Program
7. Harmful Micro-organisms
8. BHWs Responsibilities, Duties and Training
9. Report about IPH Publication Department Achievements
10. Report about Alliance Health Committee Representative to USA: A Proposal for Establishing a Health Education Department within IPH.
11. Goal and Responsibilities of MOPH's Directorates

Note: The IPH in addition to the above has published several public health bulletins and numerous pamphlets.

Appendix IV - 1

SALARY SCHEME OF MEDICAL PERSONNEL ON SERVICE INSIDE AFGHANISTAN

QUALIFICATION	EXPERIENCE PAY Rs./Mon./Yr Exp.	BASIC SALARY till April 92	BASIC SALARY after April 92	BASIC SALARY after October 92
MD DOCTOR SPECIALIST	150	6,527	4,895	3,264
MD DOCTOR GENERALIST	100	5,457	4,093	2,729
DENTAL DOCTOR (DMD, DDS, etc.)	100	5,457	4,093	2,729
DOCTOR ASSISTANT (4 YRS KABUL TRNG)	75	4,387	3,290	2,194
DENTAL DOCTOR ASSISTANT (2-3 YRS KABUL TRNG)	75	3,317	2,488	1,659
MEDICAL STUDENT 5 CLASS	0	4,387	3,290	2,194
MEDICAL STUDENT 4TH AND 3RD CLASS	0	2,996	2,247	1,498
MEDICAL STUDENT 2ND AND 1ST CLASS	0	1,284	963	642
PHARMACIST (LICENTIATES DEGREE 4 YRS TRNG)	75	4,387	3,290	2,194
COMPOUNDER /PHARMACY TECH.(2 YRS TRNG)	75	2,996	2,247	1,498
PHARMACIST ASSISTANT (1 YR OR LESS TRNG)	0	1,712	1,284	856
DIPLOMA NURSE (3 YRS TRNG)	75	2,996	2,247	1,498
NURSE HELPER (18-24 MONTHS TRNG)	0	2,354	1,766	1,177
MEDICAL TECHNICIAN (13-17 MONTHS TRNG)	0	2,140	1,605	1,070
MEDICAL TECHNICIAN (12 MONTHS TRNG)	0	1,926	1,445	963
MEDICAL TECHNICIAN (7-11 MONTHS TRNG)	0	1,712	1,284	856
MEDICAL TECHNICIAN (6 MONTHS TRNG)	0	1,284	963	642
BASIC HEALTH WORKER(BHW)/MCH ASSIST.(3-5 M)	0	870	653	435
FIRST AIDER (1-2 MONTHS TRNG)	0	749	562	375
DAIA (CLINIC WORKERS ONLY)	0	535	401	268
DENTAL TECHNICIAN	75	2,996	2,247	1,498
DENTAL TECHN. ASSISTANT (1 YR OR LESS TRNG)	0	1,926	1,445	963
X-RAY TECHNICIAN (2-3 YRS TRNG)	75	2,996	2,247	1,498
X-RAY TECHNICIAN ASSIST. (1 YR OR LESS TRNG)	0	1,926	1,445	963
LAB. TECHNICIAN (2-3 YRS TRNG)	75	2,996	2,247	1,498
LAB. TECHNICIAN ASSISTANT(1 YR OR LESS TRNG)	0	1,926	1,445	963
MALARIA TECHNICIAN (2-3 YRS TRNG)	50	2,675	2,006	1,338
MALARIA TECHNICIAN ASSIST (1 Y OR LESS TRNG)	0	1,391	1,043	696
BLOOD BANK TECH. ASSISTANT(1 YR OR LESS TRNG)	0	1,926	1,445	963
ANESTHESIA TECNICIAN(2-3 YRS TRNG)	75	2,996	2,247	1,498
ANESTHESIA TECNICIAN ASSIST.(1 OR LESS TRNG)	0	1,926	1,445	963
ROGHTIAPAL / SANITARIAN (2-3 YRS TRNG)	75	2,568	1,926	1,284
VACCINATOR (1 YR OR LESS TRNG)	0	1,500	1,125	750
ORTHOPEDIC TECHNICIAN (2-3 YRS TRNG)	75	2,996	2,247	1,498
ORTHOPEDIC TECHNICIAN ASST(1 YR OR LESS TRNG)	0	1,926	1,445	963

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SALARY SCHEME OF NON-MEDICAL PERSONNEL ON SERVICE INSIDE AFGHANISTAN

QUALIFICATION	BASIC SALARY till October 1992	BASIC SALARY after October 1992
REGIONAL HEALTH OFFICER	7,106	5,330
SUPERVISOR (W/ TRAINING & MUTIPLE SITE)	3,424	2,568
INSPECTION OFFICER / MONITOR	2,140	1,605
ADMINISTRATOR DIRECTOR(W/ TRNG & MULTIPLE SIT	2,996	2,247
FISCAL MANAGER (W/ TRNG & MUTILPE SITE)	2,354	1,766
ADMINISTRATOR ASSIST (W/ TRNG & MULTIPLE SITE)	1,926	1,445
ACCOUNT OFFICER (W/ TRNG & MULTIPLE SITE)	2,140	1,605
REGIONAL CASHIER (W/ TRNG & MUTIPLE SITE)	2,140	1,605
LOGISTIC OFFICER (W/ TRNG & MULTIPLE SITE)	2,354	1,766
PROCUREMENT OFFICER (W/ TRNG & MULTIPLE SITE)	2,140	1,605
STOREKEEPER (W/ TRNG & MULTIPLE SITE)	1,926	1,445
ADMINISTRATOR ASSISTAN (W/O TRNG & SINGLE SITE)	1,350	1,013
JUNIOR STOREKEEPER (W/O TRNG & SINGLE SITE)	1,100	825
CLERK (UNTRAINED)	1,926	1,445
COMPUTER OPERATOR	2,354	1,766
TYPIST	1,926	1,445
DRIVER	1,200	900
REPAIRMAN	749	562
COOK	749	562
PEON	535	401
WATCHMAN	535	401

5

ANNEX

VOLUNTEER HEALTH SISTER (VHS) PROGRAM GOAL AND OBJECTIVES

GOAL OF THE VHS PROGRAM

The goal of the VHS Program is to improve the health knowledge and practices of Afghan women through the implementation of a household-level community outreach program (the Volunteer Health Sister Program.)

PRIMARY OBJECTIVES OF THE VHS PROGRAM

The primary objectives of the VHS program are, by February 1994:

1. To establish 12 VHS pilot sites through the training of at least 100 VHS's.

2. To improve general health knowledge of Afghans so that prime health messages for 7 core modules will be understood and explained by --

   a. 100% of Trainer/Supervisors (T/Ss), as measured by at least 80% recall
   b. 80% of VHSs, as measured by at least 50% recall
   c. at least 1 primary caretaker in 50% of households in the VHS catchment area, as measured by 30% recall.

3. To improve personal hygiene and environmental health practices, as evidenced by being able to effectively demonstrate 2 ways to show the link between hygiene and disease prevention, for --

   a. 100% of Trainer/Supervisors
   b. 60% of VHSs
   c. at least 1 primary caretaker in 30% of the households in the VHS catchment area.

4. To improve the control of diarrheal diseases as evidenced by--

   a. being able to correctly prepare a packet of ORS, for --
      1. 100% of Trainer/Supervisors
      2. 60% of VHSs
      3. at least 1 primary caretaker in 30% of households in the VHS catchment area.
   b. having administered ORS to a dehydrated child in the last month, for
      1. 100% of Trainer/Supervisors
      2. 60% of VHSs
      3. at least 1 primary caretaker in 30% of households in the VHS catchment area.

5. To improve the nutrition of infants by --

a. 1. having 80% of Trainer/Supervisors
   2. having 60% of VHSs
   3. having at least 1 primary caretaker in 30% of households in the VHS catchment area...
      ...able to effectively explain when and what supplementary foods should be given by age 6 months.

b. increasing the number of children who receive supplementary food, by age 6 months, by 10%, in the VHS catchment area.

6. To improve the child morbidity and mortality rates from Acute Respiratory Infections (ARI) as evidenced by --

   a. 1. 100% of Trainer/Supervisors
      2. 60% of VHSs
      3. at least 1 primary caretaker in 30% of households in the VHS catchment area...
         ...being able to correctly explain the difference between common cold and pneumonia.

   b. 1. proper treatment of a child with cold and proper treatment of a child with pneumonia, by 80% of Trainer Supervisors
      2. proper recommendation, by at least 50% of VHSs, for a child with cold and proper referral of a child with pneumonia, within 2 days after symptoms appeared
      3. at least 40% of households in the VHS catchment area where a child developed signs of pneumonia, the primary caretaker arranged to take the child to an appropriate facility within 2 days after symptoms appeared

7. To improve immunization coverage, as demonstrated by the fact that in VHS pilot sites where there is a mobile or fixed-facility immunization program, --

   a. 100% of Trainer/Supervisors with children under age 2 have had their child vaccinated according to the vaccination schedule
   b. 60% of VHSs with children under age 2 have had their child vaccinated according to the vaccination schedule
      c. at least 40% of the children under age 2 in the VHS catchment area have been vaccinated on schedule because of the recommendation of the VHS.

8. To improve delivery care, as demonstrated by the fact that within the last 4 months--

   a. 80% of Trainer/Supervisors have referred at least 50% of pregnant patients to a trained health worker (MCHO, nurse-midwife, trained dai) for conducting the delivery
   b. 50% of VHSs have referred at least 50% of pregnant women in their catchment area to a trained health worker for conducting the delivery
   c. 30% of women delivering have been attended by a trained health worker.

9. To improve first aid skills as evidenced by--

   a. 90% of Trainer/Supervisors
   b. 50% of VHSs
   c. at least one primary caretaker in 25% of households in the VHS catchment area...

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AFGHANISTAN VOLUNTEER HEALTH SISTER PROGRAM MANUAL

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VHS, FHW & MCHO PROGRAMS ASSESSMENT REPORT

BY

Dr. Hasibullah MCH Dept./MSH

&

Dr. Shah Agha MCH Dept./MOPH

(May-June-1993)

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I- Inteduction

II- Methodology

III- Results:

A. Volunteer Health Sisters Program
B. Femal Health Workers Program
C. Mother & Child Health Officer Program.

IV- Annex

V- Evaluators Remarks and Recommendation

I INTRODUCTION:

Afghanistan the war-stricken country have sustained heavy losses in different fields of life over the last fifteen years. However, from time to time efforts have been made by a number of humanitarian organizations to relive the Afghan nation's pain to the possible maximum extent.

To improve the health status of the Afghan women and children the MSH/AHSSP has initiated some female training programs at the household and community levels. That is Volunteer Health Sisters (VHS), Female Health Workers (FHW) and Mother and Child Health Officers (MCHO) programs. to assess the progress of the above mentioned programs as well as the knowledge and skills of the trainers and trainees, Dr. Hasibullah Technical coordinator and evaluator MCH Dept./MSH and Dr. Shah Agha, MCH Dept./MOPH planned to carry out a thorough assessment of all three programs in 13 provinces(see page 2).Other objectives of the assessment trip were as follows:

-To determine the demand for contraceptives.
-To check which facilities offer vaccination
-To Study the possibility of conducting a Baseline Survey at the household level in order to evaluate the VHS program.

-To beg the advice and suggestions of the people involved in MCH activities in respect to the further improvement of MCH services, as well as know the problems/constraints they are confronting in performing their duties.

-To practically teach the newly-appointed MCH Reginal Health officers how to carry out technical field activities such as assessments, supervision,surveys etc. in their catchment areas.

Dr. Shah Agha was to do the assessment in six provinces i.e Ningrahar, Kuner Laghman, Paktia, Logar,and Kabul. While Dr. Hasibullah was to carry out the same activities in seven provinces i.e Ghazni, Wardak ,Kapisa, Bamyan, Juzjan, Kunduz, and Takhar. The following is a consolidated report from all 13 provinces.

II METHODOLOGY:

In order to assess the knowledge and skills of trainers and trainees,as well as the progress of the programs various methods such as direct abservation, using questionnaires, interviewing the trainers, trainees (where possible) and the community members were applied. All of the information gained have been recorded in the VHS, FHW and MCHO forms.

This assessment was an internal type of evaluation. The benefit was that the assessment team and the Trainer/Supervisors are completely familiar with the program. However, there may be a potential bias as the responses to many of the questions mainly came from the Trainer/Supervisor. While carrying out the assessment this fact was expected due to cultural reasons.

III RESULTS:

A. VOLUNTEER HEALTH SISTER PROGRAM

Totally 10 VHS sites were planned to be assessed (see page 3).

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VHS,FHW AND MCHO SITES

#	Faciliti #	Province	Distric	VHS	FHW	MCHO
1	700	Logar	Baraki Barak	+	+	
2	7003	Juzjan	Sangcharak		+	
3	7006	Ghazni	Jaghori		+	
4	7012	Ghazni	Khwaja Omari		+	
5	1191	Ghazni	Malestan	+		
6	1187	Ghazni	Qarbaghi	+		
7	7007	Kapisa	Panjshir		+	
8	7014	Kabul	Shakardara		+	+
9	7046	Kabul	Shakardara		+	+
10	7027	Takhar	Taloqan	+	+	
11	7031	Laghman	Alishang		+	
12	7042	Bamian	Shibar		+	
13	7044	Paktia	Khost	+	+	
14	T.center	Paktia	Khost	+		
15	7049	Ningrahar	Surkhrud	+	+	+
16	1060	Ningrahar	Mohmandara	+		
17	1064	Kuner	Bar Kuner	+		
18	1134	Wardak	Jalriz	+		
19	7043	Kunduz	Imam saheb		+	+
20	7047	Kabul	Istalif			+
21	7051	Logar	Charkh			+
22	7041	Laghman	Dawlatshah		+	
	Total	13	20	10	14	6

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VHS PILOT SITES

#	CLINIC/POST#	VHS TRAINERS NAME	PROVINCE	DISTRICT	VILLAGE	No. OF VHS TRAINED	REMARKS
1	7001	Wazir Gul	Logar	Baraki Barak	Baraki	10	Assessed
2	7027	Dr. Rona & Dr.Khaliq	Takhar	Taloqan	Taloqan	3	Assessed
3	Training Center	Dr.Afzal & Dr. Waliullah	Paktia	Khost	Khost	6	Assessed
4	7049	Dr. Humayoon Mrs.Zari Gul	Ningrahar	Surkhrud	Mariam Yaka	22	Assessed
5	1064	Obaidullah	Kuner	Bar Kuner	Jaja	7	Assessed
6	1060	Dr. Eisa	Ningrahar	Mohmandara	Basawal	8	Assessed
7	1044	Dr.Latifa	Paktia	Khost	Khost	2	Assessed
8	1191	Dr.Amin	Ghazni	Malestan	Makanak	10	The trainer was interviewed in Pakistan
9	1187	Dr. Ali Akber	Ghazni	Ghazni	Qarabaghi	5+?	Absent
10	1134	S.M.Zahir	Wardak	Jalriz	Sanglakh	.	Cancelled
	Total					73	

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The In-charge of clinic # 1187, Dr. Ali Akber, was absent on the day of assessment. According to the clinic staff i.e. Mr. Zalmai (Dentist) and Mr. Qurban (Gaurd) he had left for Peshawar on June 10th due to his sickness. Some people from the catchment area of the clinic were interviewed . all of whom were quite satisfied with the health services being offered to them.

The first VHS program Assessment (Nov.-Oct.92) indicated that the first steps towards the implementation of this program i.e introducing the program to the local authorities and the community , and beginning the selection and recruitment of some VHSs had been taken successfully. While the recent assessment shows that the VHS program has entered a new phase of its progress that may be explained as follows:

a- A total number of 73 VHSs have been trained to date (inside Afghanistan).
b- In some VHS sites some people, other than VHSs, have also been trained who either in turn train VHSs or convey the health messages to other people themselves. Two examples are given bellows:

- Dr Ali Akber the In-charge of clinic 1187 located in Ghazni has trained some school teachers in his area. He has also provided them with VHSs supply. Besides teaching the prime health messages to the students and asking them to convey these messages to their families some the teachers has trained their family members or relatives as VHSs.

- Dr. Rona and Dr. Khaliq clinic # 7027, Tekhar, have trained some of the female staff of the clinic who assist them in training VHSs as well as FHWs.

d. A good monitoring system has been established in all VHSs pilot sites. All of the VHS trainers/supervisors know how to correctly complete the VHS monitoring tools. Almost all of the VHSs know how to complete the monthly monitoring tool (Monitoring tool #1). However, only two-third of them regularly return their monitoring tools on a monthly basis.

e. A good supervisory system has also been set up is all VHS pilot sites. All of the VHS trainer/supervisors have their own supervisory schedules and regularly (mostly on a monthly basis), supervise their VHSs. Supervision is carried out either directly or indirectly. All of the VHSs trainers/supervisors also use VHS supervisory Review forms and keep records.

f. A referral system has been established. Almost all of the VHSs refer serious cases to the facilities where their trainers are working. The community help transfer serious cases to health facilities by providing them locally available transportation means.

g. The results of interviews with some VHSs show that they have retained most of what has been taught to them.

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VHS TRAINER/SUPERVISORS' VIEWS AND SUGGESTIONS with respect to the improvement of VHS program.

-Paying good salaries to VHS T/S and giving incentives to VHSs at least to the most active ones are the two key factors that will encourage both the VHSs and the VHS trainer/supervisors to work harder and with more interest.

-"It will be much more better if the VHS trainers are provided with more VHS supply. For example", Dr. Humayoon and Mrs. Zari Gul MCHO said,"the In-charge of a girls' school located in our area has promised to introduce us up to one hundred female trainees as VHSs. But unfortunately we don't have enough VHS supply for so many people.....".

-Taking pictures from VHSs is culturally not acceptable. In fact, it may, sometimes, cause serious trouble.

POSSIBILITY OF CONDUCTING A BASELINE SURVEY AT THE HOUSEHOLD LEVEL has also been discussed with VHS T/Ss,the result of which has been summarized on page 6.

B. FEMALE HEALTH WORKER PROGRAM:

Totally 14 FHW sites had been planned to be assessed in 11 provinces see page 7).

THE POSSIBILITY OF CONDUCTING A BASELINE SURVEY AT THE HOUSEHOLD LEVEL IN VHS PILOT SITES

#	NAME OF VHS TRAINER	# OF VHS	PROVINCE	CAN THE VHS TRAINER/S. CONDUCT THE SURVEY?	IN HOW MANY VILLAGES?	HOW MANY FAMILIES/DAY	FOR HOW LONG?	SURVEY IN FEBRUARY
1	Zari Guyl & Dr. Humayoon	23	Ningrahar	Yes	10	6	As long as required	Possible
2	Obaidullah	7	Kuner	Yes	5	20-25	1 month	possible
3	Wazir Gul & Anis Gul	10	Logar	Yes	1-Distrect	5-6	as long as reqiured	Impossible
4	Dr. Afzal	6	Pakita	Yes	1-distrect	8	" "	Possible
5	Dr.Khaliq & Dr. Rona	3	Takhar	Yes	4-5	5-7	" "	Possible but defficult
6	Dr. Ali Akber	5+?	Ghazni	Yes	?	?	?	difficult
7	Dr. Amin	10	Ghazni	Yes	6-7	5	As long as required	Imposible
8	Dr. Eisa	8	Ningrahar	Supended	.	.	.	.
9	Dr. Latifa	.	Paktia	Yes	The whole provice if transportation means available.	5	1-2 weeks	Possible
10	S.M.Zahir	.	Wardak	Canceled	.	.	.	.

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FHW SITES

#	CLINIC/POST#	FHW TRAINER	PROVINCE	DISTRICT	VILLAGE	#OF FHWs TRAINED	REMARKS
1	7001	Anis Gul	Logar	Baraki Barak	Baraki	60	Assessed
2	7012	Dr. Nazir	Ghazni	Khwaja Omeri	Noburja	15	Assessed
3	7007	Mrs.Amina	Kapisa	Panjshir	Qala-i-Feraj	40	Assessed
4	7014	Dr. Jamila	Kabul	Shakar Dara	Sakeh Khil	4	Assessed
5	7031	Mrs. Rina	Laghman	Alishang	Qala-i-Tak	45	Assessed
6	7044	Dr. Latifa	Paktia	Khost	Khost	3	Assessed
7	7049	Dr. Humayoon & Mrs. Zari Gul	Ningrahar	Surkh Rud	Miran Yaka	13	Assessed
8	7043	Mrs.Suraya	Kunduz	Imam Saheb	Center	5	Assessed
9	7027	Dr. Khaliq Dr. Rona	Takhar	Taloqan	Taloqan	85	Assessed
10	7041	Mrs. Del Afrooz	Laghman	Dawlat Shah	Zarkama	27	Assessed
11	7042	Mrs.Aqela	Bamian	Shibar	Kallo	?	Not Assessed
12	7003	Mrs.Aya Jan	Juzjan	Sangcharak	Alaghan	?	Not Assessed
13	7006	Mrs. Fatima	Ghazni	Jaghori	Loman	?	Not Assessed
14	7046	Mrs.Shaima	Kabul	Shakardara	Aqa Ali Shekho	?	Absent
	Total				297		

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MCH post #7046 was not assessed as the person in-charge was on leave.

MCH post #7003, 7006 and 7042 weren't visited due to security reasons. The assessment results in other sites are as follows:

a- In the remaining 10 sites a total number of 297 FHWs have been trained to most of whom almost all of the topics(*)included inthe FHW Teaching Manual prepared by UNHCR have been taught.More or less 70% of the trained FHWs had previously been Traditional Birth Attendants (TBAs).

b- Fourteen FHWs have been interviewed and their knowledge and skills on the aforementioned topics assessed using the FHW program Questionnaire (see page 9).

---

a- Microbes and Hand washing
b- Household Cleanliness
c- Tetanus
d- Normal Pregnancy
e- Home visits During Pregnancy
f- Danger sings in pregnancy
g- Normal Labor
h- Danger Signs in Labor
i- Normal Delivery
j- Danger Signs at Delivery
k- Vaccination
l- Home Visits during the first days after delivery
m- Danger Signs in the first few days
n- Home visits to children in the first two years.
o- Danger signs in children
p- Diarrhoea

RESULT SHEET OF FHWs

#	NAME OF FHW	CLINIC/POST #	PROVINCE	EXCELLENT	GOOD	FAIR
1	Gul Shireen	7049	Ningrahar	X		
2	Nafas Gul	" "	" "	X		
3	Benafsha	" "	" "	X		
4	Kaw taro	" "	" "	X		
5	Zakira	7031	Laghman			X
6	Said Bibi	" "	" "			X
7	Nindara	" "	" "			X
8	Razima	" "	" "		X	
9	Fatima	7041	" "		X	
10	Gul Andam	" "	" "		X	
11	Bibi Janata	" "	" "		X	
12	Raziqa	" "	" "		X	
13	Shabnam	7001	Logar	X		
14	Afghan Gul	7043	Kunduz	X		
Total	14	5	4	6	5	3

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c- The FHW trainers'knowledge and skills have also been assessed using a special questionnaire. For the results see t table below:

#	Name of the FHW Trainer	Clinic/Post #	Province	Excellent	Good	Fair
1	Dr. Latifa	7044	Paktia	X		
2	Mrs.Anis Gul	7001	Logar	X		
3	Mrs. Del Afrooz	7041	Laghman	X		
4	Mrs. Rina	7031	Laghman		X	
5	Mrs. Fakhria	7012	Ghazni	X		
6	Mrs. Amina	7007	Kapisa		X	
7	Dr. Jamila	7014	Kabul	X		
8	Dr. Naila	7027	Takhar	X		
9	Mrs. Suraya	7043	Kunduz	X		
10	Mrs. Zari Gul	7049	Ningrahar	X		
	Total	10	9	8	2	

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d- All of the trainers evaluate the FHWs knowledge and skills at the end of each session and each topic.

c- The FHWs are also supervised by their trainers. Supervision is usually carried out while a FHW is conducting a home delivery.

f- Many FHW trainers conduct refresher course(*)while some others don't.The reasons given by trainers for not conductig such courses follow:

-Lack of teaching materials.
-The FHWs are not willing to take such courses . That is the topics covered are not interesting for them.

g- A good referral system exists inside this program. Almost all of the FHWs refer complicated cases to the facilities where their trainers are working or to the nearest hospital.

Note: To lay groundwork for establishing a monitoring system in FHW program, FHW Monthly Monitoring tool was introduced to all FHW trainrs visited. It was also explaied why and how to use them. Besides, every trainer was given one FHW picture book in order to improve and facilitate the teaching-learning process.

---

* Refresher courses are conducted on the following topics:

a. Safe motherhood
b. Malaria
c. Tuberculosis
d. First Aid
e. Dental Care

FHW TRAINERS SUGGESTION/REMARKS REGARDING THE IMPROVEMENT OF FHW PROGRAM.

- Two important factors that slowed down the implementation of this program at the beginning were: Old Afghan tradition and lack of incentive and privileges for FHWs.

- Since most of the Afghan people are poor, giving incentive even a little-to them could prove encouraging and as a result facilitate and accelerate the FHW's selection and recruitment process to a large extent.

- Observing two points will further improve our program. That is, regular and prompt supply and giving incentives such as gifts etc to FHWs.

- The In-charge of clinic #7041 located in Laghman province said: "Our community has got strict religions rules. In addition, women are to carry the burden of daily work on their shoulders. Therefore, they hardly ever get a chance to come to the clinic. And it is when they get a serious health problem.

- By free distribution of foodstuff or things of this sort to the people of the area we could easily win their support and recruit more FHWs.

- The more the visual teaching aids such as posters, flipcharts, etc. to the distribute among the people the more the health messages will spread.

- Observing the following points will play a great role in the development and improvement of the FHW program-

  a. Aprons should be given to FHWs to put on while conducting a delivery.
  b. FHWs should be given some expenses for Nutrition Demonstration Program.
  c. All FHWs should be paid salaries

C. MOTHER AND CHILD HEALTH OFFICER PROGRAM:

Six MCHO sites had been scheduled to be assessed of which only five were visited (see page 13).

#	MCHO's Name	CLINIC/POST #	PROVINCE	REMARKS
1	Mrs. Suraya	7043	Kunduz	Assessed
2	Mrs. Zari Gul	7049	Ningrahar	Assessed
3	Mrs. Shaima	7046	Kabul	Absent
4	Mrs. Hasina	7047	Kabul	Assessed
5	Mrs.Fahima	7051	Logar	Not existing
6	Mrs. Aqila	7042	Bamian	Not assessed

MCH posts # 7046 and 7047 located in kabul were closed on the day of visit as the In-charge s of these facilities were on leave. However, the residents of the area were satisfied with their services being offered to them.

One MCH post (7051) which was supposed to be in Churkh district of Logar province didn't exist at all.

Two MCH posts 7049 located in Ningrahar and 7043 in Kunduz were assessed. Assessment results may be summarized as follows:

The staff of the facilities have got written job descriptions.

The posts are open 6 days a week (Fridays closed) from 8:00 am to 12:00 or 3:00pm. Female training program such as VHS and FHW training programs are conducted two days a week for 1-2 hours in the morning.

The staff of these facilities are using good prescribing habits.

The MCHOs also make some visits in the houses which are not very far from their houses for many purposes such as curative service, emergencies, follow-up etc.

The green books are up-to-date and accurately completed.

On the average 30-40 patients daily apply to each MCHO posts 20-30% of whom are children under age 5 while 50-60% are women between age 15-45.

Neither of the MCHO posts had Nutrition Demonstration Program as they receive no funds for this purpose from any organization. However, on the average 4-5 mild and sever cases of malnutrition are monthly diagnosed in each of the facilities.

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Neither of these facilities offer vaccination.

The medical staff of both facilities conduct Health Education Sessions on family planning etc. Health Education sessions are usually conducted in the mornnings when the patients gather in the waiting room.

Contraceptives are distributed only to those women who request for them.

The MCHOs are also involved in some community outreach activities such as conducting health education session in the schools, teaching the correct way of building community based latrines to the people etc. The MCH facilities don't sell drugs. However, they charge fees i.e 100/patient. Most of the people can afford it.

MCHO's SUGGESTIONS AND REMARKS REGARDING THE IMPROVEMENT OF MCH ACTIVITIES.

a- The In-charge of clinic #7049 located in Ningrahar expressed that they are badly in the need of:

-Transportation means for clinic staff.
-Expenses for building rent, electricity, nutrition demonstration program.
-All six vaccines + T.T.
-More anti-Malaria drugs (for prevention and treatment)

b- The In-charges of MCHO post 7043 located in Kunduz said:

"By the time we received the reagents needed for Glucose-Urea an Protein-Urea tests they had already been expired".

"We have got good results from pregnancy tests. However, the Mullahs disapprove of such practices,we hope you will continue supplying materials needed for such purposes in the future too".

IV-ANNEX:

Besides assessing the female training programs i.e. VHS,FHW and MCHO programs some other activities have also been done during the assessment trip that may be summarized as follows:

a- To give training to the MCH Regional Health Officers.
The MCH RHO for shora-i-Nazar, Mr Ali Ahmad Nahzatyar,. Joined Dr. Hasibullah in Kabul and assisted him in assessing 4 MCH facilities in 3 provinces i,e Kapisa ,Kunduz, and Takhar.

The MCH/RHO for Hazajat area, Dr. Nazir, assisted Dr. Hasibullah in carrying out the assessment in Ghazni province.

Dr. Humayoon the MCH/RHO for south and southeast zone joined Dr. Shah Agha in Ningrahar and assessed him in assessing 4 MCH facilities in 3 provinces i.e. Ningrahar, Kuner and Laghman.

In addition to giving practical training to all of the aforementioned newly appointed MCH/RHOs on how to carry out field activities such as supervision, assessment, survey etc. they were also briefed about their role and specific responsibilities as MCH/RHOs in the future. Moreover the workplans of MCH/MSH and MCH/MOPH were explained to them in detail.

b- To assess the possibility of conducting a baseline survey at the household level. (see page 6).

c- To determine the demand for contraceptives from the information collected in this regard one may easily see that the majority of people in most of the MCH facilities' areas have a demand for contraceptives (especially pills). Condom is,however, socially and culturally not acceptable for almost all of them.

d- To check which MCH facilities offer vaccination: Except two MCH facilities i.e # 1064 Located in Kuner province and #7027 located in Takhar province none of the MCH facilities visited offer vaccination. However, the people living in the MCH facilities catchment area understand the advantages of vaccination and are willing to get their children vaccinated. Similarly, many women are ready to undergo T.T vaccination.

V- THE EVALUATORS REMARKS AND RECOMMENDATION

Considering the factors listed below that badly affect the process of implementation of female training programs and the provision of health services, the progress of female training program such as VHS and FHW program as well as the quality and quantity of health services being offered by the MCH facilities are quite satisfactory. However, by making more efforts they could be further improved.

a- Unstable security and political condition, don't give people a chance to fully concentrate on their specific official responsibilities.

b- Strict religious and cultural practices e.g. observing purdah deprive the male trainers of the chance to have free access to the female trainees in order to recruit train and supervise them.

c- Old tradition, beliefs and health habits that have been existing through decades and centuries are not easy to quit or modify.

d- Frequent migration of people from one place to another due to security and economical reasons as well as women's responsiblilities inside the house and/or on the field make it difficult for the trainers to maintain regular contract with their trainees. Taking the following measures will play a crucial role in general and female training programs in particular:

1- The number of female VHS and FHW trainers should be increased.

2- If budget permits the trainers salaries should be increased to some extent. In addition, some (non-financial and/or financial)incentives should be given to the most active trainers and trainees.

3- More contraceptive (pills and ampules) should be supplied to MCH facilities.

4- To maintain regular contact with MCH facilities staff and provide them a stable support regular assessment and supervision of all MCH facilities should be carried out by MCH Regional Health Officers and other responsible authorities.

5- Coordination between MCH services and EPI services should be improved.

APPENDIX VI-1

COLD CHAIN EQUIPMENT

The cold chain equipment used at different levels of the cold chain are listed below. Between brackets is the origin of the equipment:
(E) = Electrolux, Luxembourg
(Q) = Quatro Elle Spa, Italia
(S) = Sibir International AB, Switzerland
(T) = Thermos Ltd., U.K.
The exact combination of the listed equipment depended on the needed storage capacity of each of the facilities/teams/VSF.

Central cold room, Peshawar:

1- Refrigerator or freezer, compression type, Model TCW 1151 Icelined (E)
2- Icepack freezer, compression type, Model TFW 791 (E)
3- Refrigerator & freezer, absorption type, Model V 240 GE, Gas and Electric (S)
4- Refrigerator & freezer, absorption type, Model RA 1302 EG, Electric & Gas (E)
5- Icepack freezer, absorption type, Model RCW 65 Gas (E)

Vaccine Storage facilities

1- Refrigerator & freezer, absorption type, Model V 240 GE, Gas and Electric (S)
2- Refrigerator & freezer, absorption type, Model RA 1302 EG, Electric and Gas (E)
3- Icepack freezer, absorption type, Model RCW 65 Gas (E)
4- Icepack freezer, absorption type, Model FCW EG, Electric and Gas (E)
5- Refrigerator & Icepack freezer, absorption type, Model RCW 42 EG, Electric & Gas (E)
6- Long range vaccine cold box, Class A, Model RCW 25, with icepacks (E)
7- Long range vaccine cold box, Class A, Model RCW 12 (E)
8- Vaccine carrier, Class B, Model 3504/38 (T)
9- Vaccine carrier / Point-of-use, Class A, Model RCW 2 (E)
10- Vaccine carrier, 10 Litres "gross capacity" (Q)

Mobile Team

1- Refrigerator & Icepack freezer, absorption type, Model RCW 42 EG, Electric & Gas (E)
2- Long range vaccine cold box, Class A, Model RCW 25, with icepacks (E)
3- Long range vaccine cold box, Class A, Model RCW 12 (E)
4- Vaccine carrier, Class B, Model 3504/38 (T)
5- Vaccine carrier / Point-of-use, Class A, Model RCW 2 (E)
6- Vaccine carrier, 10 Litres "gross capacity" (Q)

Facilities with EPI

1- Refrigerator & icepack freezer, absorption type, Model RCW 42 EG, Electric and Gas (E)
2- Long range vaccine cold box, Class A, Model RCW 25, with icepacks (E)
3- Long range vaccine cold box, Class A, Model RCW 12 (E)
4- Vaccine carrier, Class B, Model 3504/38 (T)
5- Vaccine carrier / Point-of-use, Class A, Model RCW 2 (E)
6- Vaccine carrier, 10 Litres "gross capacity" (Q)
7- Icepack freezer, absorption type, Model FCW EG, Electric and Gas (E)

EPI Results ordered by USAID Fiscal Year

FY	BCGU1	BCGU2	BCGTOT	MEASU1	MEASU2	MEASTOT	DPT1U1	DPT1U2	DPT1TOT	DPT2U1	DPT2U2	DPT2TOT	DPT3U1	DPT3U2	DPT3TOT
1988	377	849	1,715	498	1.296	3,852	943	1,912	6,355	0	0	5	0	0	0
1989	874	1,861	4,643	684	3.147	10,725	2,202	5,251	18,322	91	919	5,752	0	7	51
1990	17,054	34,979	64,797	10,711	33,274	67,402	15,680	36,240	72,741	1,818	5,280	12.875	335	1.633	5,801
1991	23,203	40,474	57,383	23,746	54,917	84,676	34,817	61,928	94,626	7,200	14,795	26.655	961	3,846	8,561
1992	42,901	89,886	121,293	27,080	72.728	104,244	40,673	89,168	123,957	23,131	53.573	77.714	7,950	20,663	33,561
1993	70,482	140,402	159,018	39,429	103.733	141.740	66,164	143,379	165,449	44,132	99,479	119.962	32,604	77,256	92,338
1994	8,547	16,903	17,172	5,084	13.546	17.637	8,833	16,292	16,876	5,865	11.830	12.429	5,033	10,831	11,823
	377	472	866	498	798	2,556				0.00%	0.00%	0.08%	0.00%	0.00%	0.00%
	874	987	2,782	684	2,463	7,578				4.13%	17.50%	31.39%	0.00%	0.13%	0.28%
	17,054	17,925	29,818	10,711	22,563	34,128				11.59%	14.57%	17.70%	2.14%	4.51%	7.97%
	23,203	17,271	16,909	23,746	31.171	29,759				20.68%	23.89%	28.17%	2.76%	6.21%	9.05%
	42,901	46,985	31,407	27,080	45,648	31,516				56.87%	60.08%	62.69%	19.55%	23.17%	27.07%
	70,482	69,920	18,616	39,429	64,304	38,007				66.70%	69.38%	72.51%	49.28%	53.88%	55.81%
	8,547	8,356	269	5,084	8,462	4,091				66.40%	72.61%	73.65%	56.98%	66.48%	70.06%
	21.98%	27.52%	50.50%	12.93%	20.72%	66.36%									
	18.82%	21.26%	59.92%	6.38%	22.97%	70.66%									
	26.32%	27.66%	46.02%	15.89%	33.48%	50.63%									
	40.44%	30.10%	29.47%	28.04%	36.81%	35.14%									
	35.37%	38.74%	25.89%	25.98%	43.79%	30.23%									
	44.32%	43.97%	11.71%	27.82%	45.37%	26.81%									
	49.77%	48.66%	1.57%	28.83%	47.98%	23.20%									

FY	Under 1		Under 2		Total		Planned	
1988	1,818	3.46%	4,057	7.72%	11,927	22.69%	52,575	
1989	3,851	1.89%	11,185	5.50%	39,493	19.41%	203,495	
1990	45,598	12.41%	111,406	30.33%	223,616	60.88%	367,284	
1991	89,927	18.91%	175,960	37.00%	271,901	57.18%	475,550	
1992	141,735	17.52%	326,018	40.30%	460,769	56.95%	809,033	
1993	252,811	30.05%	564,249	67.07%	678,507	80.65%	841,284	
1994	33,362	NA	69,402	NA	75,937	NA	0	
===	=======	======	=======	======	=======	======	=======	
Total	569,102	24.44%	1,262,277	54.21%	1,762,150	75.67%	2,328,579	(1993 included for 50%)

Date: 31-Mar-94

EPI Results ordered by Calendar Year

CY	BCG_0_11	BCGU2	BCGTOT	MEAS_0_11	MEASU2	MEASTOT	DPT1_0_11	DPT1U2	DPT1TOT	DPT2_0_11	DPT2U2	DPT2TOT	DPT3_0_11	DPT3U2	DPT3TOT
1988	435	998	2,040	783	2,440	7,760	1,415	3,256	10,901	5	14	95	0	0	1
1989	3,566	9,326	23,550	1,758	8,995	25,019	4,977	13,076	37,271	180	1,298	6,934	30	438	1,860
1990	20,881	37,644	50,054	16,298	40,167	68,839	22,378	41,821	69,633	4,864	10,630	19,775	951	2,955	6,596
1991	23,273	45,137	63,172	21,073	52,747	82,173	31,156	62,286	95,253	9,057	20,764	37,570	1,355	4,338	9,680
1992	43,696	91,922	124,027	29,242	79,050	116,368	41,141	91,543	127,703	23,103	54,803	77,546	10,368	24,254	39,921
1993	66,604	131,170	144,021	35,221	92,556	122,029	62,767	132,558	147,935	42,825	94,069	109,174	32,554	79,040	90,866
1994	4,983	9,157	9,157	2,857	6,686	8,088	5,478	9,630	9,630	2,203	4,298	4,298	1,625	3,211	3,211
		563	1,042		1,657	5,320				0.35%	0.43%	0.87%	0.00%	0.00%	0.01%
		5,760	14,224		7,237	16,024				3.62%	9.93%	18.60%	0.60%	3.35%	4.99%
		16,763	22,410		23,869	28,672				21.74%	25.42%	28.40%	4.25%	7.07%	9.47%
		21,864	18,035		31,674	29,426				29.07%	33.34%	39.44%	4.35%	6.96%	10.16%
		48,226	32,105		49,808	37,318				56.16%	59.87%	60.72%	25.20%	26.49%	31.26%
		64,566	12,851		57,335	29,473				68.23%	70.96%	73.80%	51.86%	59.63%	61.42%
	21.32%	27.60%	51.08%	10.09%	21.35%	68.56%									
	15.14%	24.46%	60.40%	7.03%	28.93%	64.05%									
	34.77%	27.91%	37.32%	23.68%	34.67%	41.65%									
	36.84%	34.61%	28.55%	25.64%	38.55%	35.81%									
	35.23%	38.88%	25.89%	25.13%	42.80%	32.07%									
	46.25%	44.83%	8.92%	28.86%	46.98%	24.15%									

CY	Under 1		Under 2		Total		Planned	
1988	2,638	5.02%	6,708	12.76%	20,797	39.56%	52,575	
1989	10,511	5.17%	33,133	16.28%	94,634	46.50%	203,495	
1990	65,372	17.80%	133,217	36.27%	224,897	61.23%	367,284	
1991	85,914	18.07%	185,272	38.96%	287,848	60.53%	475,550	
1992	147,550	18.24%	341,572	42.22%	485,565	60.02%	809,033	
1993	239,971	28.52%	529,393	62.93%	614,025	72.99%	841,284	
1994	17,146	NA	32,982	NA	34,384	NA	0	
===	=======	======	=======	=======	=======	======	=======	
Total	569,102	24.44%	1,262,277	54.21%	1,762,150	75.67%	2,328,579	(1993 included for 50%)

Date: 31-Mar-94

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EPI Results corrected for supply delays

FY	BCGU1	BCGU2	BCGTOT	MEASU1	MEASU2	MEASTOT	DPT1U1	DPT1U2	DPT1TOT	DPT2U1	DPT2U2	DPT2TOT	DPT3U1	DPT3U2	DPT3TOT
1988	815	815	1.767	1.053	3.739	12,739	2,683	6.146	22.143	91	919	5,757	0	7	51
1989	10.337	23.151	47.235	7.589	23.183	51.079	9,788	24,483	53.865	404	1,588	5.108	262	1.072	3.865
1990	28.030	48.496	70.548	25.688	61.135	95.589	37.965	67.948	105.968	8.273	16.609	29.141	1.027	3.543	7.265
1991	29.047	57.317	73.883	18.961	47.257	63.104	30.509	63.436	83.612	15.506	34.144	50.544	4.065	10.649	17.354
1992	69.048	145.656	176.040	39.194	110.006	158.337	60.107	135.783	169.999	40.905	96.344	122.443	28.247	68.572	87.647
1993	26.161	48.967	54.337	14.747	37.321	49.428	28.260	56.374	62.739	17.058	36.272	42.399	13.282	30.393	35.953
	815	0	952	1.053	2,686	9.000				3.39%	14.95%	26.00%	0.00%	0.11%	0.23%
	10.337	12.814	24.084	7.589	15,594	27,896				4.13%	6.49%	9.48%	2.68%	4.38%	7.18%
	28.030	20.466	22.052	25.688	35.447	34,454				21.79%	24.44%	27.50%	2.71%	5.21%	6.86%
	29.047	28.270	16.566	18.961	28.296	15.847				50.82%	53.82%	60.45%	13.32%	16.79%	20.76%
	69.048	76.608	30.384	39.194	70.812	48,331				68.05%	70.95%	72.03%	46.99%	50.50%	51.56%
	26.161	22.806	5.370	14.747	22,574	12,107				60.36%	64.34%	67.58%	47.00%	53.91%	57.31%
	46.12%	0.00%	53.88%	8.27%	21.08%	70.65%									
	21.88%	27.13%	50.99%	14.86%	30.53%	54.61%									
	39.73%	29.01%	31.26%	26.87%	37.08%	36.04%									
	39.31%	38.26%	22.42%	30.05%	44.84%	25.11%									
	39.22%	43.52%	17.26%	24.75%	44.72%	30.52%									
	48.15%	41.97%	9.88%	29.84%	45.67%	24.49%									

FY	Under 1		Under 2		Total		Planned	
1988	4,642	8.83%	11,626	22.11%	42,457	80.76%	52,575	
1989	28,380	13.95%	73,477	36.11%	161,152	79.19%	203,495	
1990	100,983	27.49%	197,731	53.84%	308,511	84.00%	367,284	
1991	98,088	20.63%	212,803	44.75%	288,497	60.67%	475,550	
1992	237,501	29.36%	556,361	68.77%	714,466	88.31%	809,033	
1993	99,508	11.83%	209,327	24.88%	244,856	29.11%	841,284	
	569,102	24.44%	1,261,325	54.17%	1,759,939	75.58%	2,328,579	(including 1993 for 50%)

Date: 31-Mar-94

EPI Results corrected for supply & distribution delays

FY	BCGU1	BCGU2	BCGTOT	MEASU1	MEASU2	MEASTOT	DPT1U1	DPT1U2	DPT1TOT	DPT2U1	DPT2U2	DPT2TOT	DPT3U1	DPT3U2	DPT3TOT
1988	815	1,767	3,978	1,053	3,739	12,739	2,683	6,146	22,143	91	919	5,757	0	7	51
1989	10,337	23,151	47,235	7,589	23,183	51,079	9,788	24,483	53,865	404	1,588	5,108	262	1,072	3,865
1990	30,356	53,245	77,325	26,997	65,712	102,837	41,171	74,702	116,036	8,614	18,487	34,422	1,034	4,407	10,497
1991	42,128	88,210	119,583	26,942	71,869	102,814	40,250	88,129	122,910	22,171	50,626	74,609	7,832	20,132	32,710
1992	71,075	141,817	160,467	39,000	102,928	140,919	65,539	142,102	163,419	44,324	100,838	120,807	32,113	76,153	90,848
1993	8,727	17,164	17,433	5,651	15,210	19,888	9,881	18,608	19,953	6,633	13,418	14,689	5,642	12,465	14,164
1994	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	815	952	2,211	1,053	2,686	9,000				3.39%	14.95%	26.00%	0.00%	0.11%	0.23%
	10,337	12,814	24,084	7,589	15,594	27,896				4.13%	6.49%	9.48%	2.68%	4.38%	7.18%
	30,356	22,889	24,080	26,997	38,715	37,125				20.92%	24.75%	29.66%	2.51%	5.90%	9.05%
	42,128	46,082	31,373	26,942	44,927	30,945				55.08%	57.45%	60.70%	19.46%	22.84%	26.61%
	71,075	70,742	18,650	39,000	63,928	37,991				67.53%	70.96%	73.92%	49.00%	53.59%	55.59%
	8,727	8,437	269	5,651	9,559	4,678				67.13%	72.11%	73.62%	57.10%	66.99%	70.99%
	20.49%	23.93%	55.58%	8.27%	21.08%	70.65%									
	21.88%	27.13%	50.99%	14.86%	30.53%	54.61%									
	39.26%	29.60%	31.14%	26.25%	37.65%	36.10%									
	35.23%	38.54%	26.24%	26.20%	43.70%	30.10%									
	44.29%	44.09%	11.62%	27.68%	45.37%	26.96%									
	50.06%	48.40%	1.54%	28.41%	48.06%	23.52%									

FY	Under 1		Under 2		Total		Planned	
1988	4,642	8.83%	12,578	23.92%	44,668	84.96%	52,575	
1989	28,380	13.95%	73,477	36.11%	161,152	79.19%	203,495	
1990	108,172	29.45%	216,553	58.96%	341,117	92.88%	367,284	
1991	139,323	29.30%	318,966	67.07%	452,626	95.18%	475,550	
1992	252,051	31.15%	563,838	69.69%	676,460	83.61%	809,033	
1993	36,534	4.34%	76,865	9.14%	86,127	10.24%	841,284	
1994	0	NA	0	NA	0	NA	0	
===	=======	======	=======	======	=======	======	=======	
	569,102	26.87%	1,262,277	59.59%	1,762,150	83.19%	2,118,258	(1993 included for 25%)

Corretions made for 1988, 1989, 1990 for vaccine pipeline (earliest date in the field = June)
for 1991, 1992, 1993 for the effect of the "ban".
The "planned" number is calculated on the ## of doses of vaccines available, any delay in delivery of the vaccine to the in-country VSF entails delay of the planned activities. Major factors of delay are beyond control even of the Peshawar office (UNICEF pipeline, "ban"). Therefore we assume that this spreadsheet reflects best the local/regional capacity for running EPI programs.

Date: 31-Mar-94

EPI Results ordered by USAID Fiscal Year

Year	TT1U15	TT1FER	TT1PRE	TT1TOT	TT2U15	TT2FER	TT2PRE	TT2TOT	TT3U15	TT3FER	TT3PRE	TT3TOT	TT4U15	TT4FER	TT4PRE	TT4TOT
1988	0	2,838	0	2,838	0	0	0	0	0	0	0	0	0	0	0	0
1989	1,046	6,772	0	7,818	12	1,761	0	1,773	0	0	0	0	0	0	0	0
1990	16,727	30,610	0	47,337	4,545	5,031	0	9,576	763	757	0	1,520	0	0	0	0
1991	26,632	51,107	0	77,739	6,132	7,969	0	14,101	1,442	1,836	0	3,278	0	0	0	0
1992	51,287	67,208	0	118,495	25,225	40,299	0	65,524	10,696	15,821	0	26,517	0	0	0	0
1993	77,220	94,949	0	172,169	56,887	73,099	0	129,986	24,601	44,948	0	69,549	1,723	4,799	0	6,522
1994	3,589	6,265	0	9,854	4,028	5,218	0	9,246	2,701	4,883	0	7,584	616	1,054	0	1,670
	0.00%	100.00%	0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	13.38%	86.62%	0.00%		1.15%	26.00%	0.00%	22.68%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	35.34%	64.66%	0.00%		27.17%	16.44%	0.00%	20.23%	4.56%	2.47%	0.00%	3.21%	0.00%	0.00%	0.00%	0.00%
	34.26%	65.74%	0.00%		23.02%	15.59%	0.00%	18.14%	5.41%	3.59%	0.00%	4.22%	0.00%	0.00%	0.00%	0.00%
	43.28%	56.72%	0.00%		49.18%	59.96%	0.00%	55.30%	20.86%	23.54%	0.00%	22.38%	0.00%	0.00%	0.00%	0.00%
	44.85%	55.15%	0.00%		73.67%	76.99%	0.00%	75.50%	31.86%	47.34%	0.00%	40.40%	2.23%	5.05%	0.00%	3.79%
	36.42%	63.58%	0.00%		112.23%	83.29%	0.00%	93.83%	75.26%	77.94%	0.00%	76.96%	17.16%	16.82%	0.00%	16.95%

	Under 15		Fertile		Pregnant		Total		Planned
1988	0	0.00%	2,838	14.52%	0	0	2,838	14.52%	19,549
1989	1,058	1.91%	8,533	15.44%	0	0	9,591	17.36%	55,263
1990	22,035	10.11%	36,398	16.69%	0	0	58,433	26.80%	218,045
1991	34,206	14.25%	60,912	25.37%	0	0	95,118	39.62%	240,060
1992	87,208	9.60%	123,328	13.57%	0	0	210,536	23.16%	908,857
1993	160,981	45.06%	218,610	61.18%	0	0	379,591	106.24%	357,294
1994	11,081	NA	17,979	NA	0	NA	29,060	NA	0
===	======	=====	======	=====	======	=====	======	=====	======
	316,569	17.60%	468,598	26.05%	0	0	785,167	43.64%	1,799,068

Date: 31-Mar-94

EPI Results ordered by Calendar Year

Year	TT1U15	TT1FER	TT1PRE	TT1TOT	TT2U15	TT2FER	TT2PRE	TT2TOT	TT3U15	TT3FER	TT3PRE	TT3TOT	TT4U15	TT4FER	TT4PRE	TT4TOT
1988	0	5,185	0	5,185	0	45	0	45	0	0	0	0	0	0	0	0
1989	3,339	8,157	0	11,496	850	2,083	0	2,933	0	0	0	0	0	0	0	0
1990	19,828	37,280	0	57,108	5,946	7,471	0	13,417	1,063	1,013	0	2,076	0	0	0	0
1991	28,684	51,563	0	80,247	8,417	12,436	0	20,853	1,435	2,024	0	3,459	0	0	0	0
1992	53,329	70,808	0	124,137	27,542	43,450	0	70,992	12,770	18,329	0	31,099	0	0	0	0
1993	69,135	82,346	0	151,481	52,446	65,437	0	117,883	23,734	44,966	0	68,700	2,116	5,342	0	7,458
1994	2,186	4,410	0	6,596	1,628	2,455	0	4,083	1,201	1,913	0	3,114	223	511	0	734
	0.00%	100.00%	0.00%		0.00%	0.87%	0.00%	0.87%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	29.04%	70.96%	0.00%		25.46%	25.54%	0.00%	25.51%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	34.72%	65.28%	0.00%		29.99%	20.04%	0.00%	23.49%	5.36%	2.72%	0.00%	3.64%	0.00%	0.00%	0.00%	0.00%
	35.74%	64.26%	0.00%		29.34%	24.12%	0.00%	25.99%	5.00%	3.93%	0.00%	4.31%	0.00%	0.00%	0.00%	0.00%
	42.96%	57.04%	0.00%		51.65%	61.36%	0.00%	57.19%	23.95%	25.89%	0.00%	25.05%	0.00%	0.00%	0.00%	0.00%
	45.64%	54.36%	0.00%		75.86%	79.47%	0.00%	77.82%	34.33%	54.61%	0.00%	45.35%	3.06%	6.49%	0.00%	4.92%

Year	Under 15		Fertile		Pregnant		Total		Planned
1988	0	0.00%	5,230	26.75%	0	0	5,230	26.75%	19,549
1989	4,189	7.58%	10,240	18.53%	0	0	14,429	26.11%	55,263
1990	26,837	12.31%	45,764	20.99%	0	0	72,601	33.30%	218,045
1991	38,536	16.05%	66,023	27.50%	0	0	104,559	43.56%	240,060
1992	93,641	10.30%	132,587	14.59%	0	0	226,228	24.89%	908,857
1993	148,037	41.43%	199,017	55.70%	0	0	347,054	97.13%	357,294
1994	5,329	NA	9,737	NA	0	0	15,066	NA	0
===	======	=====	======	=====	======	=====	======	=====	======
	316,569	17.60%	468,598	26.05%	0	0	785,167	43.64%	1,799,068

Date: 31-Mar-94

EPI Results corrected for supply delays

Year	TT1U15	TT1FER	TT1PRE	TT1TOT	TT2U15	TT2FER	TT2PRE	TT2TOT	TT3U15	TT3FER	TT3PRE	TT3TOT	TT4U15	TT4FER	TT4PRE	TT4TOT
1988	138	8,843	0	8,981	12	1,761	0	1,773	0	0	0	0	0	0	0	0
1989	8,680	19,896	0	28,576	1,677	1,761	0	3,438	249	285	0	534	0	0	0	0
1990	30,382	54,133	0	84,515	6,879	9,462	0	16,341	1,122	1,436	0	2,558	0	0	0	0
1991	31,265	48,219	0	79,484	15,630	24,269	0	39,899	6,745	7,134	0	13,879	0	0	0	0
1992	83,361	100,937	0	184,298	56,065	78,834	0	134,899	23,039	46,692	0	69,731	1,418	3,758	0	5,176
1993	22,675	27,721	0	50,396	16,566	17,290	0	33,856	9,048	12,698	0	21,746	921	2,095	0	3,016
	1.54%	98.46%	0.00%		8.70%	19.91%	0.00%	19.74%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	30.38%	69.62%	0.00%		19.32%	8.85%	0.00%	12.03%	2.87%	1.43%	0.00%	1.87%	0.00%	0.00%	0.00%	0.00%
	35.95%	64.05%	0.00%		22.64%	17.48%	0.00%	19.34%	3.69%	2.65%	0.00%	3.03%	0.00%	0.00%	0.00%	0.00%
	39.33%	60.67%	0.00%		49.99%	50.33%	0.00%	50.20%	21.57%	14.79%	0.00%	17.46%	0.00%	0.00%	0.00%	0.00%
	45.23%	54.77%	0.00%		67.26%	78.10%	0.00%	73.20%	27.64%	46.26%	0.00%	37.84%	1.70%	3.72%	0.00%	2.81%
	44.99%	55.01%	0.00%		73.06%	62.37%	0.00%	67.18%	39.90%	45.81%	0.00%	43.15%	4.06%	7.56%	0.00%	5.98%

	Under 15		Fertile		Pregnant		Total		Planned
1988	150	0.77%	10,604	54.24%	0	0	10,754	55.01%	19,549
1989	10,606	19.19%	21,942	39.70%	0	0	32,548	58.90%	55,263
1990	38,383	17.60%	65,031	29.82%	0	0	103,414	47.43%	218,045
1991	53,640	22.34%	79,622	33.17%	0	0	133,262	55.51%	240,060
1992	164,053	18.05%	230,461	25.36%	0	0	394,514	43.41%	908,857
1993	49,737	13.92%	60,938	17.06%	0	0	110,675	30.98%	357,294
===	======	=====	======	=====	======	=====	======	=====	======
	316,569	17.60%	468,598	26.05%	0	0	785,167	43.64%	1,799,068

Date: 31-Mar-94

EPI Results corrected for supply & distribution delays

Year	TT1U15	TT1FER	TT1PRE	TT1TOT	TT2U15	TT2FER	TT2PRE	TT2TOT	TT3U15	TT3FER	TT3PRE	TT3TOT	TT4U15	TT4FER	TT4PRE	TT4TOT
1988	138	8,843	0	8,981	12	1,761	0	1,773	0	0	0	0	0	0	0	0
1989	8,680	19,896	0	28,576	1,677	1,761	0	3,438	249	285	0	534	0	0	0	0
1990	35,587	62,588	0	98,175	9,000	11,239	0	20,239	1,956	2,308	0	4,264	0	0	0	0
1991	50,615	66,439	0	117,054	23,121	37,801	0	60,922	10,493	15,539	0	26,032	0	0	0	0
1992	77,489	95,441	0	172,930	58,607	75,385	0	133,992	24,565	45,023	0	69,588	1,723	4,799	0	6,522
1993	3,992	6,542	0	10,534	4,412	5,430	0	9,842	2,940	5,090	0	8,030	616	1,054	0	1,670
	1.54%	98.46%	0.00%		8.70%	19.91%	0.00%	19.74%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	30.38%	69.62%	0.00%		19.32%	8.85%	0.00%	12.03%	2.87%	1.43%	0.00%	1.87%	0.00%	0.00%	0.00%	0.00%
	36.25%	63.75%	0.00%		25.29%	17.96%	0.00%	20.62%	5.50%	3.69%	0.00%	4.34%	0.00%	0.00%	0.00%	0.00%
	43.24%	56.76%	0.00%		45.68%	56.90%	0.00%	52.05%	20.73%	23.39%	0.00%	22.24%	0.00%	0.00%	0.00%	0.00%
	44.81%	55.19%	0.00%		75.63%	78.99%	0.00%	77.48%	31.70%	47.17%	0.00%	40.24%	2.22%	5.03%	0.00%	3.77%
	37.90%	62.10%	0.00%		110.52%	83.00%	0.00%	93.43%	73.65%	77.80%	0.00%	76.23%	15.43%	16.11%	0.00%	15.85%

Year	Under 15		Fertile		Pregnant		Total		Planned
1988	150	0.77%	10,604	54.24%	0	0	10,754	55.01%	19,549
1989	10,606	19.19%	21,942	39.70%	0	0	32,548	58.90%	55,263
1990	46,543	21.35%	76,135	34.92%	0	0	122,678	56.26%	218,045
1991	84,229	35.09%	119,779	49.90%	0	0	204,008	84.98%	240,060
1992	162,934	17.93%	221,463	24.37%	0	0	384,397	42.29%	908,857
1993	12,107	3.39%	18,675	5.23%	0	0	30,782	8.62%	357,294
===	======	=====	======	=====	======	=====	======	=====	======
Total	316,569	17.60%	468,598	26.05%	0	0	785,167	43.64%	1,799,068

Corrections made: for 1988, 1989, 1990 correction is made for vaccine pipeline (earliest date in the field = June)
for 1991, 1992, 1993 additional correction is made for the "ban"

The "planned" number was calculated based on ## of doses of vaccines available. any delay in delivery of the vaccine to the in-country VSF entails delay of the planned" activities. Major factors of delay are beyond control even of the Peshawar office (UNICEF pipeline, "ban"). Therefore we assume this spreadsheet reflects best the local/regional capacity for running EPI programs.

Date: 31-Mar-94

Afghanistan Health Sector Support Project

Management Sciences for Health

Section VII

Appendix VII - 1
Through
Appendix VII - 5

Management Sciences for Health / Peshawar
Basic Health Worker - Field Kit

Appendix VII - 1

Product Identification Number	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
2.111	100	ACETAMINOPHEN 500MG TABLETS	TAB 500MG	8.35	0.28
2.121	1	PENTAZOCINE 30MG/ML SOLUTION	AMP 30MG x 1ML	14.20	0.47
3.001	30	CHLORPHENIRAMINE MALEATE 4MG	TAB 4MG	0.44	0.01
3.101	12	MEBENDAZOLE 100MG TABLET	TAB 100MG	2.16	0.07
6.126	60	SULFAMETHOXAZOL 400:TRIMETHOPRIM 80	TAB 400MG:80MG	17.10	0.56
6.127	2	SULFAMETHOXAZOL 200:TRIMETHOPRIM 40	SYR 200MG:40MG/5ML	10.20	0.34
6.711	50	CHLOROQUINE 150MG BASE TABLETS	TAB 250MG=150MG BASE	10.50	0.35
13.203	1	GENTIAN VIOLET SOLUTION	SOL 60ML BTL	3.00	0.10
15.002	1	XYLENOL W/V	SOL	9.50	0.32
17.621	5	ORAL REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE	11.40	0.38
21.201	5	OXYTETRACYCLINE 1% EYE OINTMENT	OMT 1%, 3.5MG TUB	11.15	0.37
27.132	2	SYRINGE HYPO LUER DISP.2CC,WITH NEED	2CC,0.1CC GRADUATED	3.00	0.10
32.314	1	OPERATING SCISSORS BLUNT/BLUNT	STRAIGHT 14.5CM	18.00	0.59
32.412	1	DRESSING FORCEPS, THUMB, BROAD	THUMB, BROAD 16CM	15.00	0.49
32.422	1	FORCEPS HEMOSTATIC KELLY, STRAIGHT	STRAIGHT 14CM	10.00	0.33
32.423	1	FORCEPS HEMOSTATIC KELLY, CURVED	CURVED 14CM	10.00	0.00
32.711	1	STAINLESS STEEL BOX 8"x3"	8"x3"	100.00	3.30
32.111	1	LISTER BANDAGE SCISSORS, ANGULAR	ANGULAR 18CM	30.00	0.99
33.113	1	SPONGE BOWL STAINLESS STEEL	6"DIAMx2"DEEP	34.75	1.15
33.164	1	BOTTLE PLASTICGLASSORTED SCREW CAP	125CC NARROW MOUTH	4.00	0.13
33.173	1	SOAP BOX, 2 PIECE	95x65x35MM, PLASTIC	6.00	0.20
33.311	2	CREPE BANDAGE ROLL	4.5Mx10CM	17.60	0.58
33.321	1	GAUZE BANDAGES 3"	ROLL, ONE DOZEN	16.00	0.53
33.332	1	COTTON HYDROPHILIC ROLL	ROLL 3000GMS	18.00	0.59
33.352	1	ADHESIVE TAPE 3"	ROLL	37.40	1.23
33.503	1	MINI SOAP BAR	30 GMS BAR	1.35	0.04
35.501	1	RUCKSACK, NYLON	PIECE	150.00	4.95
*** Total ***				608.88	20.09

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Management Sciences for Health / Peshawar
Basic Health Worker - Equipment Carton

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
29.603	1	ARM CIRCIMFERENCE TAPE	PIRCE	6.00	0.20
29.605	1	CUTTING PLIERS		15.00	0.49
31.225	2	SHEETING, PLASTIC.	910 X 1800MM.	159.00	4.95
32.201	1	RAZOR SAFETY, ALL METAL		7.80	0.26
32.314	1	OPERATING SCISSORS BLUNT/BLUNT	STRAIGHT 14.5CM	18.00	0.59
32.412	1	DRESSING FORCEPS, THUMB, BROAD	THUMB, BROAD 16CM	15.00	0.49
32.423	1	FORCEPS HEMOSTATIC KELLY, STRAIGHT	STRAIGHT 14CM	30.00	0.99
32.424	1	FORCEPS HEMOSTATIC KELLY, CURVED	CURVED 14CM	30.00	0.99
32.451	1	FORCEPS SPONGE HOLDING RAMPLEY	25CM	47.00	1.55
32.901	2	STAINLESS STEEL BOX 8"x3"	8"x3"	200.00	6.60
33.111	1	LISTER BANDAGE SCISSORS, ANGULAR	ANGULAR 18CM	30.00	0.99
33.114	1	ORDINARY SCISSORS, STRAIGHT	8.5"	36.00	1.19
33.115	1	NAIL CUTTER		10.00	0.33
33.131	1	FORCEPS JAR	6"DEEP+2.5"WIDE	50.00	1.65
33.132	2	SPONGE BOWL STAINLESS STEEL	6"DIAMx2"DEEP	69.50	2.29
33.135	1	CUP MEASURING WITH HANDLE STAINLESS	1000CC, GRADUATED	95.00	3.13
33.136	1	FUNNEL STAINLESS STEEL MOUTH 3x4.5"	MOUTH 3x4.5"	25.00	0.82
33.141	2	KIDNEY TRAY METAL	81/4"x4"	130.00	4.29
33.142	1	TRAY ALUMINIUM ORDINARY	14"x10.5"x1"	32.00	1.06
33.151	1	DRESSING DRUM STAINLESS STEEL	6"x6"	175.00	5.77
33.161	6	BOTTLE PLASTIC+ASSORTED SCREW CAP	125CC NARROW MOUTH	24.00	0.79
33.172	1	BASIN PLASTIC	13"x5"	68.00	2.24
33.173	1	SOAP-BOX, 2-PIECE	95x65x35MM, PLASTIC	6.00	0.20
33.181	1	STERILIZER INSTRUMENT WITH COVER	STLSS 10"x5"x3.5"	175.75	5.80
*** Total ***				1445.05	47.66

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Management Sciences for Health / Peshawar
Basic Health Worker - D1 Carton

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
2.111	1,090	ACETAMINOPHEN 500MG TABLETS	TAB 500MG	83.50	2.75
2.141	3	PENTAZOCINE 30MG/ML SOLUTION	AMP 30MG x 1ML	42.88	1.41
3.001	200	CHLORPHENIRAMINE MALEATE 4MG	TAB 4MG	2.96	0.10
6.101	100	MEBENDAZOLE 100MG TABLET	TAB 100MG	18.00	0.59
6.326	350	SULFAMETHOXAZOL 400+TRIMETHOPRIM 80	TAB 400MG+80MG	99.75	3.29
6.328	10	SULFAMETHOXAZOL 200+TRIMETHOPRIM 40	SYR 200MG+40MG/5ML	51.00	1.68
6.701	250	CHLOROQUINE 150MG BASE TABLETS	TAB 250MG=150MG BASE	52.50	1.73
10.101	2,000	FERROUS SULPHATE + FOLIC ACID	TAB 60MG+0.25MG	204.00	6.73
13.201	8	GENTIAN VIOLET,TOPICAL USE	POW 25GMS	96.00	3.17
13.203	1	NITROFURAZONE 0.2% CREAM	CRM 0.2%,28GR TUB	7.00	0.23
13.501	3	BENZYL BENZOATE 25% EMULSION	EMN 25%,60ML BTL	17.10	0.56
15.001	1	CHLORHEXIDINE 1.5% + CETRIMIDE 15%	SOL 1.5%+15%, 1 LIT	47.00	1.55
17.101	200	ALUMINIUM HYDROXYDE (COMP.) TABLET	TAB 400MG	15.20	0.50
17.621	100	ORAL REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE	228.00	7.52
21.101	15	OXYTETRACYCLINE 1% EYE OINTMENT	OMT 1%, 3.5MG TUB	33.45	1.10
28.301	2	BUCCAL THERMOMETER F+C	PIECE	52.00	1.72
29.132	4	SYRINGE HYPO LUER DISP.2CC,WITH NED	2CC,0.1CC GRADUATED	6.00	0.20
32.205	1	RAZOR BLAD DOUBLE EDGE LOCAL.QUAL	PKT OF 5	3.02	0.10
33.311	3	CREPE BANDAGE ROLL	4.5Mx10CM	26.40	0.87
33.321	3	GAUZE BANDAGES 3"	ROLL, ONE DOZEN	48.00	1.58
33.331	1	ABSORBANT GAUZE FOR COMPRESSES	20 YARD	35.00	1.15
33.332	1	COTTON HYDROPHILIC ROLL	ROLL 300GMS	18.00	0.59
33.352	1	ADHESIVE TAPE 3"	ROLL	37.40	1.23
33.501	1	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM	4.50	0.15
33.503	50	MINI SOAP BAR	30 GMS BAR	97.50	3.22
99.121	2	"GREEN BOOK"	PIECE	70.00	2.31
99.301	250	PACKET FOR MEDICINE	CMx CM	19.00	0.63
*** Total ***				1415.25	46.68

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Management Sciences for Health / Peshawar
Basic Health Worker - D Carton

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
2.111	1,000	ACETAMINOPHEN 500MG TABLETS	TAB 500MG	83.50	2.75
3.001	200	CHLORPHENIRAMINE MALEATE 4MG	TAB 4MG	2.96	0.10
6.131	100	MEBENDAZOLE 100MG TABLET	TAB 100MG	18.00	0.59
6.326	350	SULFAMETHOXAZOL 400+TRIMETHOPRIM 80	TAB 400MG+80MG	99.75	3.29
6.328	10	SULFAMETHOXAZOL 200+TRIMETHOPRIM 40	SYR 200MG+40MG/5ML	51.00	1.68
6.701	250	CHLOROQUINE 150MG BASE TABLETS	TAB 250MG=150MG BASE	52.50	1.73
10.101	2,000	FERROUS SULPHATE + FOLIC ACID	TAB 60MG+0.25MG	204.00	6.73
13.203	1	NITROFURAZONE 0.2% CREAM	CRM 0.2%,28GR TUB	7.09	0.23
13.601	1	BENZYL BENZOATE 25% EMULSION	EMN 25%,60ML BTL	17.10	0.56
17.101	200	ALUMINIUM HYDROXYDE (COMP.) TABLET	TAB 400MG	15.20	0.50
17.621	100	ORAL REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE	228.00	7.52
21.101	15	OXYTETRACYCLINE 1% EYE OINTMENT	OMT 1%, 3.5MG TUB	33.45	1.10
32.205	1	RAZOR BLAD DOUBLE EDGE LOCAL.QUAL	PKT OF 5	3.02	0.10
33.311	3	CREPE BANDAGE ROLL	4.5Mx10CM	26.40	0.87
33.321	3	GAUZE BANDAGES 3"	ROLL, ONE DOZEN	48.00	1.58
33.331	1	ABSORBANT GAUZE FOR COMPRESSES	20 YARD	35.00	1.15
33.352	1	ADHESIVE TAPE 3"	ROLL	37.40	1.23
33.503	50	MINI SOAP BAR	30 GMS BAR	97.50	3.22
99.301	250	PACKET FOR MEDICINE	CMx CM	19.00	0.63
*** Total ***				1078.87	35.58

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Management Sciences for Health / Peshawar
Clinic Initial Supply

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
1.202	2	LIDOCAINE TOPICAL GEL 2%	GEL 2%, TUB 15GR	14.90	0.49
1.203	25	LIDOCAINE 2% SOLUTION	AMP 10ML	100.00	3.30
2.111	2,000	ACETAMINOPHEN 500MG TABLETS	TAB 500MG	668.00	22.03
2.121	6,000	ACETYL SALICYLIC ACID 300MG TABLETS	TAB 300MG	249.00	8.21
2.123	1,000	INDOMETHACIN 25MG TABLET	TAB 25MG	200.00	6.60
2.141	15	PENTAZOCINE 30MG/ML SOLUTION	AMP 30MG x 1ML	214.38	7.07
2.142	100	PENTAZOCINE 25MG TABLETS	TAB 25MG	150.06	4.98
3.001	2,000	CHLORPHENIRAMINE MALEATE 4MG	TAB 4MG	29.60	0.98
3.002	2	PROMETHAZINE 25MG/ML SOLUTION	AMP 50MG x 2ML	5.20	0.17
3.003	60	PROMETHAZINE HCL 25MG TABLETS	TAB 25MG	4.32	0.14
5.001	5	DIAZEPAM 5MG/ML SOLUTION	AMP 10MG/2ML	91.47	3.02
6.101	600	MEBENDAZOLE 100MG TABLET	TAB 100MG	108.00	3.56
6.201	2,000	METRONIDAZOLE 200MG TABLET	TAB 200MG	509.00	16.75
6.310	30	AMPICILLIN SUSPENSION 125MG/5ML	POW 125MG	384.60	12.68
6.311	6,000	AMPICILLIN 250MG CAPSULES	CAP 250MG	6900.00	227.57
6.312	30	AMPICILLIN 500MG POWDER FOR INJECT.	POW 500MG/VIAL	171.00	5.64
6.313	12	BENZATHINE BENZYL PENICILLINE 1.2	POW 1.2MIU/VIAL	108.06	3.59
6.315	1,000	PHENOXYMETHYL PENICILLIN 250MG	TAB 250MG	994.50	32.80
6.316	30	PROCAINE PENICILLIN FORTIFIED	POW 300MG150MG/VIAL	86.40	2.85
6.320	10	CHLORAMPHENICOL 125MG/5ML	SYT 125MG/ML	306.00	10.09
6.321	2,000	CHLORAMPHENICOL 250MG CAPSULES	CAP 250MG	1400.00	49.14
6.322	240	ERYTHROMYCIN 250MG TABLETS	TAB 250MG	408.00	13.46
6.324	1,000	TETRACYCLINE HCL 250MG CAPSULES	CAP 250MG	900.00	29.68
6.325	2,000	SULFAMETHOXAZOL 400+TRIMETHOPRIM 80	TAB 400MG+80MG	1995.00	65.80
6.326	60	SULFAMETHOXAZOL 200+TRIMETHOPRIM 40	SYR 200MG+40MG/5ML	306.00	10.09
6.329	12	CHLORAMPHENICOL POWDER FOR INJ 1GR	POW 1000MG/VIAL	160.80	5.30
6.501	60	NYSTATINE VAGINAL TABLET	TAB 100,000 IU	47.40	1.56
6.503	100	GRISEOFULVIN 500MG TAB	TAB 500MG	125.00	4.12
6.721	2,000	CHLOROQUINE 150MG BASE TABLETS	TAB 250MG=150MG BASE	420.00	13.85
10.101	12,000	FERROUS SULPHATE + FOLIC ACID	TAB 60MG+0.25MG	1224.00	40.37
12.101	400	TRIAMTERENE 50MG+THIAZIDE 25MG	TAB 50MG + 25MG	400.00	13.19
13.201	12	GENTIAN VIOLET,TOPICAL USE	POW 25GMS	144.00	4.75
13.203	12	NITROFURAZONE 0.2% CREAM	CRM 0.2%,28GR TUB	85.08	2.81
13.204	60	STERILE GAUZE IMPREGNATED PARAFINE	PACKET STERILE	39.60	1.31
13.301	30	HYDROCORTISONE ACETATE 1% SKIN	OMT 1%,5 GR TUB	90.00	2.97
13.601	18	BENZYL BENZOATE 25% EMULSION	EMN 25%,60ML BTL	102.60	3.38
15.001	10	CHLORHEXIDINE 1.5% + CETRIMIDE 15%	SOL 1.5%+15%, 1 LIT	470.00	15.50
15.003	1	POVIDONE-IODINE 10%	SOL 10%, 500ML	62.70	2.07
17.101	6,000	ALUMINIUM HYDROXYDE (COMP.) TABLET	TAB 400MG	456.00	15.04
17.301	12	ANTIHEMORRHOIDAL OINTMENT	OMT 10GR TUB	95.64	3.15
17.402	300	HYOSCINE-N-BUTYLBROMIDE 10MG TAB	TAB 10MG	179.25	5.91
17.621	240	ORAL REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE	547.20	18.05
21.101	150	OXYTETRACYCLINE 1% EYE OINTMENT	OMT 1%, 3.5MG TUB	334.50	11.03
22.002	100	ERGOMETRINE MALEATE 0.125MG TABLETS	TAB 0.125MG	65.00	2.14
25.101	10	AMINOPHYLLINE 25MG/ML	AMP 25MG/ML, 10ML	26.26	0.87
25.102	1,500	AMINOPHYLLINE 100MG	TAB 100MG	147.00	4.85
25.104	5	EPINEPHRINE 1MG/1ML	AMP 1MG/1ML	3.50	0.12
26.202	12	RINGER LACTATE	SOL COMP 500ML	357.00	11.77

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Management Sciences for Health / Peshawar
Clinic Initial Supply

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
26.203	30	SODIUM CHLORIDE 0.9% SOLUTION	SOL 0.9%, 1000ML	690.00	22.76
26.204	200	WATER FOR INJECTIONS	AMP 6ML	110.00	3.63
27.191	600	RETINOL 50,000 IU	TAB 50,000IU	252.00	8.31
28.191	2	STETHOSCOPE	PIECE	240.00	7.92
28.291	2	SPHYGMOMANOMETER ADULT	PIECE	660.00	21.77
28.391	6	BUCCAL THERMOMETER F+C	PIECE	156.00	5.15
28.391	12	BUCCAL THERMOMETER F+C	PIECE	312.00	10.29
28.411	1	OTOSCOPE WITH DIAGONOSTIC HEAD	+SPARE BULB	550.00	18.14
28.412	3	BULB FOR OTOSCOPE	PIECE	60.00	1.98
28.413	12	BATTERIES FOR OTOSCOPE	D-TYPE, 1.5V	40.80	1.35
28.531	3	TONGUE DEPRESSOR METAL	165MM	48.00	1.58
28.532	3	TONGUE DEPRESSOR CHILD	CHILD	36.00	1.19
28.612	1	MEASURING TAPE 60CM	TAP 60CM	4.00	0.13
28.621	1	WEIGHT SCALE ADULT, BATHROOM TYPE	140KG, 100MG	75.00	2.47
28.622	1	SCALE WITH 5 TROUSERS INFANT	SALTER TYPE 25KG	280.00	9.23
28.791	1	HAMMER REFLEX TESTING		15.00	0.49
28.793	3	VASELINE WHITE	500MG/JAR	72.00	2.37
29.112	2	SYRINGE HYPO, LUER LOCK, GLASS 2CC	GLASS SYRINGE 2CC	97.00	3.20
29.113	4	SYRINGE HYPO, LUER LOCK, GLASS 5CC	GLASS SYRINGE 5CC	186.00	6.13
29.114	1	SYRINGE HYPO, LUER LOCK, GLASS 10CC	GLASS SYRINGE 10CC	55.00	1.81
29.126	4	SYRINGE HYPO, 50CC, LUER DISPOSABLE	50CC	27.80	0.92
29.132	30	SYRINGE HYPO LUER DISP.2CC,WITH NED	2CC,0.1CC GRADUATED	45.00	1.48
29.133	120	SYRINGE HYPO LUER DISP.5CC,WITH NEE	5CC,0.2CC GRADUATE	180.00	5.94
29.134	10	SYRINGE WUTH NEEDLE,10CC,DISPOSABL	10CC, .2CC GRADUATED	23.00	0.76
29.222	100	NEEDLE, HYPO, LUER, DISPOSABLE 23G	23G(or 24G) x 1.1/4"	49.50	1.63
29.224	100	NEEDLE, HYPO, LUER, DISPOSABLE 19G	19G(or 20G) x 1.5"	49.50	1.63
29.312	5	BUTTERFLY NEEDLE SCALP VEIN 23G	23G(or 22G	17.50	0.58
29.322	5	CANNULA INTRAVENOUS LUER 20G	20G(or 19G) x 1-5/8"	81.25	2.68
29.602	2	TOURNIQUET LATEX RUBBER FOR INFUSIO	75CM x 1.5CM	17.00	0.56
29.603	2	ARM CIRCIMFERENCE TAPE	PIRCE	12.00	0.40
29.604	4	BRUSH FOR SYRINGES		16.00	0.53
29.605	1	CUTTING PLIERS		15.00	0.49
31.225	2	SHEETING, PLASTIC.	910 X 1800MM	150.00	4.95
31.311	2	AIRWAY GUEDEL RUBBER	ADULT SIZE 82MM	40.00	1.32
31.312	2	AIRWAY GUEDEL RUBBER	CHILD SIZE 67MM	40.00	1.32
32.111	4	SCALPEL HOLDER NO.3	NO.3	32.00	1.06
32.121	1	BLADES FOR SCALPEL, NO.10	PACKET OF 100	194.00	6.40
32.201	2	RAZOR SAFETY, ALL METAL		15.60	0.51
32.205	24	RAZOR BLAD DOUBLE EDGE LOCAL.QUAL	PKT OF 5	72.48	2.39
32.312	4	OPERATING SCISSORS BLUNT/SHARP	STRAIGHT 10CM	60.00	1.98
32.321	4	MAYO DISSECTING SCISSORS BLUNT	CURVED 15CM	100.00	3.30
32.411	4	DRESSING FORCEPS, THUMB, BROAD	THUMB, BROAD 10CM	100.00	3.30
32.413	4	TISSUE FORCEPS, TOOTHED 2x3	TOOTHED 2x3, 11.5CM	60.00	1.98
32.417	2	HUNTER SPLINTER FORCEPS	ANGLED 10.5CM	40.00	1.32
32.421	8	FORCEPS HALSTEAD MOSQUITO, STRAIGHT	STRAIGHT 12.5CM	200.00	6.60
32.422	8	FORCEPS HALSTEAD MOSQUITO, CURVED	CURVED 12.5CM	160.00	5.28
32.423	8	FORCEPS HEMOSTATIC KELLY, STRAIGHT	STRAIGHT 14CM	240.00	7.92
32.424	8	FORCEPS HEMOSTATIC KELLY, CURVED	CURVED 14CM	240.00	7.92

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Management Sciences for Health / Peshawar
Clinic Initial Supply

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
32.451	2	FORCEPS SPONGE HOLDING RAMPLEY	25CM	94.00	3.10
32.611	4	FARABEUF RETRACTORS SET OF TWO	28X16MM, 15CM, SET	126.00	4.16
32.811	4	NEEDLE HOLDER COLLIER	12,5 CM	140.00	4.62
32.901	8	STAINLESS STEEL BOX 8"x3"	8"x3"	800.00	26.39
33.111	2	LISTER BANDAGE SCISSORS, ANGULAR	ANGULAR 18CM	60.00	1.98
33.115	2	NAIL CUTTER		20.00	0.66
33.131	2	FORCEPS JAR	6"DEEP+2.5"WIDE	100.00	3.30
33.132	4	ROUND BOWL STAINLESS STEEL	2.5"DIAMx2"DEEP	88.00	2.90
33.134	2	JAR DRESSING WITH COVER STAINLESS	4"DIAMx4"DEEP	120.00	3.96
33.135	1	CUP MEASURING WITH HANDLE STAINLESS	1000CC, GRADUATED	95.00	3.13
33.136	1	FUNNEL STAINLESS STEEL MOUTH 3x4.5"	MOUTH 3x4.5"	25.00	0.82
33.137	2	METAL BOWL LARGE 14"	DIAM 14"	320.00	10.55
33.141	2	KIDNEY TRAY METAL	81/4"x4"	130.00	4.29
33.142	4	TRAY ALUMINIUM ORDINARY	14"x10.5"x1"	128.00	4.22
33.152	2	DRESSING DRUM STAINLESS STEEL	8.5"x6"	470.00	15.50
33.171	2	PAIL WITH COVER PLASTIC	13"x13"	180.00	5.94
33.173	2	SOAP-BOX, 2-PIECE	95x65x35MM, PLASTIC	12.00	0.40
33.181	1	STERILIZER INSTRUMENT WITH COVER	STLSS 10"x5"x3.5"	175.75	5.80
33.193	240	PARAFORMALDEHYDE TABLETS	TAB 1000MG	240.00	7.92
33.311	24	CREPE BANDAGE ROLL	4.5Mx10CM	211.20	6.97
33.321	30	GAUZE BANDAGES 3"	ROLL, ONE DOZEN	480.00	15.83
33.331	9	ABSORBANT GAUZE FOR COMPRESSES	20 YARD	315.00	10.39
33.332	6	COTTON HYDROPHILIC ROLL	ROLL 300GMS	108.00	3.56
33.352	18	ADHESIVE TAPE 3"	ROLL	673.20	22.20
33.501	2	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM	9.00	0.30
33.503	300	MINI SOAP BAR	30 GMS BAR	585.00	19.29
33.603	30	GLOVES RUBBER BY PAIR	SIZE 7, 1 PAI	149.50	4.90
33.604	30	GLOVES RUBBER BY PAIR	SIZE 8, 1 PAIR	148.50	4.90
36.113	2	CATHETER URINARY FOLEY TYPE	16CH, 30ML	32.50	1.07
36.114	2	BAG COLLECTOR URINARY + DRAINAGE		13.90	0.46
36.124	2	TUBE NASO-GASTRIC	SIZE 12	16.20	0.53
37.122	6	CATGUT CHROMIC 2/0,75CM,WTH NEEDLE	NEEDLE 30MM,4/8,RND	81.72	2.70
37.212	4	SILK BRAIDED 3/0, 75CM, WTH NEEDLE	NEEDLE 28MM,3/8,CUT	44.68	1.47
41.629	3	WASH BOTTLE,	1 PC WHITE PLASTIC	330.00	10.88
41.729	3	GLYCEROL,SOLUTION	SOL 200ML	124.80	4.12
41.741	2	METHYLATED SPIRIT	SOL 200ML	16.00	0.53
95.501	1	RUCKSACK, NYLON	PIECE	150.00	4.95
99.121	4	"GREEN BOOK"	PIECE	140.00	4.62
99.301	3,000	PACKET FOR MEDICINE	CMx CM	228.00	7.52
99.303	30	PAPER PADS BLANK (3X4")	PAD OF 100PAGE	150.00	4.95
*** Total ***				35523.29	1171.61

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Management Sciences for Health / Peshawar
Clinic Resupply

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
1.202	2	LIDOCAINE TOPICAL GEL 2%	GEL 2%, TUB 15GR	14.90	0.49
1.203	25	LIDOCAINE 2% SOLUTION	AMP 10ML	100.00	3.30
2.111	8,000	ACETAMINOPHEN 500MG TABLETS	TAB 500MG	668.00	22.03
2.121	6,000	ACETYL SALICYLIC ACID 300MG TABLETS	TAB 300MG	249.00	8.21
2.123	1,000	INDOMETHACIN 25MG TABLET	TAB 25MG	200.00	6.60
2.141	15	PENTAZOCINE 30MG/ML SOLUTION	AMP 30MG x 1ML	214.38	7.07
2.142	100	PENTAZOCINE 25MG TABLETS	TAB 25MG	150.96	4.98
3.001	2,000	CHLORPHENIRAMINE MALEATE 4MG	TAB 4MG	29.60	0.98
3.002	2	PROMETHAZINE 25MG/ML SOLUTION	AMP 50MG x 2ML	5.20	0.17
3.003	60	PROMETHAZINE HCL 25MG TABLETS	TAB 25MG	4.32	0.14
5.001	5	DIAZEPAM 5MG/ML SOLUTION	AMP 10MG/2ML	91.47	3.02
6.101	600	MEBENDAZOLE 100MG TABLET	TAB 100MG	108.00	3.56
6.201	2,000	METRONIDAZOLE 200MG TABLET	TAB 200MG	508.00	16.75
6.310	30	AMPICILLIN SUSPENSION 125MG/5ML	POW 125MG	384.60	12.68
6.311	6,000	AMPICILLIN 250MG CAPSULES	CAP 250MG	6900.00	227.57
6.312	30	AMPICILLIN 500MG POWDER FOR INJECT.	POW 500MG/VIAL	171.00	5.64
6.313	12	BENZATHINE BENZYL PENICILLINE 1.2	POW 1.2MIU/VIAL	108.96	3.59
6.315	1,800	PHENOXYMETHYL PENICILLIN 250MG	TAB 250MG	994.50	32.80
6.316	30	PROCAINE PENICILLIN FORTIFIED	POW 300MG+60MG/VIAL	86.40	2.85
6.320	18	CHLORAMPHENICOL 125MG/5ML	BOT 125MG/ML	306.00	10.09
6.321	2,000	CHLORAMPHENICOL 250MG CAPSULES	CAP 250MG	1400.00	49.14
6.322	240	ERYTHROMYCIN 250MG TABLETS	TAB 250MG	408.00	13.46
6.324	3,000	TETRACYCLINE HCL 250MG CAPSULES	CAP 250MG	900.00	29.68
6.326	7,000	SULFAMETHOXAZOL 400+TRIMETHOPRIM 80	TAB 400MG+80MG	1995.00	65.80
6.328	60	SULFAMETHOXAZOL 200+TRIMETHOPRIM 40	SYR 200MG+40MG/5ML	306.00	10.09
6.329	12	CHLORAMPHENICOL POWDER FOR INJ 1GR	POW 1000MG/VIAL	160.80	5.30
6.501	60	NYSTATINE VAGINAL TABLET	TAB 100,000 IU	47.40	1.56
6.503	100	GRISEOFULVIN 500MG TAB	TAB 500MG	125.00	4.12
6.701	2,000	CHLOROQUINE 150MG BASE TABLETS	TAB 250MG=150MG BASE	420.00	13.85
10.101	12,000	FERROUS SULPHATE + FOLIC ACID	TAB 60MG+0.25MG	1224.00	40.37
12.301	400	TRIAMTERENE 50MG+THIAZIDE 25MG	TAB 50MG + 25MG	400.00	13.19
13.201	12	GENTIAN VIOLET,TOPICAL USE	POW 25GMS	144.00	4.75
13.203	12	NITROFURAZONE 0.2% CREAM	CRM 0.2%,28GR TUB	85.08	2.81
13.204	60	STERILE GAUZE IMPREGNATED PARAFINE	PACKET STERILE	39.60	1.31
13.301	30	HYDROCORTISONE ACETATE 1% SKIN	OMT 1%,5 GR TUB	90.00	2.97
13.601	18	BENZYL BENZOATE 25% EMULSION	EMN 25%,60ML BTL	102.60	3.38
15.001	10	CHLORHEXIDINE 1.5% + CETRIMIDE 15%	SOL 1.5%+15%, 1 LIT	470.00	15.50
15.003	1	POVIDONE-IODINE 10%	SOL 10%, 500ML	62.70	2.07
17.101	6,000	ALUMINIUM HYDROXYDE (COMP.) TABLET	TAB 400MG	456.00	15.04
17.301	12	ANTIHEMORRHOIDAL OINTMENT	OMT 10GR TUB	95.64	3.15
17.402	300	HYOSCINE-N-BUTYLBROMIDE 10MG TAB	TAB 10MG	179.25	5.91
17.621	240	ORAL REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE	547.20	18.05
21.191	150	OXYTETRACYCLINE 1% EYE OINTMENT	OMT 1%, 3.5MG TUB	334.50	11.03
22.002	100	ERGOMETRINE MALEATE 0.125MG TABLETS	TAB 0.125MG	65.00	2.14
25.101	10	AMINOPHYLLINE 25MG/ML	AMP 25MG/ML, 10ML	26.26	0.87
25.102	1,500	AMINOPHYLLINE 100MG	TAB 100MG	147.00	4.85
25.104	5	EPINEPHRINE 1MG/1ML	AMP 1MG/1ML	3.50	0.12
26.202	12	RINGER LACTATE	SOL COMP 500ML	357.00	11.77

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Management Sciences for Health / Peshawar
Clinic Resupply

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
26.203	30	SODIUM CHLORIDE 0.9% SOLUTION	SOL 0.9%, 1000ML	690.00	22.76
26.204	200	WATER FOR INJECTIONS	AMP 5ML	110.00	3.63
27.101	600	RETINOL 50,000 IU	TAB 50,000IU	252.00	8.31
28.301	6	BUCCAL THERMOMETER F+C	PIECE	156.00	5.15
28.412	3	BULB FOR OTOSCOPE	PIECE	60.00	1.98
28.413	12	BATTERIES FOR OTOSCOPE	D-TYPE, 1.5V	40.80	1.35
28.703	3	VASELINE WHITE	500MG/JAR	72.00	2.37
29.126	4	SYRINGE HYPO, 50CC, LUER DISPOSABLE	50CC	27.80	0.92
29.132	30	SYRINGE HYPO LUER DISP.2CC,WITH NED	2CC,0.1CC GRADUATED	45.00	1.48
29.133	120	SYRINGE HYPO LUER DISP.5CC,WITH NEE	5CC,0.2CC GRADUATE	180.00	5.94
29.134	10	SYRINGE WUTH NEEDLE,10CC,DISPOSABL	10CC, .2CC GRADUATED	23.00	0.76
29.222	100	NEEDLE, HYPO, LUER, DISPOSABLE 23G	23G(or 24G) x 1.1/4"	49.50	1.63
29.224	100	NEEDLE, HYPO, LUER, DISPOSABLE 19G	19G(or 20G) x 1.5"	49.50	1.63
29.312	5	BUTTERFLY NEEDLE SCALP VEIN 23G	23G(or 22G	17.50	0.58
29.322	5	CANNULA INTRAVENOUS LUER 20G	20G(or 19G) x 1-5/8"	81.25	2.68
32.121	1	BLADES FOR SCALPEL, NO.10	PACKET OF 100	194.00	6.40
32.305	24	RAZOR BLAD DOUBLE EDGE LOCAL.QUAL	PKT OF 5	72.48	2.39
33.101	240	PARAFORMALDEHYDE TABLETS	TAB 1000MG	240.00	7.92
33.311	24	CREPE BANDAGE ROLL	4.5Mx10CM	211.20	6.97
33.321	30	GAUZE BANDAGES 3"	ROLL, ONE DOZEN	480.00	15.83
33.331	3	ABSORBANT GAUZE FOR COMPRESSES	20 YARD	315.00	10.39
33.332	6	COTTON HYDROPHILIC ROLL	ROLL 300GMS	108.00	3.56
33.352	18	ADHESIVE TAPE 3"	ROLL	673.20	22.20
33.501	2	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM	9.00	0.30
33.503	300	MINI SOAP BAR	30 GMS BAR	585.00	19.29
33.603	30	GLOVES RUBBER BY PAIR	SIZE 7, 1 PAI	148.50	4.90
33.604	30	GLOVES RUBBER BY PAIR	SIZE 8, 1 PAIR	148.50	4.90
36.113	2	CATHETER URINARY FOLEY TYPE	16CH, 30ML	32.50	1.07
36.114	2	BAG COLLECTOR URINARY + DRAINAGE		13.90	0.46
36.124	2	TUBE NASO-GASTRIC	SIZE 12	16.20	0.53
37.122	6	CATGUT CHROMIC 2/0,75CM,WTH NEEDLE	NEEDLE 30MM,4/8,RND	81.72	2.70
37.212	4	SILK BRAIDED 3/0, 75CM, WTH NEEDLE	NEEDLE 28MM,3/8,CUT	44.58	1.47
41.729	3	GLYCEROL,SOLUTION	SOL 200ML	124.80	4.12
41.741	2	METHYLATED SPIRIT	SOL 200ML	16.00	0.53
99.121	4	"GREEN BOOK"	PIECE	140.00	4.62
99.301	3,000	PACKET FOR MEDICINE	CMx CM	228.00	7.52
99.303	30	PAPER PADS BLANK (3X4")	PAD OF 100PAGE	150.00	4.95
*** Total ***				27863.94	919.00

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Management Sciences for Health / Peshawar
Small Hospital Initial Supply

Product Identi-fication Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
1.101	40	KETAMINE 50MG/ML SOLUTION	VIAL 250MG x 5ML	2516.00	82.98
1.202	2	LIDOCAINE TOPICAL GEL 2%	GEL 2%, TUB 15GR	14.90	0.49
1.203	100	LIDOCAINE 2% SOLUTION	AMP 10ML	400.36	13.20
2.111	15,000	ACETAMINOPHEN 500MG TABLETS	TAB 500MG	1336.00	44.06
2.121	12,000	ACETYL SALICYLIC ACID 300MG TABLETS	TAB 300MG	498.00	16.42
2.123	2,000	INDOMETHACIN 25MG TABLET	TAB 25MG	400.00	13.19
2.141	60	PENTAZOCINE 30MG/ML SOLUTION	AMP 30MG x 1ML	857.52	28.28
2.142	400	PENTAZOCINE 25MG TABLETS	TAB 25MG	603.84	19.92
3.001	4,000	CHLORPHENIRAMINE MALEATE 4MG	TAB 4MG	59.20	1.95
3.002	10	PROMETHAZINE 25MG/ML SOLUTION	AMP 50MG x 2ML	26.00	0.86
3.003	60	PROMETHAZINE HCL 25MG TABLETS	TAB 25MG	4.32	0.14
5.001	100	DIAZEPAM 5MG/ML SOLUTION	AMP 10MG/2ML	1829.40	60.34
5.002	1,000	PHENOBARBITAL 30MG TABLET	TAB 30MG	170.00	5.61
5.007	1,000	DIAZEPAM 5MG TABLETS	TAB 5MG	30.00	0.99
6.101	1,000	MEBENDAZOLE 100MG TABLET	TAB 100MG	180.00	5.94
6.291	4,000	METRONIDAZOLE 200MG TABLET	TAB 200MG	1016.00	33.51
6.310	60	AMPICILLIN SUSPENSION 125MG/5ML	POW 125MG	769.20	25.37
6.311	8,000	AMPICILLIN 250MG CAPSULES	CAP 250MG	9200.00	303.43
6.312	150	AMPICILLIN 500MG POWDER FOR INJECT.	POW 500MG/VIAL	855.00	28.20
6.313	24	BENZATHINE BENZYL PENICILLINE 1.2	POW 1.2MIU/VIAL	217.92	7.19
6.315	3,600	PHENOXYMETHYL PENICILLIN 250MG	TAB 250MG	1989.00	65.60
6.316	60	PROCAINE PENICILLIN FORTIFIED	POW 300MG+60MG/VIAL	172.80	5.70
6.320	36	CHLORAMPHENICOL 125MG/5ML	BOT 125MG/ML	612.00	20.18
6.321	4,000	CHLORAMPHENICOL 250MG CAPSULES	CAP 250MG	2980.00	98.28
6.322	500	ERYTHROMYCIN 250MG TABLETS	TAB 250MG	850.00	28.03
6.324	8,000	TETRACYCLINE HCL 250MG CAPSULES	CAP 250MG	2400.00	79.16
6.326	10,000	SULFAMETHOXAZOL 400+TRIMETHOPRIM 80	TAB 400MG+80MG	2850.00	94.00
6.328	120	SULFAMETHOXAZOL 200+TRIMETHOPRIM 40	SYR 200MG+40MG/5ML	612.00	20.18
6.329	30	CHLORAMPHENICOL POWDER FOR INJ 1GR	POW 1000MG/VIAL	402.00	13.26
6.501	120	NYSTATINE VAGINAL TABLET	TAB 100,000 IU	94.80	3.13
6.503	200	GRISEOFULVIN 500MG TAB	TAB 500MG	250.00	8.25
6.701	4,000	CHLOROQUINE 150MG BASE TABLETS	TAB 250MG=150MG BASE	840.00	27.70
10.101	24,000	FERROUS SULPHATE + FOLIC ACID	TAB 60MG+0.25MG	2448.00	80.74
12.202	200	PROPRANOLOL 40MG TABLETS	TAB 40MG	71.40	2.35
12.301	800	TRIAMTERENE 50MG+THIAZIDE 25MG	TAB 50MG + 25MG	800.00	26.39
12.305	100	NITROGLYCERINE 5MG TABLET	TAB 5MG	7.12	0.23
12.401	50	DIGOXIN 0.25MG TABLETS	TAB 0,25MG	9.10	0.30
13.201	24	GENTIAN VIOLET,TOPICAL USE	POW 25GMS	288.00	9.50
13.203	24	NITROFURAZONE 0.2% CREAM	CRM 0.2%,28GR TUB	170.16	5.61
13.204	300	STERILE GAUZE IMPREGNATED PARAFINE	PACKET STERILE	198.00	6.53
13.331	60	HYDROCORTISONE ACETATE 1% SKIN	OMT 1%,5 GR TUB	180.00	5.94
13.601	36	BENZYL BENZOATE 25% EMULSION	EMN 25%,60ML BTL	205.20	6.77
15.001	20	CHLORHEXIDINE 1.5% + CETRIMIDE 15%	SOL 1.5%+15%, 1 LIT	940.00	31.00
15.003	2	POVIDONE-IODINE 10%	SOL 10%, 500ML	125.40	4.14
16.001	24	FUROSEMIDE 10MG/ML INJECTABLE	AMP 20MG X 2ML	53.57	1.77
16.002	120	FUROSEMIDE 40MG TABLETS	TAB 40MG	54.00	1.78
17.101	12,000	ALUMINIUM HYDROXYDE (COMP.) TABLET	TAB 400MG	912.00	30.08
17.301	24	ANTIHEMORRHOIDAL OINTMENT	OMT 10GR TUB	191.28	6.31

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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
17.401	30	HYOSCINE-N-BUTYLBROMIDE 20MG/ML SOL	AMP 40MG x 2ML	44.80	1.48
17.402	300	HYOSCINE-N-BUTYLBROMIDE 10MG TAB	TAB 10MG	179.25	5.91
17.403	80	ATROPINE SULPHATE 1MG/ML SOLUTION	AMP 1MG x 1ML	59.20	1.95
17.405	100	BISACODYL 5MG TABLET	TAB 5MG	11.00	0.36
17.621	500	ORAL REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE	1140.00	37.60
18.101	500	PREDNISOLONE 5MG TABLETS	TAB 5MG	110.00	3.63
18.104	120	DESOGESTREL+ETHINYLESTRADIOL	TAB 28 PER PACK	3240.00	106.86
18.107	50	DEXAMETHASONE 4MG/ML SOLUTION	AMP 4MG/ML	312.74	10.31
21.101	300	OXYTETRACYCLINE 1% EYE OINTMENT	OMT 1%, 3.5MG TUB	669.00	22.06
22.001	100	ERGOMETRINE MALEATE 0.2MG/ML	AMP 0.2MG X 1ML	214.08	7.06
22.002	200	ERGOMETRINE MALEATE 0.125MG TABLETS	TAB 0.125MG	130.00	4.29
25.101	30	AMINOPHYLLINE 25MG/ML	AMP 25MG/ML, 10ML	78.79	2.60
25.102	3,000	AMINOPHYLLINE 100MG	TAB 100MG	294.00	9.70
25.104	30	EPINEPHRINE 1MG/1ML	AMP 1MG/1ML	21.00	0.69
26.201	12	DEXTROSE 25%	SOL 25%, 20ML	24.00	0.79
26.202	24	RINGER LACTATE	SOL COMP 500ML	714.00	23.55
26.203	60	SODIUM CHLORIDE 0.9% SOLUTION	SOL 0.9%, 1000ML	1380.00	45.51
26.204	400	WATER FOR INJECTIONS	AMP 6ML	220.00	7.26
26.205	2	DEXTRAN 70, 6% W/V IN NORMAL SALINE	SOL 500ML	190.00	6.27
26.207	30	DEXTROSE 5% IN SALINE 0.45%	BOT 1000ML	570.00	18.80
27.101	1,200	RETINOL 50,000 IU	TAB 50,000IU	504.00	16.62
28.101	4	STETHOSCOPE	PIECE	480.00	15.83
28.201	4	SPHYGMOMANOMETER ADULT	PIECE	1320.00	43.54
28.301	6	BUCCAL THERMOMETER F+C	PIECE	156.00	5.15
28.301	12	BUCCAL THERMOMETER F+C	PIECE	312.00	10.29
28.411	2	OTOSCOPE WITH DIAGONOSTIC HEAD	+SPARE BULB	1100.00	36.28
28.412	6	BULB FOR OTOSCOPE	PIECE	120.00	3.96
28.413	24	BATTERIES FOR OTOSCOPE	D-TYPE, 1.5V	81.60	2.69
28.511	1	SPECULUM VAGINAL GRAVES, SMALL	SMALL SIZE	60.00	1.98
28.512	1	SPECULUM VAGINAL GRAVES, MEDIUM	MEDIUM SIZE	42.00	1.39
28.513	1	SPECULUM VAGINAL GRAVES, LARGE	LARGE SIZE	45.00	1.48
28.531	6	TONGUE DEPRESSOR METAL	165MM	96.00	3.17
28.532	6	TONGUE DEPRESSOR CHILD	CHILD	72.00	2.37
28.612	2	MEASURING TAPE 60CM	TAP 60CM	8.00	0.26
28.621	1	WEIGHT SCALE ADULT, BATHROOM TYPE	140KG, 100MG	75.00	2.47
28.622	1	SCALE WITH 5 TROUSERS INFANT	SALTER TYPE 25KG	280.00	9.23
28.701	2	HAMMER REFLEX TESTING		30.00	0.99
28.703	6	VASELINE WHITE	500MG/JAR	144.00	4.75
29.112	5	SYRINGE HYPO, LUER LOCK, GLASS 2CC	GLASS SYRINGE 2CC	242.50	8.00
29.113	10	SYRINGE HYPO, LUER LOCK, GLASS 5CC	GLASS SYRINGE 5CC	465.00	15.34
29.114	5	SYRINGE HYPO, LUER LOCK, GLASS 10CC	GLASS SYRINGE 10CC	275.00	9.07
29.126	6	SYRINGE HYPO, 50CC, LUER DISPOSABLE	50CC	41.70	1.38
29.132	450	SYRINGE HYPO LUER DISP.2CC,WITH NED	2CC,0.1CC GRADUATED	675.00	22.26
29.133	450	SYRINGE HYPO LUER DISP.5CC,WITH NEE	5CC,0.2CC GRADUATE	675.00	22.26
29.134	50	SYRINGE WUTH NEEDLE,10CC,DISPOSABL	10CC, .2CC GRADUATED	115.00	3.79
29.222	300	NEEDLE, HYPO, LUER, DISPOSABLE 23G	23G(or 24G) x 1.1/4"	148.50	4.90
29.224	300	NEEDLE, HYPO, LUER, DISPOSABLE 19G	19G(or 20G) x 1.5"	148.50	4.90
29.312	10	BUTTERFLY NEEDLE SCALP VEIN 23G	23G(or 22G	35.00	1.15

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29.322	15	CANNULA INTRAVENOUS LUER 20G	20G(or 19G) x 1-5/8"	243.75	8.04
29.602	6	TOURNIQUET LATEX RUBBER FOR INFUSIO	75CM x 1.5CM	51.00	1.68
29.603	2	ARM CIRCIMFERENCE TAPE	PIRCE	12.00	0.40
29.604	8	BRUSH FOR SYRINGES		32.00	1.06
29.605	1	CUTTING PLIERS		15.00	0.49
31.225	4	SHEETING, PLASTIC.	910 X 1800MM	300.00	9.89
31.311	2	AIRWAY GUEDEL RUBBER	ADULT SIZE 82MM	40.00	1.32
31.312	2	AIRWAY GUEDEL RUBBER	CHILD SIZE 67MM	40.00	1.32
32.111	7	SCALPEL HOLDER NO.3	NO.3	56.00	1.85
32.112	1	SCALPEL HANDLE NR 4		8.00	0.26
32.121	1	BLADES FOR SCALPEL, NO.10	PACKET OF 100	194.00	6.40
32.123	1	BLADES FOR SCALPEL N=20, PACKET	PACKET OF 100	185.00	6.10
32.201	2	RAZOR SAFETY, ALL METAL		15.60	0.51
32.205	24	RAZOR BLAD DOUBLE EDGE LOCAL.QUAL	PKT OF 5	72.48	2.39
32.215	1	PLASTER SHEARS	PIESE	45.00	1.48
32.312	6	OPERATING SCISSORS BLUNT/SHARP	STRAIGHT 10CM	90.00	2.97
32.314	1	OPERATING SCISSORS BLUNT/BLUNT	STRAIGHT 14.5CM	18.00	0.59
32.321	6	MAYO DISSECTING SCISSORS BLUNT	CURVED 15CM	150.00	4.95
32.322	1	MAYO DISSECTING SCISSORS BLUNT	STRAIGHT, 15CM	25.00	0.82
32.411	6	DRESSING FORCEPS, THUMB, BROAD	THUMB, BROAD 10CM	150.00	4.95
32.412	1	DRESSING FORCEPS, THUMB, BROAD	THUMB, BROAD 16CM	15.00	0.49
32.413	6	TISSUE FORCEPS, TOOTHED 2x3	TOOTHED 2x3, 11.5CM	90.00	2.97
32.414	1	TISSUE FORCEPS, TOOTHED 2x3, 18CM	TOOTHED 2x3, 18CM	22.00	0.73
32.417	3	HUNTER SPLINTER FORCEPS	ANGLED 10.5CM	60.00	1.98
32.421	12	FORCEPS HALSTEAD MOSQUITO, STRAIGHT	STRAIGHT 12.5CM	300.00	9.89
32.422	18	FORCEPS HALSTEAD MOSQUITO, CURVED	CURVED 12.5CM	360.00	11.87
32.423	8	FORCEPS HEMOSTATIC KELLY, STRAIGHT	STRAIGHT 14CM	240.00	7.92
32.424	18	FORCEPS HEMOSTATIC KELLY, CURVED	CURVED 14CM	540.00	17.81
32.427	4	FORCEPS HEMOSTATIC KOCHER, STRAIGHT	STRAIGHT 14CM	126.00	4.16
32.451	3	FORCEPS SPONGE HOLDING RAMPLEY	25CM	141.00	4.65
32.501	6	TOWEL CLAMPS BACKAUS 13CM		168.00	5.54
32.611	6	FARABEUF RETRACTORS SET OF TWO	28X16MM, 15CM, SET	189.00	6.23
32.623	2	RETRACTOR DEAVER, 23CM x 25MM	23CM LONG,25MM BROAD	111.00	3.66
32.668	2	RETRACTOR SENN-MUELLER, DOUBLE END	BLUNT, 3 PRONG, 16CM	90.00	2.97
32.711	6	PROBE DOUBLE ENDED	DIAMETRE 2MM	60.00	1.98
32.721	2	MAYO'S FORCEPS HOLDER	14CM	40.00	1.32
32.811	6	NEEDLE HOLDER COLLIER	12,5 CM	210.00	6.93
32.812	1	NEEDLE HOLDER MAYO-HEGAR 20CM	STRAIGHT 20CM	40.50	1.34
32.822	1	SET OF STRAIGHT NEEDLES, CUTTING	SET OF SIX	15.00	0.49
32.824	1	SET OF CURVED NEEDLES, CUTTING	SET OF SIX	15.00	0.49
32.901	10	STAINLESS STEEL BOX 8"x3".	8"x3"	1000.00	32.99
32.902	1	STAINLESS STEEL BOX 14" LONG		225.00	7.42
33.111	3	LISTER BANDAGE SCISSORS, ANGULAR	ANGULAR 18CM	90.00	2.97
33.115	3	NAIL CUTTER		30.00	0.99
33.131	3	FORCEPS JAR	6"DEEP+2.5"WIDE	150.00	4.95
33.132	6	ROUND BOWL STAINLESS STEEL	2.5"DIAMx2"DEEP	132.00	4.35
33.133	6	SPONGE BOWL STAINLESS STEEL	6"DIAMx2"DEEP	208.50	6.88
33.134	3	JAR DRESSING WITH COVER STAINLESS	4"DIAMx4"DEEP	180.00	5.94

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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
33.135	2	CUP MEASURING WITH HANDLE STAINLESS	1000CC, GRADUATED	190.00	6.27
33.136	1	FUNNEL STAINLESS STEEL MOUTH 3x4.5"	MOUTH 3x4.5"	25.00	0.82
33.137	4	METAL BOWL LARGE 14"	DIAM 14"	640.00	21.11
33.141	7	KIDNEY TRAY METAL	81/4"x4"	455.00	15.01
33.142	6	TRAY ALUMINIUM ORDINARY	14"x10.5"x1"	192.00	6.33
33.152	10	DRESSING DRUM STAINLESS STEEL	8.5"x6"	2350.00	77.51
33.171	6	PAIL WITH COVER PLASTIC	13"x13"	540.00	17.81
33.173	6	SOAP-BOX, 2-PIECE	95x65x35MM, PLASTIC	36.00	1.19
33.181	2	STERILIZER INSTRUMENT WITH COVER	STLSS 10"x5"x3.5"	351.50	11.59
33.191	2	PRESSURE COOKER, 10LIT	10LIT	590.00	19.46
33.193	600	PARAFORMALDEHYDE TABLETS	TAB 1000MG	600.00	19.79
33.212	150	PLASTER OF PARIS,15CM ROLL	ROLL 15CM	2727.00	89.94
33.311	144	CREPE BANDAGE ROLL	4.5Mx10CM	1267.20	41.79
33.321	96	GAUZE BANDAGES 3"	ROLL, ONE DOZEN	1536.00	50.66
33.331	40	ABSORBANT GAUZE FOR COMPRESSES	20 YARD	1400.00	46.17
33.332	40	COTTON HYDROPHILIC ROLL	ROLL 300GMS	720.00	23.75
33.341	40	TRIANGULAR BANDAGE	100CM SIDES.	184.00	6.07
33.352	30	ADHESIVE TAPE 3"	ROLL	1122.00	37.01
33.501	10	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM	45.00	1.48
33.503	600	MINI SOAP BAR	30 GMS BAR	1170.00	38.59
33.603	50	GLOVES RUBBER BY PAIR	SIZE 7, 1 PAI	247.50	8.16
33.604	50	GLOVES RUBBER BY PAIR	SIZE 8, 1 PAIR	247.50	8.16
36.111	3	CATHETER URINARY FOLEY TYPE	12CH,30ML	48.75	1.61
36.113	7	CATHETER URINARY FOLEY TYPE	16CH, 30ML	113.75	3.75
36.114	10	BAG COLLECTOR URINARY + DRAINAGE		69.50	2.29
36.115	100	CONDOMS STERILE	PKT 4	185.00	6.10
36.121	3	TUBE NASOGASTRIC	SIZE 8	17.40	0.57
36.123	6	TUBE NASO-GASTRIC	SIZE 18	48.60	1.60
36.124	6	TUBE NASO-GASTRIC	SIZE 12	48.60	1.60
36.141	2	TUBE RECTAL ONE-EYE FUNNEL-END	24FR 500MM RBR	20.00	0.66
36.143	1	ENEMA CAN	PIECE	60.00	1.98
36.145	2	URINAL	PIECE	40.00	1.32
36.147	3	STOOL POT	PIECE	60.00	1.98
36.221	20	PENDROSE DRAIN 1" DIAMETER	1" DIAMETER	1040.00	34.30
37.122	20	CATGUT CHROMIC 2/0,75CM,WTH NEEDLE	NEEDLE 30MM,4/8,RND	272.40	8.98
37.123	10	CATGUT CHROME 1, 75CM WITH NEEDLE	NDL 40MM,4/8 CVD,RND	136.20	4.49
37.212	15	SILK BRAIDED 3/0, 75CM, WTH NEEDLE	NEEDLE 28MM,3/8,CUT	167.55	5.53
37.215	10	SILK REEL 1		106.00	3.50
39.111	1	AMPUTATION SAW SATTERLEE, 31CM	31CM	200.00	6.60
39.411	1	BONE FILE 20CM	20CM	200.00	6.60
39.421	1	RASPATORY FARABOEUF, CVD, 15CM	CURVED 15CM	55.00	1.81
39.521	1	LANGE-HOLZMANN BONE LEVER 27CM		53.00	1.75
39.531	1	FERGUSON BONE HOLDING FORCEPS	21CM	165.00	5.44
39.611	1	FORCEPS BONE RONGEUR JANSSENS 18CM	18CM	423.00	13.95
39.711	1	LISTON BONE CUTTING FORCEPS CURVED	CURVED, 19CM	150.00	4.95
41.623	6	WASH BOTTLE,	1 PC WHITE PLASTIC	660.00	21.77
41.722	6	GLYCEROL,SOLUTION	SOL 200ML	249.60	8.23
41.741	6	METHYLATED SPIRIT	SOL 200ML	48.00	1.58

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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
05.501	1	RUCKSACK, NYLON	PIECE	150.00	4.95
03.121	6	"GREEN BOOK"	PIECE	210.00	6.93
03.301	6,000	PACKET FOR MEDICINE	CMx CM	456.00	15.04
03.303	60	PAPER PADS BLANK (3X4")	PAD OF 100PAGE	300.00	9.89
*** Total ***				88018.03	2902.97

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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
1.101	40	KETAMINE 50MG/ML SOLUTION	VIAL 250MG x 5ML	2515.00	82.98
1.202	2	LIDOCAINE TOPICAL GEL 2%	GEL 2%, TUB 15GR	14.90	0.49
1.203	100	LIDOCAINE 2% SOLUTION	AMP 10ML	400.36	13.20
2.111	16,000	ACETAMINOPHEN 500MG TABLETS	TAB 500MG	1336.00	44.06
2.121	12,000	ACETYL SALICYLIC ACID 300MG TABLETS	TAB 300MG	498.00	16.42
2.123	2,000	INDOMETHACIN 25MG TABLET	TAB 25MG	400.00	13.19
2.141	60	PENTAZOCINE 30MG/ML SOLUTION	AMP 30MG x 1ML	857.52	28.28
2.142	400	PENTAZOCINE 25MG TABLETS	TAB 25MG	603.84	19.92
3.001	4,000	CHLORPHENIRAMINE MALEATE 4MG	TAB 4MG	59.20	1.95
3.002	10	PROMETHAZINE 25MG/ML SOLUTION	AMP 50MG x 2ML	26.00	0.86
3.003	60	PROMETHAZINE HCL 25MG TABLETS	TAB 25MG	4.32	0.14
5.001	100	DIAZEPAM 5MG/ML SOLUTION	AMP 10MG/2ML	1829.40	60.34
5.002	1,000	PHENOBARBITAL 30MG TABLET	TAB 30MG	170.00	5.61
5.007	1,000	DIAZEPAM 5MG TABLETS	TAB 5MG	30.00	0.99
6.101	1,000	MEBENDAZOLE 100MG TABLET	TAB 100MG	180.00	5.94
6.201	1,000	METRONIDAZOLE 200MG TABLET	TAB 200MG	1016.00	33.51
6.310	60	AMPICILLIN SUSPENSION 125MG/5ML	POW 125MG	769.20	25.37
6.311	8,000	AMPICILLIN 250MG CAPSULES	CAP 250MG	9200.00	303.43
6.312	150	AMPICILLIN 500MG POWDER FOR INJECT.	POW 500MG/VIAL	855.00	28.20
6.313	24	BENZATHINE BENZYL PENICILLINE 1.2	POW 1.2MIU/VIAL	217.92	7.19
6.315	3,600	PHENOXYMETHYL PENICILLIN 250MG	TAB 250MG	1989.00	65.60
6.318	60	PROCAINE PENICILLIN FORTIFIED	POW 300MG+60MG/VIAL	172.80	5.70
6.320	36	CHLORAMPHENICOL 125MG/5ML	BOT 125MG/ML	612.00	20.18
6.321	4,000	CHLORAMPHENICOL 250MG CAPSULES	CAP 250MG	2980.00	98.28
6.322	500	ERYTHROMYCIN 250MG TABLETS	TAB 250MG	850.00	28.03
6.324	8,000	TETRACYCLINE HCL 250MG CAPSULES	CAP 250MG	2400.00	79.16
6.325	10,000	SULFAMETHOXAZOL 400+TRIMETHOPRIM 80	TAB 400MG+80MG	2850.00	94.00
6.328	120	SULFAMETHOXAZOL 200+TRIMETHOPRIM 40	SYR 200MG+40MG/5ML	612.00	20.18
6.329	30	CHLORAMPHENICOL POWDER FOR INJ 1GR	POW 1000MG/VIAL	402.00	13.26
6.501	120	NYSTATINE VAGINAL TABLET	TAB 100,000 IU	94.80	3.13
6.503	200	GRISEOFULVIN 500MG TAB	TAB 500MG	250.00	8.25
6.701	4,000	CHLOROQUINE 150MG BASE TABLETS	TAB 250MG=150MG BASE	840.00	27.70
10.101	24,000	FERROUS SULPHATE + FOLIC ACID	TAB 60MG+0.25MG	2448.00	80.74
12.202	200	PROPRANOLOL 40MG TABLETS	TAB 40MG	71.40	2.35
12.301	800	TRIAMTERENE 50MG+THIAZIDE 25MG	TAB 50MG + 25MG	800.00	26.39
12.305	100	NITROGLYCERINE 5MG TABLET	TAB 5MG	7.12	0.23
12.401	50	DIGOXIN 0.25MG TABLETS	TAB 0,25MG	9.10	0.30
13.201	24	GENTIAN VIOLET,TOPICAL USE	POW 25GMS	288.00	9.50
13.203	24	NITROFURAZONE 0.2% CREAM	CRM 0.2%,28GR TUB	170.16	5.61
13.204	300	STERILE GAUZE IMPREGNATED PARAFINE	PACKET STERILE	198.00	6.53
13.301	60	HYDROCORTISONE ACETATE 1% SKIN	OMT 1%,5 GR TUB	180.00	5.94
13.601	36	BENZYL BENZOATE 25% EMULSION	EMN 25%,60ML BTL	205.20	6.77
15.001	20	CHLORHEXIDINE 1.5% + CETRIMIDE 15%	SOL 1.5%+15%, 1 LIT	940.00	31.00
15.003	2	POVIDONE-IODINE 10%	SOL 10%, 500ML	125.40	4.14
16.001	24	FUROSEMIDE 10MG/ML INJECTABLE	AMP 20MG X 2ML	53.57	1.77
16.002	120	FUROSEMIDE 40MG TABLETS	TAB 40MG	54.00	1.78
17.101	12,000	ALUMINIUM HYDROXYDE (COMP.) TABLET	TAB 400MG	912.00	30.08
17.301	24	ANTIHEMORRHOIDAL OINTMENT	OMT 10GR TUB	191.28	6.31

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Management Sciences for Health / Peshawar
Small Hospital Resupply

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
17.401	30	HYOSCINE-N-BUTYLBROMIDE 20MG/ML SOL	AMP 40MG x 2ML	44.80	1.48
17.402	300	HYOSCINE-N-BUTYLBROMIDE 10MG TAB	TAB 10MG	179.25	5.91
17.403	80	ATROPINE SULPHATE 1MG/ML SOLUTION	AMP 1MG x 1ML	59.20	1.95
17.405	100	BISACODYL 5MG TABLET	TAB 5MG	11.00	0.36
17.621	500	ORAL REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE	1140.00	37.60
18.101	500	PREDNISOLONE 5MG TABLETS	TAB 5MG	110.00	3.63
18.104	120	DESOGESTREL+ETHINYLESTRADIOL	TAB 28 PER PACK	3240.00	106.86
18.107	50	DEXAMETHASONE 4MG/ML SOLUTION	AMP 4MG/ML	312.74	10.31
21.101	300	OXYTETRACYCLINE 1% EYE OINTMENT	OMT 1%, 3.5MG TUB	669.00	22.06
22.001	100	ERGOMETRINE MALEATE 0.2MG/ML	AMP 0.2MG x 1ML	214.08	7.06
22.002	200	ERGOMETRINE MALEATE 0.125MG TABLETS	TAB 0.125MG	130.00	4.29
25.101	30	AMINOPHYLLINE 25MG/ML	AMP 25MG/ML, 10ML	78.79	2.60
25.102	3,000	AMINOPHYLLINE 100MG	TAB 100MG	294.00	9.70
25.104	30	EPINEPHRINE 1MG/1ML	AMP 1MG/1ML	21.00	0.69
26.201	12	DEXTROSE 25%	SOL 25%, 20ML	24.00	0.79
26.202	24	RINGER LACTATE	SOL COMP 500ML	714.00	23.55
26.203	60	SODIUM CHLORIDE 0.9% SOLUTION	SOL 0.9%, 1000ML	1380.00	45.51
26.204	400	WATER FOR INJECTIONS	AMP 6ML	220.00	7.26
26.205	2	DEXTRAN 70, 6% W/V IN NORMAL SALINE	SOL 500ML	190.00	6.27
26.207	30	DEXTROSE 5% IN SALINE 0.45%	BOT 1000ML	570.00	18.80
27.101	1,200	RETINOL 50,000 IU	TAB 50,000IU	504.00	16.62
29.301	6	BUCCAL THERMOMETER FIC	PIECE	156.00	5.15
29.412	6	BULB FOR OTOSCOPE	PIECE	120.00	3.96
29.413	24	BATTERIES FOR OTOSCOPE	D TYPE, 1.5V	81.60	2.69
29.703	6	VASELINE WHITE	500MG/JAR	144.00	4.75
29.126	6	SYRINGE HYPO, 50CC, LUER DISPOSABLE	50CC	41.70	1.38
29.132	450	SYRINGE HYPO LUER DISP.2CC,WITH NED	2CC,0.1CC GRADUATED	675.00	22.26
29.133	450	SYRINGE HYPO.LUER DISP.5CC,WITH NEE	5CC,0.2CC GRADUATE	675.00	22.26
29.134	50	SYRINGE WUTH NEEDLE,10CC,DISPOSABL	10CC, .2CC GRADUATED	115.00	3.79
29.222	300	NEEDLE, HYPO, LUER, DISPOSABLE 23G	23G(or 24G) x 1.1/4"	148.50	4.90
29.223	300	NEEDLE, HYPO, LUER, DISPOSABLE 19G	19G(or 20G) x 1.5"	148.50	4.90
29.312	10	BUTTERFLY NEEDLE SCALP VEIN 23G	23G(or 22G	35.00	1.15
29.322	15	CANNULA INTRAVENOUS LUER 20G	20G(or 19G) x 1-5/8"	243.75	8.04
32.121	1	BLADES FOR SCALPEL, NO.10	PACKET OF 100	194.00	6.40
32.123	1	BLADES FOR SCALPEL N=20, PACKET	PACKET OF 100	185.00	6.10
32.205	24	RAZOR BLAD DOUBLE EDGE LOCAL.QUAL	PKT OF 5	72.48	2.39
33.193	600	PARAFORMALDEHYDE TABLETS	TAB 1000MG	600.00	19.79
33.212	150	PLASTER OF PARIS,15CM ROLL	ROLL 15CM	2727.00	89.94
33.311	144	CREPE BANDAGE ROLL -	4.5Mx10CM	1267.20	41.79
33.321	96	GAUZE BANDAGES 3"	ROLL, ONE DOZEN	1536.00	50.66
33.331	40	ABSORBANT GAUZE FOR COMPRESSES	20 YARD	1400.00	46.17
33.332	40	COTTON HYDROPHILIC ROLL	ROLL 300GMS	720.00	23.75
33.341	40	TRIANGULAR BANDAGE	100CM SIDES	184.00	6.07
33.352	30	ADHESIVE TAPE 3"	ROLL	1122.00	37.01
33.501	10	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM	45.00	1.48
33.503	600	MINI SOAP BAR	30 GMS BAR	1170.00	38.59
33.603	50	GLOVES RUBBER BY PAIR	SIZE 7, 1 PAI	247.50	8.16
33.604	50	GLOVES RUBBER BY PAIR	SIZE 8, 1 PAIR	247.50	8.16

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Management Sciences for Health / Peshawar
Small Hospital Resupply

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
36.111	3	CATHETER URINARY FOLEY TYPE	12CH,30ML	48.75	1.61
36.113	7	CATHETER URINARY FOLEY TYPE	16CH, 30ML	113.75	3.75
36.114	10	BAG COLLECTOR URINARY + DRAINAGE		69.50	2.29
36.115	100	CONDOMS STERILE	PKT 4	185.00	6.10
36.121	3	TUBE NASOGASTRIC	SIZE 8	17.40	0.57
36.123	6	TUBE NASO-GASTRIC	SIZE 18	48.60	1.60
36.124	6	TUBE NASO-GASTRIC	SIZE 12	48.60	1.60
36.141	2	TUBE RECTAL ONE-EYE FUNNEL-END	24FR 500MM RBR	20.00	0.66
36.221	20	PENDROSE DRAIN 1" DIAMETER	1" DIAMETER	1040.00	34.30
37.122	20	CATGUT CHROMIC 2/0,75CM,WTH NEEDLE	NEEDLE 30MM,4/8,RND	272.40	8.98
37.123	10	CATGUT CHROME 1, 75CM WITH NEEDLE	NDL 40MM,4/8 CVD,RND	136.20	4.49
37.212	15	SILK BRAIDED 3/0, 75CM, WTH NEEDLE	NEEDLE 28MM,3/8,CUT	167.55	5.53
37.215	10	SILK REEL 1		106.00	3.50
41.729	6	GLYCEROL,SOLUTION	SOL 200ML	249.60	8.23
41.741	6	METHYLATED SPIRIT	SOL 200ML	48.00	1.58
99.121	6	"GREEN BOOK"	PIECE	210.00	6.93
99.301	6,000	PACKET FOR MEDICINE	CM2 CM	456.00	15.04
99.303	60	PAPER PADS BLANK (3X4")	PAD OF 100PAGE	300.00	9.89
*** Total ***				69634.43	2296.65

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Management Sciences for Health / Peshawar
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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
1.101	150	KETAMINE 50MG/ML SOLUTION	VIAL 250MG x 5ML	9435.00	311.18
1.202	4	LIDOCAINE TOPICAL GEL 2%	GEL 2%, TUB 15GR	29.80	0.98
1.203	200	LIDOCAINE 2% SOLUTION	AMP 10ML	800.72	26.41
2.111	24,000	ACETAMINOPHEN 500MG TABLETS	TAB 500MG	2004.00	66.09
2.121	15,000	ACETYL SALICYLIC ACID 300MG TABLETS	TAB 300MG	622.50	20.53
2.123	4,000	INDOMETHACIN 25MG TABLET	TAB 25MG	800.00	26.39
2.141	120	PENTAZOCINE 30MG/ML SOLUTION	AMP 30MG x 1ML	1715.04	56.56
2.142	700	PENTAZOCINE 25MG TABLETS	TAB 25MG	1056.72	34.85
3.001	6,000	CHLORPHENIRAMINE MALEATE 4MG	TAB 4MG	88.80	2.93
3.002	20	PROMETHAZINE 25MG/ML SOLUTION	AMP 50MG x 2ML	52.00	1.72
3.003	100	PROMETHAZINE HCL 25MG TABLETS	TAB 25MG	7.20	0.24
5.001	200	DIAZEPAM 5MG/ML SOLUTION	AMP 10MG/2ML	3658.80	120.67
5.002	1,500	PHENOBARBITAL 30MG TABLET	TAB 30MG	255.00	8.41
5.007	1,000	DIAZEPAM 5MG TABLETS	TAB 5MG	30.00	0.99
6.101	1,000	MEBENDAZOLE 100MG TABLET	TAB 100MG	180.00	5.94
6.201	6,000	METRONIDAZOLE 200MG TABLET	TAB 200MG	1524.00	50.26
6.310	60	AMPICILLIN SUSPENSION 125MG/5ML	POW 125MG .	769.20	25.37
6.311	10,000	AMPICILLIN 250MG CAPSULES	CAP 250MG	11500.00	379.29
6.312	200	AMPICILLIN 500MG POWDER FOR INJECT.	POW 500MG/VIAL	1140.00	37.60
6.313	48	BENZATHINE BENZYL PENICILLINE 1.2	POW 1.2MIU/VIAL	435.84	14.37
6.315	5,000	PHENOXYMETHYL PENICILLIN 250MG	TAB 250MG	2762.50	91.11
6.316	100	PROCAINE PENICILLIN FORTIFIED	POW 300MG+60MG/VIAL	288.00	9.50
6.320	50	CHLORAMPHENICOL 125MG/5ML	BOT 125MG/ML	850.00	28.03
6.321	6,000	CHLORAMPHENICOL 250MG CAPSULES	CAP 250MG	4470.00	147.43
6.322	700	ERYTHROMYCIN 250MG TABLETS	TAB 250MG	1190.00	39.25
6.324	12,000	TETRACYCLINE HCL 250MG CAPSULES	CAP 250MG	3600.00	118.73
6.326	15,000	SULFAMETHOXAZOL 400+TRIMETHOPRIM 80.	TAB 400MG+80MG	4275.00	141.00
6.329	200	SULFAMETHOXAZOL 200+TRIMETHOPRIM 40	SYR 200MG+40MG/5ML	1020.00	33.64
6.329	50	CHLORAMPHENICOL POWDER FOR INJ 1GR	POW 1000MG/VIAL	670.00	22.10
6.501	120	NYSTATINE VAGINAL TABLET	TAB 100,000 IU	94.80	3.13
6.503	300	GRISEOFULVIN 500MG TAB	TAB 500MG	375.00	12.37
6.701	5,000	CHLOROQUINE 150MG BASE TABLETS	TAB 250MG=150MG BASE	1260.00	41.56
10.101	28,000	FERROUS SULPHATE + FOLIC ACID	TAB 60MG+0.25MG	2856.00	94.20
12.202	300	PROPRANOLOL 40MG TABLETS	TAB 40MG	107.10	3.53
12.301	1,600	TRIAMTERENE 50MG+THIAZIDE 25MG	TAB 50MG + 25MG	1600.00	52.77
12.306	100	NITROGLYCERINE 5MG TABLET	TAB 5MG	7.12	0.23
12.401	100	DIGOXIN 0.25MG TABLETS	TAB 0,25MG	18.20	0.60
13.201	24	GENTIAN VIOLET,TOPICAL USE	POW 25GMS	288.00	9.50
13.203	48	NITROFURAZONE 0.2% CREAM	CRM 0.2%,28GR TUB	340.32	11.22
13.204	600	STERILE GAUZE IMPREGNATED PARAFINE	PACKET STERILE	396.00	13.06
13.301	60	HYDROCORTISONE ACETATE 1% SKIN	OMT 1%,5 GR TUB	180.00	5.94
13.601	72	BENZYL BENZOATE 25% EMULSION	EMN 25%,60ML BTL	410.40	13.54
15.001	40	CHLORHEXIDINE 1.5% + CETRIMIDE 15%	SOL 1.5%+15%, 1 LIT	1880.00	62.01
15.003	15	POVIDONE-IODINE 10%	SOL 10%, 500ML	940.50	31.02
15.001	40	FUROSEMIDE 10MG/ML INJECTABLE	AMP 20MG X 2ML	88.28	2.94
16.002	240	FUROSEMIDE 40MG TABLETS	TAB 40MG	108.00	3.56
17.101	15,000	ALUMINIUM HYDROXYDE (COMP.) TABLET	TAB 400MG	1140.00	37.60
17.301	40	ANTIHEMORRHOIDAL OINTMENT	OMT 10GR TUB	318.80	10.51

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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
17.401	40	HYOSCINE-N-BUTYLBROMIDE 20MG/ML SOL	AMP 40MG x 2ML	59.73	1.97
17.402	400	HYOSCINE-N-BUTYLBROMIDE 10MG TAB	TAB 10MG	239.00	7.88
17.403	300	ATROPINE SULPHATE 1MG/ML SOLUTION	AMP 1MG x 1ML	222.00	7.32
17.405	100	BISACODYL 5MG TABLET	TAB 5MG	11.00	0.36
17.621	1,000	ORAL REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE	2280.00	75.20
18.101	1,000	PREDNISOLONE 5MG TABLETS	TAB 5MG	220.00	7.26
18.104	240	DESOGESTREL+ETHINYLESTRADIOL	TAB 28 PER PACK	6480.00	213.72
18.107	100	DEXAMETHASONE 4MG/ML SOLUTION	AMP 4MG/ML	625.48	20.63
21.101	500	OXYTETRACYCLINE 1% EYE OINTMENT	OMT 1%, 3.5MG TUB	1115.00	36.77
22.001	100	ERGOMETRINE MALEATE 0.2MG/ML	AMP 0.2MG x 1ML	214.08	7.06
22.002	200	ERGOMETRINE MALEATE 0.125MG TABLETS	TAB 0.125MG	130.00	4.29
25.101	60	AMINOPHYLLINE 25MG/ML	AMP 25MG/ML, 10ML	157.58	5.20
25.102	6,000	AMINOPHYLLINE 100MG	TAB 100MG	588.00	19.39
25.104	60	EPINEPHRINE 1MG/1ML	AMP 1MG/1ML	42.00	1.39
26.201	24	DEXTROSE 25%	SOL 25%, 20ML	48.00	1.58
26.202	48	RINGER LACTATE	SOL COMP 500ML	1428.00	47.10
26.203	120	SODIUM CHLORIDE 0.9% SOLUTION	SOL 0.9%, 1000ML	2760.00	91.03
26.204	800	WATER FOR INJECTIONS	AMP 6ML	440.00	14.51
26.205	4	DEXTRAN 70, 6% W/V IN NORMAL SALINE	SOL 500ML	380.00	12.53
26.207	60	DEXTROSE 5% IN SALINE 0.45%	BOT 1000ML	1140.00	37.60
27.101	2,000	RETINOL 50,000 IU	TAB 50,000IU	840.00	27.70
28.101	4	STETHOSCOPE	PIECE	480.00	15.83
28.201	4	SPHYGMOMANOMETER ADULT	PIECE	1320.00	43.54
28.301	6	BUCCAL THERMOMETER F+C	PIECE	156.00	5.15
28.301	12	BUCCAL THERMOMETER F+C	PIECE	312.00	10.29
28.421	2	OPHTHALMO-OTOSCOPE+DIAGNOSTIC HEADS	+SPARE BULB	2200.00	72.56
28.422	12	BULB FOR OTOSCOPE	PIECE	960.00	31.66
28.423	48	BATTERIES FOR OTOSCOPE	D-TYPE, 1.5V	168.00	5.54
28.511	1	SPECULUM VAGINAL GRAVES, SMALL	SMALL SIZE	60.00	1.98
28.512	1	SPECULUM VAGINAL GRAVES, MEDIUM	MEDIUM SIZE	42.00	1.39
28.513	1	SPECULUM VAGINAL GRAVES, LARGE	LARGE SIZE	45.00	1.48
28.514	1	SPECULUM VAGINAL GRAVES, VIRGIN	FOR VIRGIN	65.00	2.14
28.521	1	SPECULUM NASAL, ADULT SIZE	ADULT	58.00	1.91
28.522	1	SPECULUM NASAL, CHILD SIZE	CHILD	57.75	1.90
28.531	6	TONGUE DEPRESSOR METAL	165MM	96.00	3.17
28.532	6	TONGUE DEPRESSOR CHILD	CHILD	72.00	2.37
28.533	1	MOUTH GAG DOYEN, 15CM	15CM	128.80	4.25
28.612	2	MEASURING TAPE 60CM	TAP 60CM	8.00	0.26
28.621	1	WEIGHT SCALE ADULT, BATHROOM TYPE	140KG, 100MG	75.00	2.47
28.622	1	SCALE WITH S TROUSERS INFANT	SALTER TYPE 25KG	280.00	9.23
28.701	2	HAMMER REFLEX TESTING		30.00	0.99
28.703	6	VASELINE WHITE	500MG/JAR	144.00	4.75
29.112	15	SYRINGE HYPO, LUER LOCK, GLASS 2CC	GLASS SYRINGE 2CC	727.50	23.99
29.113	30	SYRINGE HYPO, LUER LOCK, GLASS 5CC	GLASS SYRINGE 5CC	1395.00	46.01
29.114	15	SYRINGE HYPO, LUER LOCK, GLASS 10CC	GLASS SYRINGE 10CC	825.00	27.21
29.126	10	SYRINGE HYPO, 50CC, LUER DISPOSABLE	50CC	69.50	2.29
29.132	1,000	SYRINGE HYPO LUER DISP.2CC,WITH NED	2CC,0.1CC GRADUATED	1500.00	49.47
29.133	1,000	SYRINGE HYPO LUER DISP.5CC,WITH NEE	5CC,0.2CC GRADUATE	1500.00	49.47

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Product Identi-fication Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
29.134	100	SYRINGE WUTH NEEDLE,10CC,DISPOSABL	10CC, .2CC GRADUATED	230.00	7.59
29.222	500	NEEDLE, HYPO, LUER, DISPOSABLE 23G	23G(or 24G) x 1.1/4"	247.50	8.16
29.224	500	NEEDLE, HYPO, LUER, DISPOSABLE 19G	19G(or 20G) x 1.5"	247.50	8.16
29.311	20	BUTTERFLY NEEDLE SCALP VEIN 25G	25G(or 24G)	70.00	2.31
29.312	20	BUTTERFLY NEEDLE SCALP VEIN 23G	23G(or 22G	70.00	2.31
29.322	20	CANNULA INTRAVENOUS LUER 20G	20G(or 19G) x 1-5/8"	325.00	10.72
29.401	20	NEEDLE LUMBAR PUNCTURE 23G	23G	440.00	14.51
29.402	20	NEEDLE LUMBAR PUNCTURE 20G	20G	375.00	12.37
29.602	12	TOURNIQUET LATEX RUBBER FOR INFUSIO	75CM x 1.5CM	102.00	3.36
29.603	2	ARM CIRCIMFERENCE TAPE	PIRCE	12.00	0.40
29.604	10	BRUSH FOR SYRINGES		40.00	1.32
29.605	1	CUTTING PLIERS		15.00	0.49
31.111	1	LARYNGOSCOPE, 3 BLADES	WITH SPARE BULB	450.00	14.84
31.112	2	BULB FOR LARYNGOSCOPE		40.00	1.32
31.113	6	BATTERY FOR LARYNGOSCOPE		120.00	3.96
31.121	1	FORCEPS MAGILL ADULT		63.00	2.08
31.122	1	FORCEPS MAGILL CHILD		57.00	1.91
31.131	2	SONDE FOR INTUBATION No.6		157.32	5.19
31.132	2	SONDE FOR INTUBATION No.8		157.32	5.19
31.211	1	REANIMATOR, AMBU TYPE, MANUAL		1140.00	37.60
31.221	1	FACE MASK FOR REANIMATOR, ADULT		150.00	4.95
31.222	1	FACE MASK FOR REANIMATOR, CHILD		150.00	4.95
31.225	8	SHEETING, PLASTIC.	910 X 1800MM	600.00	19.79
31.311	2	AIRWAY GUEDEL RUBBER	ADULT SIZE 82MM	40.00	1.32
31.312	2	AIRWAY GUEDEL RUBBER	CHILD SIZE 67MM	40.00	1.32
32.111	8	SCALPEL HOLDER NO.3	NO.3	64.00	2.11
32.112	2	SCALPEL HANDLE NR 4		16.00	0.53
32.121	2	BLADES FOR SCALPEL, NO.10	PACKET OF 100	388.00	12.80
32.122	2	BLADES FOR SCALPEL, NO.15	PKT OF 100	430.00	14.18
32.123	2	BLADES FOR SCALPEL N=20, PACKET	PACKET OF 100	370.00	12.20
32.124	2	BLADES FOR SCALPEL, NO.21	PKT OF 100	380.00	12.53
32.291	2	RAZOR SAFETY, ALL METAL		15.60	0.51
32.295	48	RAZOR BLAD DOUBLE EDGE LOCAL.QUAL	PKT OF 5	144.96	4.78
32.215	1	PLASTER SHEARS	PIESE	45.00	1.48
32.312	6	OPERATING SCISSORS BLUNT/SHARP	STRAIGHT 10CM	90.00	2.97
32.314	1	OPERATING SCISSORS BLUNT/BLUNT	STRAIGHT 14.5CM	18.00	0.59
32.321	6	MAYO DISSECTING SCISSORS BLUNT	CURVED 15CM	150.00	4.95
32.322	1	MAYO DISSECTING SCISSORS BLUNT	STRAIGHT, 15CM	25.00	0.82
32.323	1	SCISSORS DISSECTING MAYO, BLUNT	CURVED 17CM	35.00	1.15
32.324	1	SCISSORS DISSECTING MAYO, BLUNT	CURVED 23CM	36.00	1.19
32.331	1	SCISSORS DISSECTING MAYO, BLUNT	STRAIGHT 17CM	30.00	0.99
32.332	1	SCISSORS METZEMBAUM BLUNT	CURVED 23CM	40.00	1.32
32.411	6	DRESSING FORCEPS, THUMB, BROAD	THUMB, BROAD 10CM	150.00	4.95
32.412	3	DRESSING FORCEPS, THUMB, BROAD	THUMB, BROAD 16CM	45.00	1.48
32.413	8	TISSUE FORCEPS, TOOTHED 2x3	TOOTHED 2x3, 11.5CM	120.00	3.96
32.414	2	TISSUE FORCEPS, TOOTHED 2x3, 18CM	TOOTHED 2x3, 18CM	44.00	1.45
32.417	4	HUNTER SPLINTER FORCEPS	ANGLED 10.5CM	80.00	2.64
32.418	1	DRESSING FORCEPS, THUMB, BROAD 25CM	THUMB, BROAD, 25CM	25.00	0.82

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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
32.419	1	FORCEPS EAR, SPRING TYPE, 12,5CM	ANGULAR 12,5CM	18.00	0.59
32.421	24	FORCEPS HALSTEAD MOSQUITO, STRAIGHT	STRAIGHT 12.5CM	600.00	19.79
32.422	18	FORCEPS HALSTEAD MOSQUITO, CURVED	CURVED 12.5CM	360.00	11.87
32.423	20	FORCEPS HEMOSTATIC KELLY, STRAIGHT	STRAIGHT 14CM	600.00	19.79
32.424	30	FORCEPS HEMOSTATIC KELLY, CURVED	CURVED 14CM	900.00	29.68
32.426	4	FORCEPS HEMOSTATIC KOCHER, STR 14CM	STRAIGHT 14CM	108.00	3.56
32.427	6	FORCEPS HEMOSTATIC.KOCHER, STRAIGHT	STRAIGHT 14CM	189.00	6.23
32.428	6	FORCEPS HEMOSTATIC KOCHER, CURVED	CURVED 20CM	261.00	8.61
32.441	2	FORCEPS HYSTERECTOMY PEAN, CVD 20CM	CURVED 20CM	94.00	3.10
32.442	2	FORCEPS HYSTERECTOMY PEAN, STRAIGHT	STRAIGHT 22.5CM	130.00	4.29
32.443	1	FORCEPS UTERIN ELEVATING SOMER 22,5	22,5 CM	185.00	6.10
32.444	2	FORCEPS UTERINE ARTERY PHANEUF 20CM	20CM	170.00	5.61
32.451	5	FORCEPS SPONGE HOLDING RAMPLEY	25CM	235.00	7.75
32.461	2	FORCEPS INTESTINAL BABCOCK 140MM		76.00	2.51
32.462	2	FORCEPS INTESTINAL BABCOCK 158MM		84.00	2.77
32.463	2	FORCEPS INTESTINAL JUD-ALLIS 184MM		88.00	2.90
32.464	2	CLAMP INTESTINAL MAYO-ROBSON CVD	CURVED 23CM	194.00	6.40
32.465	2	CLAMP INTSETINAL MAYO-ROBSON STR	STRAIGHT 23CM	190.00	6.27
32.466	4	FORCEPS TISSUE ALLIS, 4x5 TEETH	TOOTHED 4x5, 15CM	160.00	5.28
32.501	14	TOWEL CLAMPS BACKAUS 13CM		392.00	12.93
32.611	7	FARABEUF RETRACTORS SET OF TWO	28X16MM, 15CM, SET	220.50	7.27
32.621	1	RETRACTOR DEAVER, 18CM x 19MM	18CM LONG,19MM BROAD	45.95	1.52
32.622	1	RETRACTOR DEAVER, 21.5CM x 22MM	21.5CM LONG,22MMBROA	45.95	1.52
32.623	3	RETRACTOR DEAVER, 23CM x 25MM	23CM LONG,25MM BROAD	166.50	5.49
32.624	1	RETRACTOR DEAVER, 30CM x 13MM	30CM LONG,13MM BROAD	54.00	1.78
32.625	1	RETRACTOR DEAVER, 30CM x 25MM	30CM LONG,25MM BROAD	49.50	1.63
32.668	4	RETRACTOR SENN-MUELLER, DOUBLE END	BLUNT, 3 PRONG, 16CM	180.00	5.94
32.691	1	RETRACTOR SELF RETAINING BALFOUR	BLADES 50x50&50x75MM	445.00	14.68
32.711	7	PROBE DOUBLE ENDED	DIAMETRE 2MM	70.00	2.31
32.712	1	CHEYNE DISSECTOR AND PROBE 17.5CM	17.5CM	50.00	1.65
32.721	4	MAYO'S FORCEPS HOLDER	14CM	80.00	2.64
32.811	6	NEEDLE HOLDER COLLIER	12,5 CM	210.00	6.93
32.812	2	NEEDLE HOLDER MAYO-HEGAR 20CM	STRAIGHT 20CM	81.00	2.67
32.813	1	NEEDLE HOLDER WANGENSTEEN 27CM	27CM	60.00	1.98
32.821	1	SET OF STRAIGHT NEEDLES, ROUND	SET OF SIX	15.00	0.49
32.822	1	SET OF STRAIGHT NEEDLES, CUTTING	SET OF SIX	15.00	0.49
32.824	2	SET OF CURVED NEEDLES, CUTTING	SET OF SIX	30.00	0.99
32.901	10	STAINLESS STEEL BOX 8"x3"	8"x3"	1000.00	32.98
32.902	1	STAINLESS STEEL BOX 14" LONG		225.00	7.42
32.903	1	BOX STAINLESS STEEL 30x10x6CM		175.00	5.77
33.111	3	LISTER BANDAGE SCISSORS, ANGULAR	ANGULAR 18CM	90.00	2.97
33.115	3	NAIL CUTTER		30.00	0.99
33.131	3	FORCEPS JAR	6"DEEP+2.5"WIDE	150.00	4.95
33.132	6	ROUND BOWL STAINLESS STEEL	2.5"DIAMx2"DEEP	132.00	4.35
33.133	6	SPONGE BOWL STAINLESS STEEL	6"DIAMx2"DEEP	208.50	6.88
33.134	3	JAR DRESSING WITH COVER STAINLESS	4"DIAMx4"DEEP	180.00	5.94
33.135	2	CUP MEASURING WITH HANDLE STAINLESS	1000CC, GRADUATED	190.00	6.27
33.136	1	FUNNEL STAINLESS STEEL MOUTH 3x4.5"	MOUTH 3x4.5"	25.00	0.82

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Management Sciences for Health / Peshawar
Referral Hospital Initial Supply

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
33.137	6	METAL BOWL LARGE 14"	DIAM 14"	960.00	31.66
33.141	7	KIDNEY TRAY METAL	81/4"x4"	455.00	15.01
33.142	6	TRAY ALUMINIUM ORDINARY	14"x10.5"x1"	192.00	6.33
33.152	10	DRESSING DRUM STAINLESS STEEL	8.5"x6"	2350.00	77.51
33.171	8	PAIL WITH COVER PLASTIC	13"x13"	720.00	23.75
33.173	10	SOAP-BOX, 2-PIECE	95x65x35MM, PLASTIC	60.00	1.98
33.181	2	STERILIZER INSTRUMENT WITH COVER	STLSS 10"x5"x3.5"	351.50	11.59
33.191	2	PRESSURE COOKER, 10LIT	10LIT	590.00	19.46
33.193	600	PARAFORMALDEHYDE TABLETS	TAB 1000MG	600.00	19.79
33.212	200	PLASTER OF PARIS,15CM ROLL	ROLL 15CM	3636.00	119.92
33.311	288	CREPE BANDAGE ROLL	4.5Mx10CM	2534.40	83.59
33.321	192	GAUZE BANDAGES 3"	ROLL, ONE DOZEN	3072.00	101.32
33.331	80	ABSORBANT GAUZE FOR COMPRESSES	20 YARD	2800.00	92.35
33.332	80	COTTON HYDROPHILIC ROLL	ROLL 300GMS	1440.00	47.49
33.341	50	TRIANGULAR BANDAGE	100CM SIDES	230.00	7.59
33.352	60	ADHESIVE TAPE 3"	ROLL	2244.00	74.01
33.501	20	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM	90.00	2.97
33.503	1,200	MINI SOAP BAR	30 GMS BAR	2340.00	77.18
33.603	150	GLOVES RUBBER BY PAIR	SIZE 7, 1 PAI	742.50	24.49
33.604	150	GLOVES RUBBER BY PAIR	SIZE 8, 1 PAIR	742.50	24.49
36.111	10	CATHETER URINARY FOLEY TYPE	12CH,30ML	162.50	5.36
36.113	15	CATHETER URINARY FOLEY TYPE	16CH, 30ML	243.75	8.04
36.114	25	BAG COLLECTOR URINARY + DRAINAGE		173.75	5.73
36.115	200	CONDOMS STERILE	PKT 4	370.00	12.20
36.117	3	COLOSTOMY IRRIGATION BAG	PIECE	105.00	3.46
36.121	3	TUBE NASOGASTRIC	SIZE 8	17.40	0.57
36.123	6	TUBE NASO-GASTRIC	SIZE 18	48.60	1.60
36.124	6	TUBE NASO-GASTRIC	SIZE 12	48.60	1.60
36.125	2	ENDOTRACHEAL TUBE, DISPOSABLE	SMALL SIZE	160.00	5.28
36.126	2	ENDOTRACHEAL TUB,DISPOSABLE LARGE	LARGE SIZE	160.00	5.28
36.141	4	TUBE RECTAL ONE-EYE FUNNEL-END	24FR 500MM RBR	40.00	1.32
36.143	2	ENEMA CAN	PIECE	120.00	3.96
36.145	4	URINAL	PIECE	80.00	2.64
36.147	6	STOOL POT	PIECE	120.00	3.96
36.221	30	PENDROSE DRAIN 1" DIAMETER	1" DIAMETER	1560.00	51.45
37.111	60	CATGUT PLAIN 3/0, 75CM, WTH NEEDLE	NEEDLE 26MM,3/8,RND	817.20	26.95
37.117	50	CATGUT PLAIN 2/0		681.00	22.46
37.122	70	CATGUT CHROMIC 2/0,75CM,WTH NEEDLE	NEEDLE 30MM,4/8,RND	953.40	31.44
37.123	10	CATGUT CHROME 1, 75CM WITH NEEDLE	NDL 40MM,4/8 CVD,RND	136.20	4.49
37.127	20	CATGUT CHROMIC 2/0		272.40	8.98
37.212	120	SILK BRAIDED 3/0, 75CM, WTH NEEDLE	NEEDLE 28MM,3/8,CUT	1340.40	44.21
37.215	20	SILK REEL 1		212.00	6.99
39.111	1	AMPUTATION SAW SATTERLEE, 31CM	31CM	200.00	6.60
39.411	1	BONE FILE 20CM	20CM	200.00	6.60
39.421	1	RASPATORY FARABOEUF, CVD, 15CM	CURVED 15CM	55.00	1.81
39.521	1	LANGE-HOLZMANN BONE LEVER 27CM		53.00	1.75
39.531	1	FERGUSON BONE HOLDING FORCEPS	21CM	165.00	5.44
39.611	1	FORCEPS BONE RONGEUR JANSSENS 18CM	18CM	423.00	13.95

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Management Sciences for Health / Peshawar
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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
39.711	1	LISTON BONE CUTTING FORCEPS CURVED	CURVED, 19CM	159.00	4.95
41.629	10	WASH BOTTLE,	1 PC WHITE PLASTIC	1100.00	36.28
41.729	6	GLYCEROL,SOLUTION	SOL 200ML	249.60	8.23
41.741	12	METHYLATED SPIRIT	SOL 200ML	96.00	3.17
95.591	1	RUCKSACK, NYLON	PIECE	159.00	4.95
99.121	6	"GREEN BOOK"	PIECE	219.00	6.93
99.301	10,000	PACKET FOR MEDICINE	CMx CM	760.00	25.07
99.303	60	PAPER PADS BLANK (3X4")	PAD OF 100PAGE	300.00	9.89
*** Total ***				155256.77	5120.61

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Management Sciences for Health / Peshawar
Referral Hospital Resupply

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
1.101	150	KETAMINE 50MG/ML SOLUTION	VIAL 250MG x 5ML	9435.00	311.18
1.202	4	LIDOCAINE TOPICAL GEL 2%	GEL 2%, TUB 15GR	29.80	0.98
1.203	200	LIDOCAINE 2% SOLUTION	AMP 10ML	800.72	26.41
2.111	24,000	ACETAMINOPHEN 500MG TABLETS	TAB 500MG	2004.00	66.09
2.121	15,000	ACETYL SALICYLIC ACID 300MG TABLETS	TAB 300MG	622.50	20.53
2.123	4,000	INDOMETHACIN 25MG TABLET	TAB 25MG	800.00	26.39
2.141	120	PENTAZOCINE 30MG/ML SOLUTION	AMP 30MG x 1ML	1715.04	56.56
2.142	700	PENTAZOCINE 25MG TABLETS	TAB 25MG	1056.72	34.85
3.001	6,000	CHLORPHENIRAMINE MALEATE 4MG	TAB 4MG	88.80	2.93
3.002	20	PROMETHAZINE 25MG/ML SOLUTION	AMP 50MG x 2ML	52.00	1.72
3.003	100	PROMETHAZINE HCL 25MG TABLETS	TAB 25MG	7.20	0.24
5.001	200	DIAZEPAM 5MG/ML SOLUTION	AMP 10MG/2ML	3658.80	120.67
5.002	1,500	PHENOBARBITAL 30MG TABLET	TAB 30MG	255.00	8.41
5.007	1,000	DIAZEPAM 5MG TABLETS	TAB 5MG	30.00	0.99
6.101	1,000	MEBENDAZOLE 100MG TABLET	TAB 100MG	180.00	5.94
6.201	6,000	METRONIDAZOLE 200MG TABLET	TAB 200MG	1524.00	50.26
6.310	60	AMPICILLIN SUSPENSION 125MG/5ML	POW 125MG	769.20	25.37
6.311	10,000	AMPICILLIN 250MG CAPSULES	CAP 250MG	11500.00	379.29
6.312	200	AMPICILLIN 500MG POWDER FOR INJECT.	POW 500MG/VIAL	1140.00	37.60
6.313	48	BENZATHINE BENZYL PENICILLINE 1.2	POW 1.2MIU/VIAL	435.84	14.37
6.315	5,000	PHENOXYMETHYL PENICILLIN 250MG	TAB 250MG	2762.50	91.11
6.316	100	PROCAINE PENICILLIN FORTIFIED	POW 300MG+60MG/VIAL	288.00	9.50
6.320	50	CHLORAMPHENICOL 125MG/5ML	BOT-125MG/ML	850.00	28.03
6.321	6,000	CHLORAMPHENICOL 250MG CAPSULES	CAP 250MG	4470.00	147.43
6.322	700	ERYTHROMYCIN 250MG TABLETS	TAB 250MG	1190.00	39.25
6.324	12,000	TETRACYCLINE HCL 250MG CAPSULES	CAP 250MG	3600.00	118.73
6.326	15,000	SULFAMETHOXAZOL 400+TRIMETHOPRIM 80	TAB 400MG+80MG	4275.00	141.00
6.328	200	SULFAMETHOXAZOL 200+TRIMETHOPRIM 40	SYR 200MG+40MG/5ML	1020.00	33.64
6.329	50	CHLORAMPHENICOL POWDER FOR INJ 1GR	POW 1000MG/VIAL	670.00	22.10
6.501	120	NYSTATINE VAGINAL TABLET	TAB 100,000 IU	94.80	3.13
6.503	300	GRISEOFULVIN 500MG TAB	TAB 500MG	375.00	12.37
6.701	6,000	CHLOROQUINE 150MG BASE TABLETS	TAB 250MG=150MG BASE	1260.00	41.56
10.101	28,000	FERROUS SULPHATE + FOLIC ACID	TAB 60MG+0.25MG	2856.00	94.20
12.202	300	PROPRANOLOL 40MG TABLETS	TAB 40MG	107.10	3.53
12.301	1,600	TRIAMTERENE 50MG+THIAZIDE 25MG	TAB 50MG + 25MG	1600.00	52.77
12.306	100	NITROGLYCERINE 5MG TABLET	TAB 5MG	7.12	0.23
12.401	100	DIGOXIN 0.25MG TABLETS	TAB 0,25MG	18.20	0.60
13.201	24	GENTIAN VIOLET,TOPICAL USE	POW-25GMS	288.00	9.50
13.203	48	NITROFURAZONE 0.2% CREAM	CRM 0.2%,28GR TUB	340.32	11.22
13.204	600	STERILE GAUZE IMPREGNATED PARAFINE	PACKET STERILE	306.00	10.06
13.301	60	HYDROCORTISONE ACETATE 1% SKIN	OMT 1%,5 GR TUB	180.00	5.94
13.601	72	BENZYL BENZOATE 25% EMULSION	EMN 25%,60ML BTL	410.40	13.54
15.001	40	CHLORHEXIDINE 1.5% + CETRIMIDE 15%	SOL 1.5%+15%, 1 LIT	1880.00	62.01
15.003	15	POVIDONE-IODINE 10%	SOL 10%, 500ML	940.50	31.02
16.001	40	FUROSEMIDE 10MG/ML INJECTABLE	AMP 20MG X 2ML	80.28	2.64
16.002	240	FUROSEMIDE 40MG TABLETS	TAB 40MG	108.00	3.56
17.101	15,000	ALUMINIUM HYDROXYDE (COMP.) TABLET	TAB 400MG	1140.00	37.60
17.301	40	ANTIHEMORRHOIDAL OINTMENT	OMT 10GR TUB	318.80	10.51

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Management Sciences for Health / Peshawar
Referral Hospital Resupply

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
17.401	40	HYOSCINE-N-BUTYLBROMIDE 20MG/ML SOL	AMP 40MG x 2ML	59.73	1.97
17.402	400	HYOSCINE-N-BUTYLBROMIDE 10MG TAB	TAB 10MG	239.00	7.89
17.403	300	ATROPINE SULPHATE 1MG/ML SOLUTION	AMP 1MG x 1ML	222.00	7.32
17.405	100	BISACODYL 5MG TABLET	TAB 5MG	11.00	0.36
17.621	1,000	ORAL REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE	2280.00	75.20
18.101	1,000	PREDNISOLONE 5MG TABLETS	TAB 5MG	220.00	7.26
18.104	240	DESOGESTREL+ETHINYLESTRADIOL	TAB 28 PER PACK	6480.00	213.72
18.107	100	DEXAMETHASONE 4MG/ML SOLUTION	AMP 4MG/ML	625.48	20.63
21.101	500	OXYTETRACYCLINE 1% EYE OINTMENT	OMT 1%, 3.5MG TUB	1115.00	36.77
22.001	100	ERGOMETRINE MALEATE 0.2MG/ML	AMP 0.2MG x 1ML	214.08	7.06
22.002	200	ERGOMETRINE MALEATE 0.125MG TABLETS	TAB 0.125MG	130.00	4.29
25.101	60	AMINOPHYLLINE 25MG/ML	AMP 25MG/ML, 10ML	157.58	5.20
25.102	6,000	AMINOPHYLLINE 100MG	TAB 100MG	588.00	19.39
25.104	60	EPINEPHRINE 1MG/1ML	AMP 1MG/1ML	42.00	1.39
26.201	24	DEXTROSE 25%	SOL 25%, 20ML	48.00	1.58
26.202	48	RINGER LACTATE	SOL COMP 500ML	1428.00	47.10
26.203	120	SODIUM CHLORIDE 0.9% SOLUTION	SOL 0.9%, 1000ML	2760.00	91.03
26.204	800	WATER FOR INJECTIONS	AMP 6ML	440.00	14.51
26.205	4	DEXTRAN 70, 6% W/V IN NORMAL SALINE	SOL 500ML	380.00	12.53
26.207	60	DEXTROSE 5% IN SALINE 0.45%	BOT 1000ML	1140.00	37.60
27.101	2,000	RETINOL 50,000 IU	TAB 50,000IU	840.00	27.70
28.301	6	BUCCAL THERMOMETER F+C	PIECE	156.00	5.15
28.422	12	BULB FOR OTOSCOPE	PIECE	960.00	31.66
28.423	48	BATTERIES FOR OTOSCOPE	D-TYPE, 1.5V	168.00	5.54
28.703	6	VASELINE WHITE	500MG/JAR	144.00	4.75
29.126	10	SYRINGE HYPO, 50CC, LUER DISPOSABLE	50CC	69.50	2.29
29.132	1,000	SYRINGE HYPO LUER DISP.2CC,WITH NED	2CC,0.1CC GRADUATED	1500.00	49.47
29.133	1,000	SYRINGE HYPO LUER DISP.5CC,WITH NEE	5CC,0.2CC GRADUATE	1500.00	49.47
29.134	100	SYRINGE WUTH NEEDLE,10CC,DISPOSABL	10CC, .2CC GRADUATED	230.00	7.59
29.222	500	NEEDLE, HYPO, LUER, DISPOSABLE 23G	23G(or 24G) x 1.1/4"	247.50	8.16
29.224	500	NEEDLE, HYPO, LUER, DISPOSABLE 19G	19G(or 20G) x 1.5"	247.50	8.16
29.311	20	BUTTERFLY NEEDLE SCALP VEIN 25G	25G(or 24G)	70.00	2.31
29.312	20	BUTTERFLY NEEDLE SCALP VEIN 23G	23G(or 22G	70.00	2.31
29.322	20	CANNULA INTRAVENOUS LUER 20G	20G(or 19G) x 1-5/8"	325.00	10.72
29.401	20	NEEDLE LUMBAR PUNCTURE 23G	23G	440.00	14.51
29.402	20	NEEDLE LUMBAR PUNCTURE 20G	20G	375.00	12.37
31.112	2	BULB FOR LARYNGOSCOPE		40.00	1.32
31.113	6	BATTERY FOR LARYNGOSCOPE		120.00	3.96
32.121	2	BLADES FOR SCALPEL, NO.10	PACKET OF 100	388.00	12.80
32.122	2	BLADES FOR SCALPEL, NO.15	PKT OF 100	430.00	14.18
32.123	2	BLADES FOR SCALPEL N=20, PACKET	PACKET OF 100	370.00	12.20
32.124	2	BLADES FOR SCALPEL, NO.21	PKT OF 100	380.00	12.53
32.205	48	RAZOR BLAD DOUBLE EDGE LOCAL.QUAL	PKT OF 5	144.96	4.78
33.103	600	PARAFORMALDEHYDE TABLETS	TAB 1000MG	600.00	19.79
33.212	200	PLASTER OF PARIS,15CM ROLL	ROLL 15CM	3636.00	119.92
33.311	288	CREPE BANDAGE ROLL	4.5Mx10CM	2534.40	83.59
33.321	192	GAUZE BANDAGES 3"	ROLL, ONE DOZEN	3072.00	101.32
33.331	80	ABSORBANT GAUZE FOR COMPRESSES	20 YARD	2800.00	92.35

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Management Sciences for Health / Peshawar
Referral Hospital Resupply

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
33.332	80	COTTON HYDROPHILIC ROLL	ROLL 300GMS	1440.00	47.49
33.341	50	TRIANGULAR BANDAGE	100CM SIDES	230.00	7.59
33.352	60	ADHESIVE TAPE 3"	ROLL	2244.00	74.01
33.501	20	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM	88.00	2.97
33.503	1,200	MINI SOAP BAR	30 GMS BAR	2340.00	77.18
33.603	150	GLOVES RUBBER BY PAIR	SIZE 7, 1 PAI	742.50	24.49
33.604	150	GLOVES RUBBER BY PAIR	SIZE 8, 1 PAIR	742.50	24.49
36.111	10	CATHETER URINARY FOLEY TYPE	12CH,30ML	162.50	5.36
36.113	15	CATHETER URINARY FOLEY TYPE	16CH, 30ML	243.75	8.04
36.114	25	BAG COLLECTOR URINARY + DRAINAGE		173.75	5.73
36.115	200	CONDOMS STERILE	PKT 4	370.00	12.20
36.117	3	COLOSTOMY IRRIGATION BAG	PIECE	105.00	3.46
36.121	3	TUBE NASOGASTRIC	SIZE 8	17.40	0.57
36.123	6	TUBE NASO-GASTRIC	SIZE 18	48.60	1.60
36.124	6	TUBE NASO-GASTRIC	SIZE 12	48.60	1.60
36.125	2	ENDOTRACHEAL TUBE, DISPOSABLE	SMALL SIZE	160.00	5.28
36.126	2	ENDOTRACHEAL TUB,DISPOSABLE LARGE	LARGE SIZE	160.00	5.28
36.141	4	TUBE RECTAL ONE-EYE FUNNEL-END	24FR 500MM RBR	40.00	1.32
36.221	30	PENDROSE DRAIN 1" DIAMETER	1" DIAMETER	1560.00	51.45
37.111	60	CATGUT PLAIN 3/0, 75CM, WTH NEEDLE	NEEDLE 26MM,3/8,RND	817.20	26.95
37.117	50	CATGUT PLAIN 2/0		681.00	22.46
37.122	70	CATGUT CHROMIC 2/0,75CM,WTH NEEDLE	NEEDLE 30MM,4/8,RND	953.40	31.44
37.123	10	CATGUT CHROME 1, 75CM WITH NEEDLE	NDL 40MM,4/8 CVD,RND	136.20	4.49
37.127	20	CATGUT CHROMIC 2/0		272.40	8.98
37.212	120	SILK BRAIDED 3/0, 75CM, WTH NEEDLE	NEEDLE 22MM,3/8,CUT	1340.40	44.21
37.215	20	SILK REEL 1		212.00	6.99
41.720	6	GLYCEROL,SOLUTION	SOL 200ML	249.60	8.23
41.741	12	METHYLATED SPIRIT	SOL 200ML	96.00	3.17
90.121	5	"GREEN BOOK"	PIECE	210.00	6.93
90.301	10,000	PACKET FOR MEDICINE	CMx CM	760.00	25.07
90.303	60	PAPER PADS BLANK (3X4")	PAD OF 100PAGE	300.00	9.89
*** Total ***				125034.19	4123.49

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Management Sciences for Health / Peshawar
LABIN -KIT

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
15.001	1	CHLORHEXIDINE 1.5% + CETRIMIDE 15%	SOL 1.5%+15%, 1 LIT	47.00	1.55
29.325	2	BRUSH TO WASH CYLINDER	PLASTIC HAIR	16.00	0.53
29.327	2	BRUSH TO WASH TEST TUB	PLASTIC HAIR	20.00	0.66
29.331	2	HAIR BRUSH FOR MICROSCOPE	PIECE	90.00	2.97
32.502	2	TOURNIQUET LATEX RUBBER FOR INFUSIO	75CM x 1.5CM	17.00	0.56
32.411	2	DRESSING FORCEPS, THUMB, BROAD	THUMB, BROAD 10CM	50.00	1.65
32.453	1	ARTERY FORCEPS	STEEL SIZE 8"	35.00	1.15
32.502	1	TOWEL HOOK.	430 X 500MM	45.00	1.48
33.114	1	ORDINARY SCISSORS, STRAIGHT	8.5"	36.00	1.19
33.135	1	CUP MEASURING WITH HANDLE STAINLESS	1000CC, GRADUATED	95.00	3.13
33.171	1	PAIL WITH COVER PLASTIC	13"x13"	90.00	2.97
33.331	1	ABSORBANT GAUZE FOR COMPRESSES	20 YARD	35.00	1.15
33.332	3	COTTON HYDROPHILIC ROLL	ROLL 300GMS	54.00	1.78
33.350	2	LABELLING TAPE	WHITE ROLL	46.00	1.52
33.352	1	ADHESIVE TAPE 3"	ROLL	37.40	1.23
33.503	48	MINI SOAP BAR	30 GMS BAR	93.60	3.09
33.504	10	TOILET PAPER	1 ROLL	120.00	3.96
41.105	1	MICROSCOPE BINOCULAR OBJECTIVE	X10,X40,X100 OBJ	30000.00	989.45
41.107	1	LENS PAPER	PKT	65.00	2.14
41.111	1	MANUAL CENTRIFUGE	S.STEEL FROC WTS.	450.00	14.84
41.115	1	ANALYTICAL BALANCE	CAP.100GM,JEWL.TYPE	1650.00	54.42
41.123	4	HAEMOGLOBINOMETER TUBE	GLASS PIECE	80.00	2.64
41.124	6	HAEMOGLOBINOMETER PIPETTE	WITH PIPETTE 2 TUBE	210.00	6.93
41.125	1	HAEMOGLOBINOMETER SET	HAEMOMETER SAHLI	250.00	8.25
41.128	2	CLEANSING SPONGE	PIECE	20.00	0.66
41.129	1	MORTAR AND PESTLE	CHINA CLAY DIAM 6"	80.00	2.64
41.131	1	TIMER (STOP WATCH)	1 PIECE WITH ALARM	350.00	11.54
41.405	100	RECIPIENTS FOR STOOL SPECIMEN	1 PC.PLAS. WITH LID	200.00	6.60
41.407	1	WOOD APPLICATORS	BOX OF 100	45.00	1.48
41.411	10	MICROSCOPIC SLIDES 25X75MM	72 SLIDES/PACK	235.00	7.75
41.413	5	MICROSCOPIC COVERSLIPS 20X20MM	100 COVERSLIPS/PACK	175.00	5.77
41.415	5	PIPETTE,1ML SUBDIVIDED 0.01ML	GRADUATED TOP TO TIP	73.00	2.44
41.421	3	PIPETTE,2ML SUBDIVIDED 0.01ML	GRADU.TOP & NOT TIP	44.40	1.46
41.423	3	PIPETTE,5ML SUBDIVIDED 0.01ML	GRADU.TOP & NOT TIP	48.00	1.58
41.425	3	PIPETTE,10ML SUBDIVIDED 0.1ML	GRADU.TOP & NOT TIP	57.00	1.89
41.429	50	PASTEUR PIPETTES	150X16MM,PYREX	97.50	3.22
41.431	10	TEST TUBE	1PC. 150X16MM,PYREX.	100.00	3.30
41.433	5	TEST TUBE	1PC. 85X15MM ,PYREX	50.00	1.65
41.439	5	GLASS RODS,SOLID	1PC. 6MM DIAMETER	27.50	0.91
41.440	2	OIL DROPPER BOTTLE	PLASTIC 50ML	20.00	0.66
41.441	5	DROP BOTTLE	1PC.100ML CLR. GLASS	90.00	2.97
41.445	5	DROP BOTTLE	1PC.100ML BROWN GLAS	120.00	3.96
41.455	10	CENTRIFUGAL TUBE CONICAL	15ML	150.00	4.95
41.457	1	RACK CENTRIFUGE TUBE	PIECE	35.00	1.15
41.515	2	COUNTING CHAMBER,IMPROVED	NEUBAUER\PIECE	560.00	18.47
41.516	1	PIPETTE RBC	FOR HEMACYTOMETER	45.00	1.48
41.517	2	PIPETTE WBC	FOR HEMACYTOMETER	90.00	2.97
41.519	1	PIPETTE CONTAINER	PIECE	70.00	2.31

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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
41.535	1	MICRO HAEMATOCRIT CAPILLARY TUBE	1000 PIECES	325.00	10.72
41.605	2	NICKEL-CHROM ALLOY WIRE	1PC.1MM DIA,12 INCH	100.00	3.30
41.607	2	LOOP HOLDERS	1 PC. S.STEEL	50.00	1.65
41.612	1	TRIPOD STAND	IRON WITH STE. GAUZE	20.00	0.66
41.613	1	SPIRIT LAMP,STEEL	1 PIECE STEEL	20.00	0.66
41.614	2	MEASURICING CYLINDER GRADUATED	1 PC.100 ML,PLASTIC	280.00	9.23
41.616	2	MEASURING CYLINDER GRADUATED	1PC.500 ML, PLASTIC	500.00	16.49
41.617	1	TEST TUBE HOLDER	1 PC.WOODEN HANDLES	8.00	0.26
41.621	1	TEST TUBE STAND (STEEL)	1 PC. WITH 12 HOLES	47.00	1.55
41.623	2	STAINING JAR (PLASTIC)	1 PC. JAR FOR SLIDE,	50.00	1.65
41.625	2	BEAKER 100ML	GLASS PIECE	38.00	1.25
41.626	2	BEAKER 500ML	GLASS PIECE	85.00	2.83
41.627	2	FUNNEL GLASS	1 PC. 4"DIA.PYREX	380.00	12.53
41.628	2	FUNNEL PLASTIC	1PC.4" DIAM.	60.00	1.98
41.629	3	WASH BOTTLE,	1 PC WHITE PLASTIC	330.00	10.88
41.631	1	DRAINING RACK FOR SLIDES	CAPACITY 20 SLIDES	90.00	2.97
41.632	2	PETRI DISH	GLASS PIECE	60.00	1.98
41.633	1	SLIDE BOX	CAPACITY 100 SLIDES	90.00	2.97
41.702	1	ACETIC ACID, GLACIAL	SOL 200ML	32.25	1.06
41.704	1	UROSTIX	BOTTEL OF 100 STP	258.00	8.51
41.706	2	URINOMETER	PIECE	300.00	9.89
41.708	1	DIPOTASSIUM HYDROGEN PHOSPHATE	POW 1000GMS	430.00	14.18
41.709	1	POTASSIUME DIHYDROGEN PHOSPHATE	POW 1000GMS	400.00	13.19
41.711	4	CARBOL FUCHSINE,	SOL 200ML	632.00	20.84
41.713	1	POTASSIUM DICHROMAPE (K2CR207)	POW 1000GMS	340.00	11.21
41.714	1	SULFOSALICYLIC ACID	POW 1000GMS	1325.00	43.70
41.717	1	GIEMSA STAIN	POW 25GMS	215.00	7.09
41.721	1	GRAM IODINE	SOL 200ML	25.00	0.82
41.727	1	METHYLENE BLUE	POW 25GMS	140.00	4.62
41.729	4	GLYCEROL,SOLUTION	SOL 200ML	166.40	5.49
41.735	4	METHANOL	SOL 200ML	95.36	3.15
41.738	2	ETHANOL,96 %	SOL 200ML	104.00	3.43
41.741	20	METHYLATED SPIRIT	SOL 200ML	160.00	5.28
41.743	1	BENEDICT SOLUTION	SOL 200ML	10.00	0.33
41.745	1	XYLOL	SOL 200ML	24.00	0.79
41.751	1	SODIUM CHLORIDE	POW 1000GMS ANAL GR.	114.00	3.76
41.752	1	BORIC ACID	POW 1000GMS	235.00	7.75
41.753	1	SULPHURIC ACID CONC.	SOL 200ML	27.84	0.92
41.755	1	HYDROCHLORIC ACID CONC.	SOL 200ML	28.00	0.92
41.759	1	CARBOLIC ACID(PHENOL)	SOL 200ML	96.00	3.17
41.761	1	OIL IMMERSION	SOL CEDDER WOOD OIL	900.00	29.68
41.765	1	BLOOD LANCETS(FEATHER)	200 PCS	85.00	2.80
41.767	5	GLASS BOTTLE BROWN	CAP 1/2KG	130.00	4.29
41.769	5	GLASS BOTTLE BROWN	CAP 1/4KG	77.50	2.56
41.790	1	TRAY WITH RODS STAINING	S.STEEL 450X350X25MM	260.00	8.58
41.793	1	SODIUM CARBONATE	1000 GMS	50.00	1.65
41.805	6	LAB.RECORD BOOK,LINED	BOOK 100 PAGES	255.00	8.41
41.808	1	LABORATORY APRON	WHITE, MED.	50.00	1.65

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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
41.905	1	FILTER PAPER NO.1	100 SHEETS	3.85	0.13
41.911	1	PH PAPER,RANGE 6-8	1 BOOK	310.00	10.22
95.502	1	METAL SUIT CASE WITH LOCK	APROX.2.5X1.5X1 FT	450.00	14.84
99.123	2	MARKER BLACK	PERMANANT, PIECE	28.00	0.92
99.124	2	MARKER BLUE	PARMANANT,PIECE	32.00	1.06
99.126	3	COTTON CLOTH	1 PC. 2 SQ. FT	66.00	2.18
99.127	1	RULER	PLASTIC PIECE	5.00	0.16
99.129	1	PLASTIC TABLE CLOTH	PIECE 3M	120.00	3.96
99.503	1	LANTERN	GAS WITH 5 MANTLE	650.00	21.44
99.510	1	WATER DRUM	PIECE	100.00	3.30
*** Total ***				47679.40	1572.54

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Resupply

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
15.001	1	CHLORHEXIDINE 1.5% + CETRIMIDE 15%	SOL 1.5%+15%, 1 LIT	47.00	1.55
29.325	1	BRUSH TO WASH CYLINDER	PLASTIC HAIR	8.00	0.26
29.327	1	BRUSH TO WASH TEST TUB	PLASTIC HAIR	10.00	0.33
32.502	1	TOWEL HOOK.	430 X 500MM	45.00	1.48
33.331	1	ABSORBANT GAUZE FOR COMPRESSES	20 YARD	35.00	1.15
33.332	3	COTTON HYDROPHILIC ROLL	ROLL 300GMS	54.00	1.78
33.350	2	LABELLING TAPE	WHITE ROLL	46.00	1.52
33.352	1	ADHESIVE TAPE 3"	ROLL	37.40	1.23
33.503	48	MINI SOAP BAR	30 GMS BAR	93.60	3.09
33.504	10	TOILET PAPER	1 ROLL	120.00	3.96
41.107	1	LENS PAPER	PKT	65.00	2.14
41.123	2	HAEMOGLOBINOMETER TUBE	GLASS PIECE	40.00	1.32
41.124	6	HAEMOGLOBINOMETER PIPETTE	WITH PIPETTE 2 TUBE	210.00	6.93
41.12[illegible]	2	CLEANSING SPONGE	PIECE	20.00	0.66
41.405	100	RECIPIENTS FOR STOOL SPECIMEN	1 PC.PLAS. WITH LID	200.00	6.60
41.407	1	WOOD APPLICATORS	BOX OF 100	45.00	1.48
41.411	5	MICROSCOPIC SLIDES 25X75MM	72 SLIDES/PACK	117.50	3.88
41.413	3	MICROSCOPIC COVERSLIPS 20X20MM	100 COVERSLIPS/PACK	105.00	3.46
41.431	5	TEST TUBE	1PC. 150X16MM,PYREX.	50.00	1.65
41.433	5	TEST TUBE	1PC. 85X15MM ,PYREX	50.00	1.65
41.455	5	CENTRIFUGAL TUBE CONICAL	15ML	75.00	2.47
41.516	1	PIPETTE RBC	FOR HEMACYTOMETER	45.00	1.48
41.517	1	PIPETTE WBC	FOR HEMACYTOMETER	45.00	1.48
41.535	1	MICRO HAEMATOCRIT CAPILLARY TUBE	1000 PIECES	325.00	10.72
41.702	1	ACETIC ACID, GLACIAL	SOL 200ML	33.25	1.06
41.704	1	UROSTIX	BOTTEL OF 100 STP	258.00	8.51
41.711	4	CARBOL FUCHSINE,	SOL 200ML	632.00	20.84
41.717	1	GIEMSA STAIN	POW 25GMS	215.00	7.09
41.721	1	GRAM IODINE	SOL 200ML	25.00	0.82
41.727	1	METHYLENE BLUE	POW 25GMS	140.00	4.62
41.729	4	GLYCEROL,SOLUTION	SOL 200ML	166.40	5.49
41.735	4	METHANOL	SOL 200ML	95.36	3.15
41.739	2	ETHANOL,96 %	SOL 200ML	104.00	3.43
41.741	20	METHYLATED SPIRIT	SOL 200ML	160.00	5.28
41.743	1	BENEDICT SOLUTION	SOL 200ML	10.00	0.33
41.745	1	XYLOL	SOL 200ML	24.00	0.79
41.753	1	SULPHURIC ACID CONC.	SOL 200ML	27.84	0.92
41.755	1	HYDROCHLORIC ACID CONC.	SOL 200ML	28.00	0.92
41.759	1	CARBOLIC ACID(PHENOL)	SOL 200ML	96.00	3.17
41.761	1	OIL IMMERSION	SOL CEDDER WOOD OIL	900.00	29.68
41.765	1	BLOOD LANCETS(FEATHER)	200 PCS	85.00	2.80
41.805	6	LAB.RECORD BOOK,LINED	BOOK 100 PAGES	255.00	8.41
41.809	1	LABORATORY APRON	WHITE, MED.	50.00	1.65
41.905	1	FILTER PAPER NO.1	100 SHEETS	3.85	0.13
41.911	1	PH PAPER,RANGE 6-8	1 BOOK	310.00	10.22
99.123	2	MARKER BLACK	PERMANANT, PIECE	28.00	0.92
99.124	2	MARKER BLUE	PARMANANT,PIECE	32.00	1.06
99.126	3	COTTON CLOTH	1 PC. 2 SQ. FT	66.00	2.18

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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
*** Total ***				5632.20	185.76

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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
40.101	1	X-RAY MACHINE PORTABLE, MOBILE STAN	100KVP/35MM + STAND	100000.00	3298.15
40.211	2	X-RAY FILM, 8 x 10	BOX OF 100	1810.00	59.70
40.212	3	X-RAY FILM, 10 x 12	BOX OF 100	4035.00	133.08
40.213	4	X-RAY FILM, 12 x 15	BOX OF 100	7980.00	263.19
40.214	2	X-RAY FILMS 14X17	BOX 100	5304.00	174.93
40.221	6	X-RAY DEVELOPER, PACKET FOR 1000ML	PACKET FOR 10 LITER	1470.00	48.48
40.225	6	X-RAY FIXER, PACKET FOR 1000ML	PACKET FOR 10 LITER	1470.00	48.48
40.231	1	X-RAY CASSETTE 8 x 10	PIECE	1400.00	46.17
40.232	1	X-RAY CASSETTE 10 x 12	PIECE	1600.00	52.77
40.233	1	X-RAY CASSETTE 12 x 15	PIECE	2150.00	70.91
40.234	1	X-RAY CASSETTE 14 X17	PIECE	2550.00	84.10
40.241	1	SCREEN 8 x 10	PIECE	750.00	24.74
40.242	1	SCREEN 10 x 12	PIECE	1095.00	36.11
40.243	1	SCREEN 12 x 15	PIECE	1780.00	58.71
40.244	1	X-RAYS SCREEN 14 X 17	PIECE	2200.00	72.56
40.251	1	HANGER 8 x 10	PIECE	210.00	6.93
40.252	2	HANGER 10 x 12	PIECE	430.00	14.18
40.253	2	HANGER 12 x 15	PIECE	440.00	14.51
40.254	2	X-RAYS HANGERS 14 X 17	PIECE	550.00	18.14
40.311	1	TANK	PIECE	3500.00	115.44
40.321	1	APRON PROTECTIVE	PIECE	2500.00	82.45
40.322	1	X-RAY GRID 12 X 15	PIECE	9350.00	308.38
40.323	1	LAB THERMOMETER 0-300 CM	PIECE	235.00	7.75
40.324	1	WATER HEATER	PIECE	150.00	4.95
40.325	2	SAFE RED LIGHT	PIECE	700.00	23.09
40.327	1	LEAD SHEET 15" X 16"	PIECE	690.00	22.68
40.331	1	XRAY LETTER SET: 2 LARGE ,NUMBER0-9	LARGE L/R,NUM.0-9	140.00	4.62
*** Total ***				154690.00	5102.21

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Product Identi-fication Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
40.211	2	X-RAY FILM, 8 x 10	BOX OF 100	1810.00	59.70
40.212	3	X-RAY FILM, 10 x 12	BOX OF 100	4035.00	133.08
40.213	4	X-RAY FILM, 12 x 15	BOX OF 100	7980.00	263.19
40.214	2	X-RAY FILMS 14X17	BOX 100	5304.00	174.93
40.221	6	X-RAY DEVELOPER, PACKET FOR 1000ML	PACKET FOR 10 LITER	1470.00	48.48
40.225	6	X-RAY FIXER, PACKET FOR 1000ML	PACKET FOR 10 LITER	1470.00	48.48
*** Total ***				22069.00	727.87

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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
1.101	50	KETAMINE 50MG/ML SOLUTION	VIAL 250MG x 5ML	3145.00	103.73
2.141	20	PENTAZOCINE 30MG/ML SOLUTION	AMP 30MG x 1ML	285.84	9.43
2.142	50	PENTAZOCINE 25MG TABLETS	TAB 25MG	75.48	2.49
5.001	50	DIAZEPAM 5MG/ML SOLUTION	AMP 10MG/2ML	914.70	30.17
17.403	100	ATROPINE SULPHATE 1MG/ML SOLUTION	AMP 1MG x 1ML	74.00	2.44
32.111	1	SCALPEL HOLDER NO.3	NO.3	8.00	0.26
32.112	1	SCALPEL HANDLE NR 4		8.00	0.26
32.121	1	BLADES FOR SCALPEL, NO.10	PACKET OF 100	194.00	6.40
32.123	1	BLADES FOR SCALPEL N=20, PACKET	PACKET OF 100	185.00	6.10
32.201	1	RAZOR SAFETY, ALL METAL		7.80	0.26
32.205	4	RAZOR BLAD DOUBLE EDGE LOCAL.QUAL	PKT OF 5	12.08	0.40
32.314	1	OPERATING SCISSORS BLUNT/BLUNT	STRAIGHT 14.5CM	18.00	0.59
32.322	1	MAYO DISSECTING SCISSORS BLUNT	STRAIGHT, 15CM	25.00	0.82
32.412	1	DRESSING FORCEPS, THUMB, BROAD	THUMB, BROAD 16CM	15.00	0.49
32.414	1	TISSUE FORCEPS, TOOTHED 2x3, 18CM	TOOTHED 2x3, 18CM	22.00	0.73
32.422	6	FORCEPS HALSTEAD MOSQUITO, CURVED	CURVED 12.5CM	120.00	3.96
32.424	6	FORCEPS HEMOSTATIC KELLY, CURVED	CURVED 14CM	180.00	5.94
32.426	4	FORCEPS HEMOSTATIC KOCHER, STR 14CM	STRAIGHT 14CM	108.00	3.56
32.501	6	TOWEL CLAMPS BACKAUS 13CM		168.00	5.54
32.623	2	RETRACTOR BEAVER, 23CM x 25MM	23CM LONG,25MM BROAD	111.00	3.66
32.688	2	RETRACTOR SENN-MUELLER, DOUBLE END	BLUNT, 3 PRONG, 16CM	90.00	2.97
32.721	2	MAYO'S FORCEPS HOLDER	14CM	40.00	1.32
32.812	1	NEEDLE HOLDER MAYO-HEGAR 20CM	STRAIGHT 20CM	40.50	1.34
32.822	1	SET OF STRAIGHT NEEDLES, CUTTING	SET OF SIX	15.00	0.49
32.824	1	SET OF CURVED NEEDLES, CUTTING	SET OF SIX	15.00	0.49
33.002	1	STAINLESS STEEL BOX 14" LONG		225.00	7.42
33.141	1	KIDNEY TRAY METAL	8 1/4"x4"	65.00	2.14
33.151	1	DRESSING DRUM STAINLESS STEEL	6"x6"	175.00	5.77
33.103	100	PARAFORMALDEHYDE TABLETS	TAB 1000MG	100.00	3.30
33.501	2	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM	9.00	0.30
35.221	20	PENDROSE DRAIN 1" DIAMETER	1" DIAMETER	1040.00	34.30
37.122	10	CATGUT CHROMIC 2/0,75CM,WTH NEEDLE	NEEDLE 30MM,4/8,RND	136.20	4.49
37.123	10	CATGUT CHROME 1, 75CM WITH NEEDLE	NDL 40MM,4/8 CVD,RND	136.20	4.49
37.215	10	SILK REEL 1		106.00	3.50
39.111	1	AMPUTATION SAW SATTERLEE, 31CM	31CM	200.00	6.60
39.411	1	BONE FILE 20CM	20CM	200.00	6.60
39.421	1	RASPATORY FARABOEUF, CVD, 15CM	CURVED 15CM	55.00	1.81
39.521	1	LANGE-HOLZMANN BONE LEVER 27CM		53.00	1.75
39.531	1	FERGUSON BONE HOLDING FORCEPS	21CM	165.00	5.44
39.541	1	FORCEPS BONE RONGEUR JANSSENS 18CM	18CM	423.00	13.95
39.711	1	LISTON BONE CUTTING FORCEPS CURVED	CURVED, 19CM	150.00	4.95
*** Total ***				9115.80	300.65

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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
1.101	50	KETAMINE 50MG/ML SOLUTION	VIAL 250MG x 5ML	3145.00	103.73
2.141	20	PENTAZOCINE 30MG/ML SOLUTION	AMP 30MG x 1ML	285.84	9.43
2.142	50	PENTAZOCINE 25MG TABLETS	TAB 25MG	75.48	2.49
5.001	50	DIAZEPAM 5MG/ML SOLUTION	AMP 10MG/2ML	914.70	30.17
17.403	100	ATROPINE SULPHATE 1MG/ML SOLUTION	AMP 1MG x 1ML	74.00	2.44
32.121	1	BLADES FOR SCALPEL, NO.10	PACKET OF 100	194.00	6.40
32.123	1	BLADES FOR SCALPEL N=20, PACKET	PACKET OF 100	185.00	6.10
32.205	4	RAZOR BLAD DOUBLE EDGE LOCAL.QUAL	PKT OF 5	12.08	0.40
33.193	100	PARAFORMALDEHYDE TABLETS	TAB 1000MG	100.00	3.30
36.221	20	PENDROSE DRAIN 1" DIAMETER	1" DIAMETER	1040.00	34.30
37.122	10	CATGUT CHROMIC 2/0,75CM,WTH NEEDLE	NEEDLE 30MM,4/8,RND	136.20	4.49
37.123	10	CATGUT CHROME 1, 75CM WITH NEEDLE	NDL 40MM,4/8 CVD,RND	136.20	4.49
37.215	10	SILK REEL 1		106.00	3.50
*** Total ***				6404.50	211.23

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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
1.204	1	LIDOCAINE 2% SOLUTION, CARTRIDGE	AMP 1.8ML, BOX OF 50	320.00	12.20
29.151	1	SYRINGE, METAL, DENTAL, CARTRIDGE	PIECE (USA)	650.00	21.44
29.251	5	NEEDLE, HYPO, DENTAL CARTRIDGE 25G	25G x 1-5/8", DOZEN	275.00	9.07
29.252	5	NEEDLE, HYPO, DENTAL CARTRIDGE 25G	25G x 1", DOZEN	275.00	9.07
33.131	1	FORCEPS JAR	6"DEEP+2.5"WIDE	50.00	1.65
33.134	1	JAR DRESSING WITH COVER STAINLESS	4"DIAMx4"DEEP	60.00	1.98
33.141	1	KIDNEY TRAY METAL	81/4"x4"	65.00	2.14
33.142	1	TRAY ALUMINIUM ORDINARY	14"x10.5"x1"	32.00	1.06
33.151	1	DRESSING DRUM STAINLESS STEEL	6"x6"	175.00	5.77
33.181	1	STERILIZER INSTRUMENT WITH COVER	STLSS 10"x5"x3.5"	175.75	5.80
33.331	1	ABSORBANT GAUZE FOR COMPRESSES	20 YARD	35.00	1.15
33.332	1	COTTON HYDROPHILIC ROLL	ROLL 300GMS	18.00	0.59
33.501	2	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM	9.00	0.30
38.111	1	DENTAL MOUTH MIRROR	PIECE	40.00	1.32
38.113	1	DENTAL MIRROR (WITHOUT HANDLE)	PIECE	15.00	0.49
38.121	1	EXPLORER	PIECE	25.00	0.82
38.131	1	COTTON PLIERS, CURVED	PIECE	25.00	0.82
38.421	1	ELEVATOR STRAIGHT No.34	PIECE	65.00	2.14
38.422	1	ELEVATOR CRYERS No. 30	PIECE	65.00	2.14
38.423	1	ELEVATOR CRYERS No. 31	PIECE	65.00	2.14
38.425	1	CHEATLE FORCEP	PIECE	80.00	2.64
38.427	1	UPPER UNIVERSAL FORCEP(NO.150)	PIECE	100.00	3.30
38.428	1	LOWER UNIVERSAL FORCEP(NO.75)	PIECE	100.00	3.30
38.431	1	FORCEPS RIGHT UPPER MOLAR	PIECE	100.00	3.30
38.432	1	FORCEPS LEFT UPPER MOLAR	PIECE	100.00	3.30
38.433	1	FORCEPS UPPER PREMOLAR	PIECE	100.00	3.30
38.434	1	FORCEPS UPPER LATERAL AND CANINE	PIECE	100.00	3.30
38.435	1	FORCEPS UPPER ROOTS	PIECE	100.00	3.30
38.436	1	FORCEPS LOWER MOLAR	PIECE	100.00	3.30
38.437	1	FORCEPS LOWER PREMOLAR	PIECE	100.00	3.30
38.438	1	FORCEPS LOWER ROOTS	PIECE	100.00	3.30
38.439	1	SPOON EXCAVATOR	PIECE	35.00	1.15
38.440	1	MIXING SLAB	PIECE	20.00	0.66
38.441	1	CURETTE GRACEY 11	PIECE	35.00	1.15
38.442	1	CURETTE GRACEY 12	PIECE	35.00	1.15
38.451	2	IVORY C1 SCALER	PIECE	50.00	1.65
38.457	1	FILLING TOOL	PIECE	25.00	0.82
38.459	1	CEMENT SPATULA	PIECE	35.00	1.15
38.742	1	EUGENOL	30ML BOTTLE	60.00	1.98
38.745	1	ZINC OXIDE	500 GM/CONTAINR	200.00	6.60
38.811	1	BOX, STAINLESS STEEL, FOR DENTAL	PIECE	350.00	11.54
92.121	1	"GREEN BOOK"	PIECE	35.00	1.15
*** Total ***				4449.75	149.76

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Management Sciences for Health / Peshawar

UNT-KIT Resupply

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
1.204	1	LIDOCAINE 2% SOLUTION, CARTRIDGE	AMP 1.8ML, BOX OF 50	370.00	12.29
20.251	5	NEEDLE, HYPO, DENTAL CARTRIDGE 25G	25G x 1 5/8", DOZEN	275.00	9.07
20.252	5	NEEDLE, HYPO, DENTAL CARTRIDGE 25G	25G x 1", DOZEN	275.00	9.07
33.331	1	ABSORBANT GAUZE FOR COMPRESSES	20 YARD	35.00	1.15
33.332	1	COTTON HYDROPHILIC ROLL	ROLL 300GMS	18.00	0.59
38.113	1	DENTAL MIRROR (WITHOUT HANDLE)	PIECE	15.00	0.49
38.742	1	EUGENOL	30ML BOTTLE	60.00	1.98
99.121	1	"GREEN BOOK"	PIECE	35.00	1.15
*** Total ***				1083.00	35.72

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Management Sciences for Health / Peshawar
ABDIN -KIT

Product Identification Number	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
1.101	50	KETAMINE 50MG/ML SOLUTION	VIAL 250MG x 5ML	3145.00	103.73
2.141	100	PENTAZOCINE 30MG/ML SOLUTION	AMP 30MG x 1ML	1429.20	47.14
2.142	200	PENTAZOCINE 25MG TABLETS	TAB 25MG	301.92	9.96
5.001	100	DIAZEPAM 5MG/ML SOLUTION	AMP 10MG/2ML	1829.40	60.34
17.403	100	ATROPINE SULPHATE 1MG/ML SOLUTION	AMP 1MG x 1ML	74.00	2.44
32.111	1	SCALPEL HOLDER NO.3	NO.3	8.00	0.26
32.112	1	SCALPEL HANDLE NR 4		8.00	0.26
32.121	1	BLADES FOR SCALPEL, NO.10	PACKET OF 100	194.00	6.40
32.122	1	BLADES FOR SCALPEL, NO.15	PKT OF 100	215.00	7.09
32.124	1	BLADES FOR SCALPEL, NO.21	PKT OF 100	190.00	6.27
32.201	1	RAZOR SAFETY, ALL METAL		7.80	0.26
32.205	20	RAZOR BLAD DOUBLE EDGE LOCAL.QUAL	PKT OF 5	60.40	1.99
32.323	1	SCISSORS DISSECTING MAYO, BLUNT	CURVED 17CM	35.00	1.15
32.324	1	SCISSORS DISSECTING MAYO, BLUNT	CURVED 23CM	36.00	1.19
32.331	1	SCISSORS DISSECTING MAYO, BLUNT	STRAIGHT 17CM	30.00	0.99
32.332	1	SCISSORS METZEMBAUM BLUNT	CURVED 23CM	40.00	1.32
32.412	2	DRESSING FORCEPS, THUMB, BROAD	THUMB, BROAD 16CM	30.00	0.99
32.413	2	TISSUE FORCEPS, TOOTHED 2x3	TOOTHED 2x3, 11.5CM	30.00	0.99
32.414	1	TISSUE FORCEPS, TOOTHED 2x3, 18CM	TOOTHED 2x3, 18CM	22.00	0.73
32.417	1	HUNTER SPLINTER FORCEPS	ANGLED 10.5CM	20.00	0.66
32.418	1	DRESSING FORCEPS, THUMB, BROAD 25CM	THUMB, BROAD, 25CM	25.00	0.82
32.419	1	FORCEPS EAR, SPRING TYPE, 12,5CM	ANGULAR 12,5CM	18.00	0.59
32.421	12	FORCEPS HALSTEAD MOSQUITO, STRAIGHT	STRAIGHT 12.5CM	300.00	9.90
32.423	12	FORCEPS HEMOSTATIC KELLY, STRAIGHT	STRAIGHT 14CM	360.00	11.87
32.424	12	FORCEPS HEMOSTATIC KELLY, CURVED	CURVED 14CM	360.00	11.87
32.427	6	FORCEPS HEMOSTATIC KOCHER, STRAIGHT	STRAIGHT 14CM	189.00	6.23
32.428	6	FORCEPS HEMOSTATIC KOCHER, CURVED	CURVED 20CM	261.00	8.61
32.441	2	FORCEPS HYSTERECTOMY PEAN, CVD 20CM	CURVED 20CM	94.00	3.10
32.442	2	FORCEPS HYSTERECTOMY PEAN, STRAIGHT	STRAIGHT 22.5CM	130.00	4.29
32.443	1	FORCEPS UTERIN ELEVATING SOMER 22,5	22,5 CM	185.00	6.10
32.444	2	FORCEPS UTERINE ARTERY PHANEUF 20CM	20CM	170.00	5.61
32.451	2	FORCEPS SPONGE HOLDING RAMPLEY	25CM	94.00	3.10
32.461	2	FORCEPS INTESTINAL BABCOCK 140MM		76.00	2.51
32.462	2	FORCEPS INTESTINAL BABCOCK 158MM		84.00	2.77
32.463	2	FORCEPS INTESTINAL JUD-ALLIS 184MM		88.00	2.90
32.464	2	CLAMP INTESTINAL MAYO-ROBSON CVD	CURVED 23CM	194.00	6.40
32.465	2	CLAMP INTSETINAL MAYO-ROBSON STR	STRAIGHT 23CM	190.00	6.27
32.466	4	FORCEPS TISSUE ALLIS, 4x5 TEETH	TOOTHED 4x5, 15CM	160.00	5.28
32.501	8	TOWEL CLAMPS BACKAUS 13CM		224.00	7.39
32.611	1	FARABEUF RETRACTORS SET OF TWO	28X16MM, 15CM, SET	31.50	1.04
32.622	1	RETRACTOR DEAVER, 21.5CM x 22MM	21.5CM LONG,22MMBROA	45.95	1.52
32.623	1	RETRACTOR DEAVER, 23CM x 25MM	23CM LONG,25MM BROAD	55.50	1.83
32.624	1	RETRACTOR DEAVER, 30CM x 13MM	30CM LONG,13MM BROAD	54.00	1.78
32.625	1	RETRACTOR DEAVER, 30CM x 25MM	30CM LONG,25MM BROAD	49.50	1.63
32.658	2	RETRACTOR SENN-MUELLER, DOUBLE END	BLUNT, 3 PRONG, 16CM	90.00	2.97
32.671	1	RETRACTOR SELF RETAINING BALFOUR	BLADES 50x50&50x75MM	445.00	14.68
32.711	1	PROBE DOUBLE ENDED	DIAMETRE 2MM	10.00	0.33
32.712	1	CHEYNE DISSECTOR AND PROBE 17.5CM	17.5CM	50.00	1.65

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ABDIN -KIT

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
32.721	2	MAYO'S FORCEPS HOLDER	14CM	40.00	1.32
32.812	1	NEEDLE HOLDER MAYO-HEGAR 20CM	STRAIGHT 20CM	40.50	1.34
32.813	1	NEEDLE HOLDER WANGENSTEEN 27CM	27CM	60.00	1.98
32.821	1	SET OF STRAIGHT NEEDLES, ROUND	SET OF SIX	15.00	0.49
32.824	1	SET OF CURVED NEEDLES, CUTTING	SET OF SIX	15.00	0.49
32.903	1	BOX STAINLESS STEEL 30x10x6CM		175.00	5.77
37.117	50	CATGUT PLAIN 2/0		681.00	22.46
37.127	50	CATGUT CHROMIC 2/0		681.00	22.46
37.212	60	SILK BRAIDED 3/0, 75CM, WTH NEEDLE	NEEDLE 28MM,3/8,CUT	670.20	22.10
37.215	10	SILK REEL 1		106.00	3.50
*** Total ***				14222.87	469.09

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Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
1.101	50	KETAMINE 50MG/ML SOLUTION	VIAL 250MG x 5ML	3145.00	103.73
2.141	100	PENTAZOCINE 30MG/ML SOLUTION	AMP 30MG x 1ML	1420.20	47.14
2.142	200	PENTAZOCINE 25MG TABLETS	TAB 25MG	301.92	9.96
5.001	100	DIAZEPAM 5MG/ML SOLUTION	AMP 10MG/2ML	1820.40	60.34
17.403	100	ATROPINE SULPHATE 1MG/ML SOLUTION	AMP 1MG x 1ML	74.00	2.44
32.121	1	BLADES FOR SCALPEL, NO.10	PACKET OF 100	194.00	6.40
32.122	1	BLADES FOR SCALPEL, NO.15	PKT OF 100	215.00	7.09
32.124	1	BLADES FOR SCALPEL, NO.21	PKT OF 100	190.00	6.27
32.295	20	RAZOR BLAD DOUBLE EDGE LOCAL.QUAL	PKT OF 5	60.40	1.99
37.117	50	CATGUT PLAIN 2/0		681.00	22.46
37.127	50	CATGUT CHROMIC 2/0		681.00	22.46
37.212	60	SILK BRAIDED 3/0, 75CM, WTH NEEDLE	NEEDLE 28MM,3/8,CUT	670.20	22.10
37.215	10	SILK REEL 1		106.00	3.50
*** Total ***				9577.12	315.87

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Management Sciences for Health / Peshawar
POSIT -KIT

Product Identi-fication Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
2.111	3,000	ACETAMINOPHEN 500MG TABLETS	TAB 500MG	250.50	8.26
3.001	1,000	CHLORPHENIRAMINE MALEATE 4MG	TAB 4MG	14.80	0.49
5.201	1,000	METRONIDAZOLE 200MG TABLET	TAB 200MG	254.00	8.38
6.326	1,000	SULFAMETHOXAZOL 400+TRIMETHOPRIM 80	TAB 400MG+80MG	285.00	9.40
6.701	3,000	CHLOROQUINE 150MG BASE TABLETS	TAB 250MG=150MG BASE	630.00	20.79
13.201	4	GENTIAN VIOLET,TOPICAL USE	POW 25GMS	48.00	1.58
15.001	1	CHLORHEXIDINE 1.5% + CETRIMIDE 15%	SOL 1.5%+15%, 1 LIT	47.00	1.55
17.101	3,000	ALUMINIUM HYDROXYDE (COMP.) TABLET	TAB 400MG	228.00	7.52
17.621	60	ORAL REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE	136.80	4.51
21.101	60	OXYTETRACYCLINE 1% EYE OINTMENT	OMT 1%, 3.5MG TUB	133.80	4.41
25.201	1,000	TRIPROLIDINE + PSEUDOEPHEDRINE	TAB 2.5MG+60MG	260.00	8.58
29.301	2	BUCCAL THERMOMETER F+C	PIECE	52.00	1.72
32.201	1	RAZOR SAFETY, ALL METAL		7.80	0.26
32.205	10	RAZOR BLAD DOUBLE EDGE LOCAL.QUAL	PKT OF 5	30.20	1.00
32.314	2	OPERATING SCISSORS BLUNT/BLUNT	STRAIGHT 14.5CM	36.00	1.19
32.412	2	DRESSING FORCEPS, THUMB, BROAD	THUMB, BROAD 16CM	30.00	0.99
32.423	2	FORCEPS HEMOSTATIC KELLY, STRAIGHT	STRAIGHT 14CM	60.00	1.98
32.424	2	FORCEPS HEMOSTATIC KELLY, CURVED	CURVED 14CM	60.00	1.98
32.901	2	STAINLESS STEEL BOX 8"x3"	8"x3"	200.00	6.60
33.114	1	ORDINARY SCISSORS, STRAIGHT	8.5"	36.00	1.19
33.115	1	NAIL CUTTER		10.00	0.33
33.131	1	FORCEPS JAR	6"DEEP+2.5"WIDE	50.00	1.65
33.133	2	SPONGE BOWL STAINLESS STEEL	6"DIAMx2"DEEP	69.50	2.29
33.135	1	CUP MEASURING WITH HANDLE STAINLESS	1000CC, GRADUATED	95.00	3.13
33.136	1	FUNNEL STAINLESS STEEL MOUTH 3x4.5"	MOUTH 3x4.5"	25.00	0.82
33.141	2	KIDNEY TRAY METAL	8 1/4"x4"	130.00	4.29
33.142	1	TRAY ALUMINIUM ORDINARY	14"x10.5"x1"	32.00	1.06
33.151	1	DRESSING DRUM STAINLESS STEEL	6"x6"	175.00	5.77
33.161	5	BOTTLE PLASTIC(ASSORTED SCREW CAP	125CC NARROW MOUTH	20.00	0.66
33.172	1	BASIN PLASTIC	13"x5"	68.00	2.24
33.173	1	SOAP-BOX, 2-PIECE	95x65x35MM, PLASTIC	6.00	0.20
33.191	1	PRESSURE COOKER, 10LIT	10LIT	295.00	9.73
33.311	30	CREPE BANDAGE ROLL	4.5Mx10CM	264.00	8.71
33.321	18	GAUZE BANDAGES 3"	ROLL, ONE DOZEN	288.00	9.50
33.331	6	ABSORBANT GAUZE FOR COMPRESSES	20 YARD	210.00	6.93
33.332	1	COTTON HYDROPHILIC ROLL	ROLL 300GMS	18.00	0.59
33.341	30	TRIANGULAR BANDAGE	100CM SIDES	138.00	4.55
33.351	12	ADHESIVE TAPE 1"	1 ROLL	115.44	3.81
33.352	6	ADHESIVE TAPE 3"	ROLL	224.40	7.40
33.501	1	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM	4.50	0.15
33.502	12	TOILET SOAP	1 PIECE 113GMS	36.00	1.19
*** Total ***				5073.74	167.34

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DAIIN -KIT

Product Identi-fication Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
17.621	2	ORAL REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE	4.56	0.15
32.205	1	RAZOR BLAD DOUBLE EDGE LOCAL.QUAL	PKT OF 5	3.02	0.10
33.349	24	COTTON STRING GLAZED LEATHER SW,555	PIECE,1FT	0.48	0.02
33.361	24	GAUZE PADS,"NON-STERILE", 4"X4"	1 PIECE	11.96	0.39
33.501	1	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM	4.50	0.15
33.503	4	MINI SOAP BAR	30 GMS BAR	7.80	0.26
95.503	1	LARGE PLASTIC BAG	PIECE	5.00	0.16
*** Total ***				37.32	1.23

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MCHIN -KIT

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
1.203	60	LIDOCAINE 2% SOLUTION	AMP 10ML	249.22	7.92
6.201	2,500	METRONIDAZOLE 200MG TABLET	TAB 200MG	635.00	20.94
6.311	1,000	AMPICILLIN 250MG CAPSULES	CAP 250MG	1150.00	37.93
6.501	2,000	NYSTATINE VAGINAL TABLET	TAB 100,000 IU	1580.00	52.11
17.621	200	ORAL REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE	456.00	15.04
18.104	400	DESOGESTREL+ETHINYLESTRADIOL	TAB 28 PER PACK	10800.00	356.20
22.901	80	ERGOMETRINE MALEATE 0.2MG/ML	AMP 0.2MG x 1ML	171.26	5.65
28.401	1	FETOSCOPE	PIECE	22.00	0.73
28.511	1	SPECULUM VAGINAL GRAVES, SMALL	SMALL SIZE	60.00	1.98
28.512	1	SPECULUM VAGINAL GRAVES, MEDIUM	MEDIUM SIZE	42.00	1.39
28.513	1	SPECULUM VAGINAL GRAVES, LARGE	LARGE SIZE	45.00	1.48
29.525	1	PREGNANCY TEST STRIPS	BOTTLE OF 70 STRIPS	1500.00	49.47
29.603	10	ARM CIRCIMFERENCE TAPE	PIRCE	60.00	1.98
31.223	1	APRON UTILITY PLASTIC	900MM X 1MM	125.00	4.12
31.225	1	SHEETING, PLASTIC.	910 X 1800MM	75.00	2.47
32.314	1	OPERATING SCISSORS BLUNT/BLUNT	STRAIGHT 14.5CM	18.00	0.59
32.333	1	EPISIOTOMY SCISSORS, ANGULAR BRAUN	145MM SS	32.00	1.05
32.432	1	FORCEPS, STERILIZER UTILITY	200MM VAUGHN SS	33.50	1.10
32.451	1	FORCEPS SPONGE HOLDING RAMPLEY	25CM	47.00	1.55
32.502	1	TOWEL HOOK.	430 X 500MM	45.00	1.48
32.602	1	MOUTH MUCOUS EXTRACTOR	FOR NEONATE	45.00	1.48
32.905	1	ALUMINUM CASE FOR MIDWIFERY KIT	ALUM. LID & HANDLE	200.00	6.60
33.133	2	SPONGE BOWL STAINLESS STEEL	6"DIAMx2"DEEP	69.50	2.29
33.141	1	KIDNEY TRAY METAL	81/4"x4"	65.00	2.14
33.173	1	SOAP-BOX, 2 PIECE	95x65x35MM, PLASTIC	6.00	0.20
33.501	1	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM	4.50	0.15
36.115	2,000	CONDOMS STERILE	PKT 4	3700.00	122.03
41.124	2	HAEMOGLOBINOMETER PIPETTE	WITH PIPETTE 2 TUBE	70.00	2.31
41.125	1	HAEMOGLOBINOMETER SET	HAEMOMETER SAHLI	250.00	8.25
41.624	1	BEAKER 50ML	GLASS PIECE	19.50	0.64
41.626	1	BEAKER 500ML	GLASS PIECE	42.90	1.41
41.704	2	UROSTIX	BOTTEL OF 100 STP	516.00	17.02
41.705	1	ANTI-COAGULANT FOR BLOOD	1000 CMS(EDTA)	823.00	27.14
41.738	3	ETHANOL,96 %	SOL 200ML	156.00	5.15
41.755	1	HYDROCHLORIC ACID CONC.	SOL 200ML	28.00	0.92
41.765	1	BLOOD LANCETS(FEATHER)	200 PCS	85.00	2.80
41.805	6	LAB.RECORD BOOK,LINED	BOOK 100 PAGES	255.00	8.41
41.912	1	FLASH LIGHT,PREFOCUSED	W/2 DRY CELL 1.5V	150.00	4.95
99.123	2	MARKER BLACK	PERMANANT, PIECE	28.00	0.92
*** Total ***				23650.38	780.03

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MCH-KIT

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
1.203	60	LIDOCAINE 2% SOLUTION	AMP 10ML	240.22	7.92
6.201	2,500	METRONIDAZOLE 200MG TABLET	TAB 200MG	635.00	20.94
6.311	1,000	AMPICILLIN 250MG CAPSULES	CAP 250MG	1150.00	37.93
6.501	2,000	NYSTATINE VAGINAL TABLET	TAB 100,000 IU	1580.00	52.11
17.621	200	ORAL REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE	456.00	15.04
18.104	400	DESOGESTREL+ETHINYLESTRADIOL	TAB 28 PER PACK	10800.00	356.20
22.001	80	ERGOMETRINE MALEATE 0.2MG/ML	AMP 0.2MG x 1ML	171.26	5.65
29.525	1	PREGNANCY TEST STRIPS	BOTTLE OF 70 STRIPS	1500.00	49.47
29.603	10	ARM CIRCIMFERENCE TAPE	PIRCE	60.00	1.98
36.115	2,000	CONDOMS STERILE	PKT 4	3700.00	122.03
41.124	3	HAEMOGLOBINOMETER PIPETTE	WITH PIPETTE 2 TUBE	105.00	3.46
41.624	2	BEAKER 50ML	GLASS PIECE	39.00	1.29
41.626	1	BEAKER 500ML	GLASS PIECE	42.00	1.41
41.704	2	UROSTIX	BOTTEL OF 100 STP	516.00	17.02
41.738	3	ETHANOL,96 %	SOL 200ML	156.00	5.15
41.755	1	HYDROCHLORIC ACID CONC.	SOL 200ML	28.00	0.92
41.765	1	BLOOD LANCETS(FEATHER)	200 PCS	85.00	2.80
41.805	6	LAB.RECORD BOOK,LINED	BOOK 100 PAGES	255.00	8.41
99.123	2	MARKER BLACK	PERMANANT, PIECE	28.00	0.92
*** Total ***				21547.38	710.67

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Management Sciences for Health / Peshawar
VHSIN -KIT

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
17.621	25	ORAL REHYDRATATION SALTS:FOR 1000CC	POW FOR 1 LITRE	57.00	1.88
33.135	1	CUP MEASURING WITH HANDLE STAINLESS	1000CC, GRADUATED	95.00	3.13
33.503	25	MINI SOAP BAR	30 GMS BAR	48.75	1.61
99.123	2	MARKER BLACK	PERMANANT, PIECE	28.00	0.92
99.134	1	PERSONAL HYGIENE,POSTER	PIECE	30.00	0.99
99.135	1	IMUNIZATION,POSTER	PIECE	30.00	0.99
99.136	1	CONTROL OF DIARRHEAL DISEASES,CHART	PIECE	175.00	5.77
99.137	1	SAFE MOTHERHOOD,FLIPCHART	PIECE	210.00	6.93
99.138	1	SHOULDER BAG (ARMY GREEN)	PIECE	40.00	1.32
*** Total ***				713.75	23.54

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Management Sciences for Health / Peshawar
CHVIN -KIT

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
2.111	100	ACETAMINOPHEN 500MG TABLETS	TAB 500MG	8.35	0.28
6.101	60	MEBENDAZOLE 100MG TABLET	TAB 100MG	10.80	0.36
6.326	60	SULFAMETHOXAZOL 400+TRIMETHOPRIM 80	TAB 400MG+80MG	17.10	0.56
6.328	4	SULFAMETHOXAZOL 200+TRIMETHOPRIM 40	SYR 200MG+40MG/5ML	20.40	0.67
10.191	100	FERROUS SULPHATE + FOLIC ACID	TAB 60MG+0.25MG	10.20	0.34
13.205	1	GENTIAN VIOLET SOLUTION	SOL 60ML BTL	3.00	0.10
13.601	1	BENZYL BENZOATE 25% EMULSION	EMN 25%,60ML BTL	5.70	0.19
15.002	1	XYLENOL W/V	SOL	8.58	0.28
17.621	10	ORAL REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE	22.80	0.75
21.101	5	OXYTETRACYCLINE 1% EYE OINTMENT	ONT 1%, 3.5MG TUB	11.15	0.37
28.301	1	BUCCAL THERMOMETER F+C	PIECE	26.00	0.86
31.225	1	SHEETING, PLASTIC.	910 X 1800MM	75.00	2.47
32.312	1	OPERATING SCISSORS BLUNT/SHARP	STRAIGHT 10CM	15.00	0.49
32.314	1	OPERATING SCISSORS BLUNT/BLUNT	STRAIGHT 14.5CM	18.00	0.59
32.412	1	DRESSING FORCEPS, THUMB, BROAD	THUMB, BROAD 16CM	15.00	0.49
32.423	1	FORCEPS HEMOSTATIC KELLY, STRAIGHT	STRAIGHT 14CM	30.00	0.99
32.424	1	FORCEPS HEMOSTATIC KELLY, CURVED	CURVED 14CM	30.00	0.99
32.901	1	STAINLESS STEEL BOX 8"x3"	8"x3"	100.00	3.30	
33.133	1	SPONGE BOWL STAINLESS STEEL	6"DIAMx2"DEEP	34.75	1.15
33.135	1	CUP MEASURING WITH HANDLE STAINLESS	1000CC, GRADUATED	95.00	3.13
33.173	1	SOAP-BOX, 2-PIECE	95x65x35MM, PLASTIC	6.00	0.20
33.311	2	CREPE BANDAGE ROLL	4.5Mx10CM	17.60	0.58
33.321	1	GAUZE BANDAGES 3"	ROLL, ONE DOZEN	16.00	0.53
33.332	1	COTTON HYDROPHILIC ROLL	ROLL 300GMS	18.00	0.59
33.352	1	ADHESIVE TAPE 3"	ROLL	37.40	1.23
33.501	1	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM	4.50	0.15
33.503	4	MINI SOAP BAR	30 GMS BAR	7.80	0.26
95.501	1	RUCKSACK, NYLON	PIECE	150.00	4.95
99.301	50	PACKET FOR MEDICINE	CMx CM	3.80	0.13
*** Total ***				817.93	26.98

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Management Sciences for Health / Peshawar
SUPLRE -KIT

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
33.311	48	CREPE BANDAGE ROLL	4.5Mx10CM	422.40	13.93
33.321	32	GAUZE BANDAGES 3"	ROLL, ONE DOZEN	512.00	16.89
33.331	13	ABSORBANT GAUZE FOR COMPRESSES	20 YARD	455.00	15.01
33.352	10	ADHESIVE TAPE 3"	ROLL	374.00	12.34
*** Total ***				1763.40	58.16

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Management Sciences for Health / Peshawar
NURSE -KIT

Product Identification Number.	Total Number Counting Units	Generic Name	Counting Unit Specifications	Cost in Pakistani Rupees.	Cost in US $
28.101	1	STETHOSCOPE	PIECE	120.00	3.96
28.401	1	FETOSCOPE	PIECE	22.00	0.73
28.403	60	CARD CLAMPS	PIECE	117.00	3.86
28.502	1	FLASHLIGHT RIGHT ANGLED PRE-FOCUSED	WITH 2 DRY CELL 1.5V	65.00	2.14
28.511	1	SPECULUM VAGINAL GRAVES, SMALL	SMALL SIZE	60.00	1.98
28.512	1	SPECULUM VAGINAL GRAVES, MEDIUM	MEDIUM SIZE	42.00	1.39
28.513	1	SPECULUM VAGINAL GRAVES, LARGE	LARGE SIZE	45.00	1.48
31.223	1	APRON UTILITY PLASTIC	900MM X 1MM	125.00	4.12
31.225	1	SHEETING, PLASTIC.	910 X 1800MM	75.00	2.47
32.314	1	OPERATING SCISSORS BLUNT/BLUNT	STRAIGHT 14.5CM	18.00	0.59
32.333	1	EPISIOTOMY SCISSORS, ANGULAR BRAUN	145MM SS	32.00	1.06
32.432	1	FORCEPS, STERILIZER UTILITY	200MM VAUGHN SS	33.50	1.10
32.451	1	FORCEPS SPONGE HOLDING RAMPLEY	25CM	47.00	1.55
32.502	1	TOWEL HOOK.	430 X 500MM	45.00	1.48
32.602	1	MOUTH MUCOUS EXTRACTOR	FOR NEONATE	45.00	1.48
32.705	1	ALUMINUM CASE FOR MIDWIFERY KIT	ALUM. LID & HANDLE	200.00	6.60
33.133	2	SPONGE BOWL STAINLESS STEEL	6"DIAMx2"DEEP	69.50	2.29
33.141	1	KIDNEY TRAY METAL	81/4"x4"	65.00	2.14
33.173	1	SOAP-BOX, 2-PIECE	95x65x35MM, PLASTIC	6.00	0.20
33.501	1	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM	4.50	0.15
33.603	60	GLOVES RUBBER BY PAIR	SIZE 7, 1 PAI	297.00	9.80
*** Total ***				1533.50	50.58

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Item code Boston	Product Number	Item Description / Generic Name	Counting Unit Specifications / Reference Data
KET500A	1.101	KETAMINE 50MG/ML SOLUTION	VIAL 250MG x 5ML
IP11A	1.102	THIOPENTAL 40MG/ML SOLUTION	AMP 1000MG x 25ML
LID100A	1.201	LIDOCAINE 2% SOLUTION	VIAL 50ML
LID2S	1.202	LIDOCAINE TOPICAL GEL 2%	GEL 2%, TUB 15GR
LID20A	1.203	LIDOCAINE 2% SOLUTION	AMP 10ML
LID36A	1.204	LIDOCAINE 2% SOLUTION, CARTRIDGE	AMP 1.8ML, BOX OF 50
ASA500T	2.111	ACETAMINOPHEN 500MG TABLETS	TAB 500MG
ASA300T	2.121	ACETYL SALICYLIC ACID 300MG TABLETS	TAB 300MG
ASA100T	2.122	ACETYL SALICYLIC ACID 100(75)MG TAB	TAB 100(75)MG
IBU200T	2.125	IBUPROFEN 200MG TABLETS	TAB 200MG
PTC30A	2.141	PENTAZOCINE 30MG/ML SOLUTION	AMP 30MG x 1ML
PTC25T	2.142	PENTAZOCINE 25MG TABLETS	TAB 25MG
BNP03A	2.143	BUPRENORPHINE HCL 0.3MG/ML SOLUTION	AMP 0.3MG x 1ML
BNP02T	2.144	BUPRENORPHINE HCL 0.2MG SUBLINGUAL	TAB 0.2MG
RUB00C	2.191	RUBEFACIENTS CREAM	CRM 1GR, TUB
CPM4T	3.001	CHLORPHENIRAMINE MALEATE 4MG	TAB 4MG
PMZ25A	3.002	PROMETHAZINE 25MG/ML SOLUTION	AMP 50MG x 2ML
DEX4A	3.003	DEXAMETHASONE 4MG/ML SOLUTION	AMP 4MG x 1ML
ATR1A	4.201	ATROPINE SULPHATE 1MG/ML SOLUTION	AMP 1MG x 1ML
DIA5A	5.001	DIAZEPAM 5MG/ML SOLUTION	AMP 10MG/2ML
PHE30H	5.002	PHENOBARBITAL 30MG TABLET	TAB 30MG
PHE100T	5.003	PHENOBARBITAL 100MG TABLETS	TAB 100MG
PNT25T	5.004	PHENYTOIN 25MG TABLETS/CAPSULES	TAB/CAP 25MG
PNT100T	5.005	PHENYTOIN 100MG TABLETS/CAPSULES	TAB/CAP 100MG
EXT250T	5.006	ETHOSUXIMIDE 250MG TABLETS/CAPSULES	TAB/CAP 250MG
ER100T	6.101	MEBENDAZOLE 100MG TABLET	TAB 100MG
PIP500H	6.102	PIPERAZINE SYRUP 750MG/5ML	SYR 4.5G x 30ML
NIC500T	6.103	NICLOSAMIDE 500MG TABLETS	TAB 500MG
PIP500T	6.104	PIPERAZINE 500MG TABLETS	TAB 500MG
LVS50T	6.105	LEVAMISOLE 40MG TABLETS	TAB 40MG
ET250T	6.201	METRONIDAZOLE 200MG TABLET	TAB 200MG
ET250H	6.202	METRONIDAZOLE 250MG TABLETS	TAB 250MG
AMP250Z	6.311	AMPICILLIN 250MG CAPSULES	CAP 250MG
AMP500A	6.312	AMPICILLIN 500MG POWDER FOR INJECT.	POW 500MG/VIAL
BBP12A	6.313	BENZATHINE BENZYL PENICILLINE 1.2	POW 1.2MIU/VIAL
PMP250T	6.315	PHENOXYMETHYL PENICILLIN 250MG	TAB 250MG
PPF00A	6.316	PROCAINE PENICILLIN FORTIFIED	POW 300MG+60MG/VIAL
BP1A	6.317	BENZYL PENICILLIN POWDER FOR INJECT	POW 1MIU/VIAL
MX250T	6.318	AMOXYCILLIN 250MG CAPSULE/TABLET	TAB/CAP 250MG
XC500H	6.319	CLOXACILLIN 500MG CAPSULE	CAP 500MG
CAP250T	6.321	CHLORAMPHENICOL 250MG CAPSULES	CAP 250MG
ERY250T	6.322	ERYTHROMYCIN 250MG TABLETS	TAB 250MG
TE1250T	6.324	TETRACYCLINE HCL 250MG CAPSULES	CAP 250MG
GEN40A	6.325	GENTAMYCIN SULPHATE 40MG/ML SOLUTIO	VIAL 80MG X 2ML
SMT400T	6.326	SULFAMETHOXAZOL 400+TRIMETHOPRIM 80	TAB 400MG+80MG
DMS00T	6.327	SULPHADIMIDINE 500MG TABLETS	TAB 500MG
MT200L	6.328	SULFAMETHOXAZOL 200+TRIMETHOPRIM 40	SYR 200MG+40MG/5ML
NIT100T	6.329	CHLORAMPHENICOL POWDER FOR INJ 1GR	POW 1000MG/VIAL

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Item code Boston	Product Number Afghan Program	Item Description / Generic Name	Counting Unit Specifications / Reference Data
DAP100T	6.331	DAPSONE 100MG TABLETS	TAB 100MG
DAP50T	6.332	DAPSONE 50MG TABLETS	TAB 50MG
TAZ50T	6.341	ISONIAZIDE 100MG+THIACETAZONE 50MG	TAB 100MG + 50MG
TAZ150T	6.342	ISONIAZIDE 300MG+THIACETAZONE 150MG	TAB 300MG + 150MG
STR1A	6.343	STREPTOMYCINE POWDER FOR INJECTIONS	POW 1000MG/VIAL
PZM500T	6.344	PYRAZINAMIDE 500MG TABLETS	TAB 500MG
ETH400T	6.345	ETHAMBUTOL HCL 400MG TABLETS	TAB 400MG
RIF150T	6.346	RIFAMPICIN 150MG TABLETS/CAPSULES	TAB/CAP 150MG
RIF300T	6.347	RIFAMPICIN 300MG TABLETS/CAPSULES	TAB/CAP 300MG
INH100T	6.348	ISONIAZID 100MG TABLETS	TAB 100MG
INH300T	6.349	ISONIAZID 300MG TABLETS	TAB 300MG
YS100V	6.501	NYSTATINE 100,000 IU TABLETS	TAB 100,000 IU
GRI125T	6.502	GRISEOFULVINE 125MG TABLETS	TAB 125MG
CQ150T	6.701	CHLOROQUINE 150MG BASE TABLETS	TAB 250MG=150MG BASE
PRI15T	6.702	PRIMAQUINE 15MG TABLET	TAB 15MG
QUI300T	6.703	QUININE 300MG TABLETS	TAB 300MG
QUI300A	6.705	QUININE DIHYDROCHLORIDE 150MG/ML	AMP 300MG x 2ML
SDP500T	6.706	SULFADOXINE 500MG+PYRIMETHAMINE 25M	TAB 500MG+25MG
FFA60T	10.101	FERROUS SULPHATE + FOLIC ACID	TAB 60MG+0.25MG
FRS200T	10.102	FERROUS SULPHATE 200MG TABLETS	TAB 200MG
FOL1T	10.103	FOLIC ACID 1MG TABLETS	TAB 1MG
DT70A	11.101	DEXTRAN 70, 6% W/V IN NORMAL SALINE	SOL 500ML
VER40T	12.101	VERAPAMIL 40MG TABLETS	TAB 40MG
PPL10T	12.201	PROPANOLOL 10MG TABLETS	TAB 10MG
PPL40T	12.202	PROPANOLOL 40MG TABLETS	TAB 40MG
MT250T	12.301	TRIAMTERENE 50MG+HCL-THIAZIDE 25MG	TAB 50MG + 25MG
MD250T	12.302	METHYLDOPA 250MG TABLETS	TAB 250MG
HDZ25T	12.303	HYDRALAZIN 10MG /25MG TABLETS	TAB 10/25MG
DIG02T	12.401	DIGOXIN 0.25MG TABLETS	TAB 0.25MG
DIG05A	12.402	DIGOXIN 0.25MG/ML SOLUTION	AMP 0.5MG x 2ML
BZS00H	13.101	BENZOIC ACID 6%+SALICYLIC ACID 3%	OMT/CRM 40MG
MZ40C	13.103	MICONAZOLE	CRM 40MG TUB
GV00H	13.201	GENTIAN VIOLET POWDER	POW 100GMS
BZS00C	13.201	BENZOIC ACID 6%+SALICYLIC ACID 3%	OMT/CRM 1000MG
NMB00C	13.202	NEOMYCINE 5MG + BACITRACIN 500 IU	OMT 5MG + 500IU TUB
NIF02O	13.203	NITROFURAZONE 0.2% CREAM	CRM 0.2%, GR TUB
SSD1C	13.204	STERILE GAUZE IMPREGNATED PARAFINE	PACKET STERILE
GV60S	13.205	GENTIAN VIOLET SOLUTION	SOL 60ML BTL
HYD1C	13.301	HYDROCORTISONE ACETATE 1% SKIN	OMT 1%, GR TUB
BB25C	13.601	BENZYL BENZOATE 25% EMULSION	EMN 25%, ML BTL
CXC500S	15.001	CHLORHEXIDINE 1.5% + CETRIMIDE 15%	SOL 1.5%+15%, 2.5 L
XNL100S	15.002	XYLENOL W/V	SOL
IOD10S	15.003	POVIDONE-IODINE 10%	SOL 10%, 500ML
FUR10A	16.001	FUROSEMIDE 10MG/ML INJECTABLE	AMP 20MG X 2ML
FUR40T	16.002	FUROSEMIDE 40MG TABLETS	TAB 40MG
ALH500H	17.101	ALUMINIUM HYDROXYDE (COMP.) TABLET	TAB 400MG
CDOCDNT	17.102	CHLORDIAZEPOXIDE 5MG+CLIDINIUM 2.5M	TAB 5MG + 2.5MG
CIM200T	17.103	CIMETIDINE 200MG TABLETS	TAB 200MG

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Item code Boston	Product Number Afghan Program	Item Description / Generic Name	Counting Unit Specifications / Reference Data
PRZ25H	17.201	PROMETHAZINE HCL 25MG TABLETS	TAB 25MG
AIH00C	17.301	ANTIHEMORRHOIDAL OINTMENT	OMT 10GR TUB
BUT20A	17.401	HYOSCINE-N-BUTYLBROMIDE 20MG/ML SOL	AMP 40MG x 2ML
ORS1000	17.621	ORAL-REHYDRATATION SALTS FOR 1000CC	POW FOR 1 LITRE
PRE5T	18.101	PREDNISOLONE 5MG TABLETS	TAB 5MG
HYD10A	18.102	HYDROCORTISONE 10MG POWDER FOR INJ.	
DEX05T	18.103	DEXAMETHASONE 0.5MG TABLETS	TAB 0.5MG
	18.104	DESOGESTREL+ETHINYLESTRADIOL TAB	TAB 28 PER PACK
BCG50X	19.211	BCG VACCINE (DRIED) 50DOSES	VIAL OF 50 DOSES
BCG20X	19.212	BCG VACCINE (DRIED) 20DOSES	VIAL OF 20 DOSES
BCG10X	19.213	BCG VACCINE (DRIED) 10DOSES	VIAL OF 10 DOSES
MEA50X	19.221	MEASLES VACCINE (DRIED) 50 DOSES	VIAL OF 50 DOSES
MEA10X	19.222	MEASLES VACCINE (DRIED) 10 DOSES	VIAL OF 10 DOSES
TT00X	19.231	TETANUS TOXOID 20DOSES	VIAL OF 20 DOSES
POL00X	19.241	POLIO VACCINE (LIVE ATTD.) 20DOSESD	VIAL OF 20 DOSES
DPT00X	19.251	DPTP VACCINE 20 DOSES	VIAL OF 20 DOSES
DT00X	19.252	DT VACCINE 20 DOSES	VIAL OF 20 DOSES
GLA1CC	20.111	SYRINGE HYPO, LUER LOCK, GLASS 1CC	GLASS SYRINGE 1CC
OTC03C	21.101	OXYTETRACYCLINE 1% EYE OINTMENT	OMT 1%, 3.5MG TUB
SAS100	21.102	SUPFACETAMIDE 1% EYE OINTMENT	OMT 1%, 3.5MG TUB
SIL1P	21.103	SILVER NITRATE SOLUTION 1% EYE DROP	BTL 1% x 10ML
ERG02A	22.001	ERGOMETRINE MALEATE 0.2MG/ML	AMP 0.2MG x 1ML
ERG02T	22.002	ERGOMETRINE MALEATE 0.2MG TABLETS	TAB 0.2MG
OXY10A	22.003	OXYTOCIN 10IU/ML SOLUTION	AMP 10IU x 1ML
GRADPE	23.418	GRASS DRESSING FOR CAP EA	STRAIGHT 20 CM
DIA5T	24.001	DIAZEPAM 5MG TABLETS	TAB 5MG
CPZ100T	24.002	CHLORPROMAZINE 100MG TABLETS	
CPZ25T	24.003	CHLORPROMAZINE 25MG/ML SOLUTION	AMP 50MG x 2ML
AMI250A	25.101	AMINOPHYLLINE 25MG/ML	AMP 25MG/ML, 10ML
AMI100T	25.102	AMINOPHYLLINE 100MG	TAB 100MG
BEC05I	25.103	BECLOMETHASONE AEROSOL 0.05MG/DOSE	AER 6MG x 120 DOSES
EPH30T	25.104	EPHEDRINE 30MG TABLETS	TAB 30MG
SAL01D	25.105	SALBUTAMOL ORAL INHALER 0.1MG/DOSE	AER 5MG x 50 DOSES
SAL4H	25.106	SALBUTAMOL SULPHATE 4MG TABLETS	TAB 4MG
TRP60T	25.201	TRIPROLIDINE + PSEUDOEPHEDRINE	TAB 2.5MG+60MG
DSN5H	26.201	DEXTROSE 25%	SOL 25%, 20ML
RGR500	26.202	RINGER LACTATE	SOL COMP 500ML
SC09B	26.203	SODIUM CHLORIDE 0.9% SOLUTION	SOL 9%, 1000ML
WAT2A	26.204	WATER FOR INJECTIONS	AMP 2ML
GLU5B	26.205	GLUCOSE 5% SOLUTION	SOL 5%, 1000ML
SB1H	26.206	SODIUM BICARBONATE 1.4% SOLUTION	SOL 1.4%, 50ML
VA05T	27.101	RETINOL 50,000 IU	TAB 50,000IU
VA200T	27.102	RETINOL 200,000 IU SOFT CAPSULES	CAP 200,000IU
VB150T	27.103	THIAMINE HCL (VIT. B1) 10MG	TAB 10MG
VB150H	27.104	THIAMINE HCL (VIT. B1) 50MG	TAB 50MG
PDX25H	27.105	PYRIDOXINE (VIT. B6) 25MG TABLETS	TAB 25MG
VC100T	27.106	ASCORBIC ACID (VIT. C) 100MG TABLET	TAB 100MG
ERC50T	27.107	ERGOCALCIFEROL (VIT. D) 1.25MG	TAB/CAP 1.25MG

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Item code Boston	Product Number Afghan Program	Item Description / Generic Name	Counting Unit Specifications / Reference Data
MVOOT	27.201	MULTIVITAMINE COMPOUND	TAB/CAPS COMPOUND
VBOOT	27.202	VITAMIN B COMPLEX TABLETS	TAB/CAPS COMPOUND
STETHOS	28.101	STETHOSCOPE	PIECE
SPHYG-AD	28.201	SPHYGMOMANOMETER ADULT	PIECE
THERMO-BU	28.301	BUCCAL THERMOMETER F+C	PIECE
MFETSCOP	28.401	FETOSCOPE	PIECE
OTODIAGHE	28.411	OTOSCOPE WITH DIAGONOSTIC HEAD	+SPARE BULB
BULBAUTO	28.412	BULB FOR AUTOSCOPE	PIECE
BATOTOS	28.413	BATTERIES FOR OTOSCOPE	D-TYPE, 1.5V
OPOTDIBUL	28.421	OPHTHALMO-OTOSCOPE+DIAGNOSTIC HEADS	+SPARE BULB
BULBOTOS	28.422	BULB FOR OTOSCOPE	PIECE
BATOTOS	28.423	BATTERIES FOR OTOSCOPE	D-TYPE, 1.5V
MFLASH15	28.501	FLASHLIGHT PRE-FOCUSED	PIECE
MFLASH1.5	28.502	FLASHLIGHT RIGHT ANGLED PRE-FOCUSED	WITH 2 DRY CELL 1.5V
SPVAGRSM	28.511	SPECULUM VAGINAL GRAVES, SMALL	SMALL SIZE
SPVAGRME	28.512	SPECULUM VAGINAL GRAVES, MEDIUM	MEDIUM SIZE
SPVAGRLA	28.513	SPECULUM VAGINAL GRAVES, LARGE	LARGE SIZE
SPVAGRVI	28.514	SPECULUM VAGINAL GRAVES, VIRGIN	FOR VIRGIN
SPNASAD	28.521	SPECULUM NASAL, ADULT SIZE	ADULT
SPNASCH	28.522	SPECULUM NASAL, CHILD SIZE	CHILD
TONDEPME	28.531	TONGUE DEPRESSOR METAL	165MM
TONDEPCH	28.532	TONGUE DEPRESSOR CHILD	CHILD
MOGA15D	28.533	MOUTH GAG DOYEN, 15CM	15CM
TAP2M	28.611	TAPE METER, 2 METER	2 METER
WESC140AD	28.621	WEIGHT SCALE ADULT, BATHROOM TYPE	140KG, 100MG
SCTR25KG	28.622	SCALE WITH 5 TROUSERS INFANT	SALTER TYPE 25KG
HARETES	28.701	HAMMER REFLEX TESTING	
MUL100B	28.702	MULTISTIX	BOTTLE OF 100 STIX
VASSOOJ	28.703	VASELINE WHITE	500MG/JAR
GLA2CC	29.112	SYRINGE HYPO, LUER LOCK, GLASS 2CC	GLASS SYRINGE 2CC
GLA5CC	29.113	SYRINGE HYPO, LUER LOCK, GLASS 5CC	GLASS SYRINGE 5CC
GLA10CC	29.114	SYRINGE HYPO, LUER LOCK, GLASS 10CC	GLASS SYRINGE 10CC
GLA20CC	29.115	SYRINGE HYPO, LUER LOCK, GLASS 20CC	GLASS SYRINGE 20CC
SYRDIS2CC	29.122	SYRING HYPO, 2CC, LUER DISPOSABLE	2CC, .1CC GRADUATED
SYRDIS5CC	29.123	SYRINGE HYPO, 5CC, LUER DISPOSABLE	5CC, .2CC GRADUATED
SYRDIS10C	29.124	SYRINGE HYPO, 10CC, LUER DISPOSABLE	10CC, .2CC GRADUATED
SYR50CC	29.126	SYRINGE HYPO, 50CC, LUER DISPOSABLE	50CC
SYNEDIS2C	29.132	SYRINGE HYPO LUER DISP.2CC,WITH NED	2CC, 1CC GRADUATED
SYNEDIS5C	29.133	SYRINGE HYPO LUER DISP.5CC,WITH NEE	2CC, 1CC GRADUATED
SYNEDIS10	29.134	SYRINGE WUTH NEEDLE,10CC,DISPOSABL	10CC, .2CC GRADUATED
SYRPIEC	29.151	SYRINGE, METAL, DENTAL, CARTRIDGE	PIECE (USA)
NED25G	29.211	NEEDLE, HYPO, LUER, REUSABLE 25G	25G(OR 26G) x 1.1/8"
NED23G	29.212	NEEDLE, HYPO, LUER, REUSABLE 23G	23G(or 24G) x 1.1/4"
NED21G	29.213	NEEDLE, HYPO, LUER, REUSABLE 21G	21G(or 22G) x 11/2"
NED19G	29.214	NEEDLE, HYPO, LUER, REUSABLE 19G	19G(or 20G) x 1.5"
NED24G	29.222	NEEDLE, HYPO, LUER, DISPOSABLE 23G	23G(or 24G) x 1.1/4"
NED22G	29.223	NEEDLE, HYPO, LUER, DISPOSABLE 21G	21G(or 22G) x 11/2"
NED20G	29.224	NEEDLE, HYPO, LUER, DISPOSABLE 19G	19G(or 20G) x 1.5"

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Item code Boston	Product Number Afghan Program	Item Description / Generic Name	Counting Unit Specifications / Reference Data
NEDHY25	29.251	NEEDLE, HYPO, DENTAL CARTRIDGE 25G	25G x 1-5/8", DOZEN
NEED25G	29.252	NEEDLE, HYPO, DENTAL CARTRIDGE 25G	25G x 1", DOZEN
BUTNED	29.311	BUTTERFLY NEEDLE SCALP VEIN 25G	25G(or 24G)
BUNED23	29.312	BUTTERFLY NEEDLE SCALP VEIN 23G	23G(or 22G
CANINT22	29.321	CANNULA INTRAVENOUS LUER 22G	22G(or 21G) x 1-5/8"
CANINT20	29.322	CANNULA INTRAVENOUS LUER 20G	20G(or 19G) x 1-5/8"
	29.325	BRUSH TO WASH CYLINDER	PLASTIC HAIR
	29.327	BRUSH TO WASH TEST TUB	PLASTIC HAIR
	29.329	BRUSH TO WASH PIPETTE	PLASTIC HAIR
NEDLU23	29.401	NEEDLE LUMBAR PUNCTURE 23G	23G
NEDLU20	29.402	NEEDLE LUMBAR PUNCTURE 20G	20G
BLTB500	29.522	BLOOD COLLECTING PACK WITH TUBE	500ML WITH CITRATE
BLTEST	29.523	BLOOD TESTING SET ABC	
RHTEST	29.524	Rh-FACTOR TESTING SET	
STARKA	29.601	STONE ARKANSAS	
TOR875CM	29.602	TOURNIQUET LATEX RUBBER FOR INFUSIO	75CM x 1.5CM
BRUSH	29.604	BRUSH FOR SYRINGES	
CUTTPLS	29.605	CUTTING PLIERS	
LARBLAD	31.111	LARYNGOSCOPE, 3 BLADES	WITH SPARE BULB
BULB	31.112	BULB FOR LARYNGOSCOPE	
BATTERY	31.113	BATTERY FOR LARYNGOSCOPE	
FORCEPAD	31.121	FORCEPS MAGILL ADULT	
FORCEPCH	31.122	FORCEPS MAGILL CHILD	
SONDE6	31.131	SONDE FOR INTUBATION No.6	
SONDE8	31.132	SONDE FOR INTUBATION No.8	
REMTR	31.211	REANIMATOR, AMBU TYPE, MANUAL	
FACMASAD	31.221	FACE MASK FOR REANIMATOR, ADULT	
FACMASCH	31.222	FACE MASK FOR REANIMATOR, CHILD	
MAPRONPL	31.223	APRON UTILITY PLASTIC	900MM X 1MM
MPOUCHPL	31.224	POUCH, CLEAR POLYPROPYLENE	250 X 380MM
MSHEETPL	31.225	SHEETING, PLASTIC.	910 X 1800MM
AIRGU82	31.311	AIRWAY GUEDEL RUBBER	ADULT SIZE 82MM
AIRGU67	31.312	AIRWAY GUEDEL RUBBER	CHILD SIZE 67MM
SCALHOL3	32.111	SCALPEL HOLDER NO.3	NO.3
SCALHAN4	32.112	SCALPEL HANDLE NR 4	
BLAD10	32.121	BLADES FOR SCALPEL, NO.10	PACKET OF 100
BLAD15	32.122	BLADES FOR SCALPEL, NO.15	NO. 15
BLAD20P	32.123	BLADES FOR SCALPEL N=20, PACKET	PACKET OF 100
BLAD21	32.124	BLADES FOR SCALPEL, NO.21	NO. 21
RAZOR	32.201	RAZOR SAFETY, ALL METAL	
BLADSP	32.202	BLADES FOR RAZOR SAFETY DOUBLE EDGE	PACKET OF 5
RAZDAI	32.205	RAZOR BLAD DOUBLE EDGE INF.QUAN	PIECE
OPER10CM	32.312	OPERATING SCISSORS BLUNT/SHARP	STRAIGHT 10CM
OPERBL10	32.314	OPERATING SCISSORS BLUNT/BLUNT	STRAIGHT 14.5CM
MAYOBL15	32.321	MAYO DISSECTING SCISSORS BLUNT	CURVED 15CM
MAYODI15	32.322	MAYO DISSECTING SCISSORS BLUNT	STRAIGHT, 15CM
SICSDI17	32.323	SCISSORS DISSECTING MAYO, BLUNT	CURVED 17CM
SCISDI23	32.324	SCISSORS DISSECTING MAYO, BLUNT	CURVED 23CM

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Item code Boston	Product Number Afghan Program	Item Description / Generic Name	Counting Unit Specifications / Reference Data
SCIS178L	32.331	SCISSORS DISSECTING MAYO, BLUNT	STRAIGHT 17CM
SCISMET	32.332	SCISSORS METZEMBAUM BLUNT	CURVED 23CM
MSISEP145	32.333	EPISIOTOMY SCISSORS, ANGULAR BRAUN	145MM SS
	32.411	DRESSING FORCEPS, THUMB, BROAD	THUMB, BROAD 10CM
	32.412	DRESSING FORCEPS, THUMB, BROAD	THUMB, BROAD 16CM
	32.413	TISSUE FORCEPS, TOOTHED 2x3	TOOTHED 2x3, 11.5CM
	32.414	TISSUE FORCEPS, TOOTHED 2x3, 18CM	TOOTHED 2x3, 18CM
	32.417	HUNTER SPLINTER FORCEPS	ANGLED 10.5CM
	32.418	DRESSING FORCEPS, THUMB, BROAD 25CM	THUMB, BROAD, 25CM
	32.419	FORCEPS EAR, SPRING TYPE, 12;5CM	ANGULAR 12,5CM
	32.421	FORCEPS HALSTEAD MOSQUITO, STRAIGHT	STRAIGHT 12.5CM
	32.422	FORCEPS HALSTEAD MOSQUITO, CURVED	CURVED 12.5CM
	32.423	FORCEPS HEMOSTATIC KELLY, STRAIGHT	STRAIGHT 14CM
	32.424	FORCEPS HEMOSTATIC KELLY, CURVED	CURVED 14CM
	32.426	FORCEPS HEMOSTATIC KOCHER, STR 14CM	STRAIGHT 14CM
	32.427	FORCEPS HEMOSTATIC KOCHER, STRAIGHT	STRAIGHT 20CM
	32.428	FORCEPS HEMOSTATIC KOCHER, CURVED	CURVED 20CM
MFORCSTR	32.432	FORCEPS, STERILIZER UTILITY	200MM VAUGHN SS
	32.441	FORCEPS HYSTERECTOMY PEAN, CVD 20CM	CURVED 20CM
	32.442	FORCEPS HYSTERECTOMY PEAN, STRAIGHT	STRAIGHT 22.5CM
	32.443	FORCEPS UTERIN ELEVATING SOMER 22,5	22,5 CM
	32.444	FORCEPS UTERINE ARTERY PHANEUF 20CM	20CM
	32.451	FORCEPS SPONGE HOLDING RAMPLEY	25CM
	32.453	ARTERY FORCEPS	STEEL SIZE 8"
	32.461	FORCEPS INTESTINAL BABCOCK 140MM	
	32.462	FORCEPS INTESTINAL BABCOCK 158MM	
	32.463	FORCEPS INTESTINAL JUD-ALLIS 184MM	
	32.464	CLAMP INTESTINAL MAYO-ROBSON CVD	CURVED 23CM
	32.465	CLAMP INTSETINAL MAYO-ROBSON STR	CURVED 23CM
	32.466	FORCEPS TISSUE ALLIS, 4x5 TEETH	TOOTHED 4x5, 15CM
	32.501	TOWEL CLAMPS BACKAUS 13CM	
MTOWEL	32.502	TOWEL HOOK.	430 X 500MM
	32.611	FARABEUF RETRACTORS SET OF TWO	28X16MM, 15CM, SET
	32.621	RETRACTOR DEAVER, 18CM x 19MM	18CM LONG,19MM BROAD
	32.622	RETRACTOR DEAVER, 21.5CM x 22MM	21.5CM LONG,22MMBROA
	32.623	RETRACTOR DEAVER, 23CM x 25MM	23CM LONG,25MM BROAD
	32.624	RETRACTOR DEAVER, 30CM x 13MM	30CM LONG,13MM BROAD
	32.625	RETRACTOR DEAVER, 30CM x 25MM	30CM LONG,25MM BROAD
	32.668	RETRACTOR SENN-MUELLER, DOUBLE END	BLUNT, 3 PRONG, 16CM
	32.669	RETRACTOR SENN-MUELLER, DOUBLE END	BLUNT, 4PRONG, 16CM
	32.691	RETRACTOR SELF RETAINING BALFOUR	BLADES 50x50&50x75MM
MMTHEXTN	32.692	MOUTH MUCOUS EXTRACTOR	FOR NEONATE
	32.711	PROBE DOUBLE ENDED	DIAMETRE 2MM
	32.712	CHEYNE DISSECTOR AND PROBE 17.5CM	17.5CM
	32.721	MAYO'S FORCEPS HOLDER	14CM
	32.811	NEEDLE HOLDER COLLIER	12,5 CM
	32.812	NEEDLE HOLDER MAYO-HEGAR 20CM	STRAIGHT 20CM
	32.813	NEEDLE HOLDER WANGENSTEEN 27CM	27CM

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Item code Boston	Product Number Afghan Program	Item Description / Generic Name	Counting Unit Specifications / Reference Data
	32.821	SET OF STRAIGHT NEEDLES, ROUND	SET OF SIX
	32.822	SET OF STRAIGHT NEEDLES, CUTTING	SET OF SIX
	32.824	SET OF CURVED NEEDLES, CUTTING	SET OF SIX
	32.901	STAINLESS STEEL BOX 8"x3"	8"x3"
	32.902	STAINLESS STEEL BOX 14" LONG	
	32.903	BOX STAINLESS STEEL 30x10x6CM	
ALUMINMIK	32.905	ALUMINUM CASE FOR MIDWIFERY KIT	ALUM. LID & HANDLE
	33.111	LISTER BANDAGE SCISSORS, ANGULAR	ANGULAR 18CM
	33.114	ORDINARY SCISSORS, STRAIGHT	8.5"
	33.115	NAIL CUTTER	
	33.131	FORCEPS JAR	6"DEEP+2.5"WIDE
	33.132	ROUND BOWL STAINLESS STEEL	2.5"DIAMx2"DEEP
	33.133	SPONGE BOWL STAINLESS STEEL	6"DIAMx2"DEEP
	33.134	JAR DRESSING WITH COVER STAINLESS	4"DIAMx4"DEEP
	33.135	CUP MEASURING WITH HANDLE STAINLESS	1000CC, GRADUATED
	33.136	FUNNEL STAINLESS STEEL MOUTH 3x4.5"	MOUTH 3x4.5"
	33.141	KIDNEY TRAY METAL	81/4"x4"
	33.142	TRAY ALUMINIUM ORDINARY	14"x10.5"x1"
	33.151	DRESSING DRUM STAINLESS STEEL	6"x6"
	33.152	DRESSING DRUM STAINLESS STEEL	8.5"x6"
	33.161	BOTTLE PLASTIC+ASSORTED SCREW CAP	125CC NARROW MOUTH
BASKPL	33.170	PLASTIC BASKET	1 PC. 15X12X4 INCH
	33.171	PAIL WITH COVER PLASTIC	13"x13"
	33.172	BASIN PLASTIC	13"x5"
	33.173	SOAP-BOX, 2-PIECE	95x65x35MM, PLASTIC
	33.181	STERILIZER INSTRUMENT WITH COVER	STLSS 10"x5"x3.5"
	33.191	PRESSURE COOKER, 10LIT	10LIT
	33.193	PARAFORMALDEHYDE TABLETS	TAB 1000MG
	33.211	PLASTER OF PARIS	ROLL 10 CM
	33.212	PLASTER OF PARIS,15CM ROLL	
BANDPL	33.215	BANDAGE PLASTER OF PARIS	3^4 X 3^4 YDS
	33.221	TUBULAR JERSEY	ROLL 5CM/6CM
	33.222	TUBULAR JERSEY	ROLL, 10CM/12CM
	33.311	CREPE BANDAGE ROLL	4.5Mx10CM
	33.321	GAUZE BANDAGES 3"	ROLL, ONE DOZEN
GAUBAN	33.325	GAUZE BANDAGE ROLLER	4^4X10 YDS STERLIZED
	33.331	ABSORBANT GAUZE FOR COMPRESSES	20 YARD
	33.332	COTTON HYDROPHILIC ROLL	ROLL 300GMS
	33.341	TRIANGULAR BANDAGE	100CM SIDES
	33.349	COTTON STRING GLAZED LEATHER SW,555	PIECE,1FT
	33.350	LABELLING TAPE	WHITE ROLL
	33.351	ADHESIVE TAPE 1"	1 ROLL
	33.352	ADHESIVE TAPE 3"	ROLL
	33.355	SAFETY PINS, MEDIUM SIZE	1.5" BY DOZEN
	33.361	GAUZE PADS,"NON-STERILE", 4"X4"	1 PIECE
DRESAID	33.362	DRESSING FIRST AID FIELD CAMOUFLAGE	CAMOUFLAG7 1/2^4X8^4
GAU20X12	33.365	GAUZE SPONGE	20X12 YDS EA
SURPAD	33.368	SURGICAL PADS COMBINED	DRESSING 8^4X7^4 1/2

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Item code Boston	Product Number Afghan Program	Item Description / Generic Name	Counting Unit Specifications / Reference Data
SURPADI	33.369	SURGICAL PADS STERLIZED TRIPLE 8X10	PADDING READY WRAP
GAUIX5	33.371	NU GAUZE IODORM 1X5 YDS	1 X 5 YDS EA
	33.411	SPLINT FOR FULL ARM, INFLATABLE	
	33.412	SPLINT FOR FULL LEG, INFLATABLE	
	33.413	SPLINT FOR HALF ARM, INFLATABLE	
	33.414	SPLINT FOR HALF LEG, INFLATABLE	
	33.501	NAILBRUSH FOR SURGEON, NYLON HAIR	8CMx2.5CM
	33.502	TOILET SOAP	1 PIECE 113GMS
TOILPAP	33.504	TOILET PAPER	1 ROLL
	33.603	GLOVES RUBBER BY PAIR	SIZE 7.5, 1 PAI
	33.604	GLOVES RUBBER BY PAIR	SIZE 8, 1 PAIR
	36.111	CATHETER URINARY FOLEY TYPE	12CH,30ML
	36.112	CATHETER URINARY FOLEY TYPE	14CH, 30ML
	36.113	CATHETER URINARY FOLEY TYPE	16CH, 30ML
	36.114	BAG COLLECTOR URINARY + DRAINAGE	
	36.121	TUBE NASOGASTRIC	SIZE 8
	36.123	TUBE NASO-GASTRIC	SIZE 18
	36.124	TUBE NASO-GASTRIC	SIZE 12
	36.141	TUBE RECTAL ONE-EYE FUNNEL-END	24FR 500MM RBR
	36.211	CARROGATED RUBBER	
	36.221	PENDROSE DRAIN 1" DIAMETER	1" DIAMETER
ARG2711	36.311	ARGGLE TUBING CONNECTORS	HRI-8888-2711606
ARG561068	36.312	ARGGLE TUBEING CONNECTORS SIZE 28	HRI-8888-561068 S.28
ARG280412	36.313	ARGGLE TUBEING CONNECTORS	HRI-8888-280412
	37.111	CATGUT PLAIN 3/0, 75CM, WTH NEEDLE	NEEDLE 26MM,3/8,RND
	37.117	CATGUT PLAIN 2/0	
	37.122	CATGUT CHROMIC 2/0,75CM,WTH NEEDLE	NEEDLE 30MM,4/8,RND
	37.123	CATGUT CHROME 1, 75CM WITH NEEDLE	NDL 40MM,4/8 CYD,RND
	37.127	CATGUT CHROMIC 2/0	
	37.131	VICRYL COATED 3/0,70CM, WTH NEEDLE	NEEDLE 26MM,4/8,RND
	37.211	SILK BRAIDED 2/0, 75CM, WTH NEEDLE	NEEDLE 30MM,3/8,CUT
	37.212	SILK BRAIDED 3/0, 75CM, WTH NEEDLE	NEEDLE 28MM,3/8,CUT
	37.215	SILK REEL 1	
	37.217	SILK REEL 2/0	
	37.219	SILK REEL 4/0	
	37.223	NYLON WITH NEEDLE 2/0	
	38.111	DENTAL MOUTH MIRROR	PIECE
	38.121	EXPLORER	PIECE
	38.131	COTTON PLIERS, CURVED	PIECE
WOBLAD	38.135	WOODEN TONGUE BLADO PIECE	50 BLADES/BOX
	38.421	ELEVATOR STRAIGHT No.34	PIECE
	38.422	ELEVATOR CRYERS No. 30	PIECE
	38.423	ELEVATOR CRYERS No. 31	PIECE
UPPFOR	38.427	UPPER UNIVERSAL FORCEP(NO.150)	PIECE
LOWFOR	38.428	LOWER UNIVERSAL FORCEP(NO.75)	PIECE
	38.431	FORCEPS RIGHT UPPER MOLAR	PIECE
	38.432	FORCEPS LEFT UPPER MOLAR	PIECE
	38.433	FORCEPS UPPER PREMOLAR	PIECE

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Item code Boston	Product Number Afghan Program	Item Description / Generic Name	Counting Unit Specifications / Reference Data
	38.434	FORCEPS UPPER LATERAL AND CANINE	PIECE
	38.435	FORCEPS UPPER ROOTS	PIECE
	38.436	FORCEPS LOWER MOLAR	PIECE
	38.437	FORCEPS LOWER PREMOLAR	PIECE
	39.438	FORCEPS LOWER ROOTS	PIECE
SPOEXCA	38.439	SPOON EXCAVATOR	PIECE
	38.441	CURETTE GRACEY 11	PIECE
	38.442	CURETTE GRACEY 12	PIECE
	38.451	IVORY C1-SCALER	PIECE
SHAPSTO	38.455	SHARPENING(ARKANSAS)STONE	PIECE
FILTOL	38.457	FILLING TOOL	PIECE
CENSPA	38.459	CEMENT SPATULA	PIECE
	38.711	FILLING INSTRUMENT	
	38.721	SPOON EXCAVATOR	
	38.731	CEMENT SPATULA	
	38.741	ZINC OXIDE POWDER	500MG BOTTLE
	38.742	EUGENOL	30ML BOTTLE
ZIOXID	38.745	ZINC OXIDE	500 GM/CONTAINR
HYDPERO	38.751	HYDROGEN PEROXIDE	250 ML/BOTTLE
	38.811	BOX, STAINLESS STEEL, FOR DENTAL	PIECE
	38.911	ELECTRICAL TOOTHDRILL WITH HEAD	
	39.111	AMPUTATION SAW SATTERLEE, 31CM	31CM
	39.411	BONE FILE 20CM	20CM
	39.421	RASPATORY FARABOEUF, CVD, 15CM	CURVED.15CM
	39.521	LANGE-HOLZMANN BONE LEVER 27CM	
	39.531	FERGUSON BONE HOLDING FORCEPS	21CM
	39.611	FORCEPS BONE RONGEUR JANSSENS 18CM	18CM
	39.711	LISTON BONE CUTTING FORCEPS CURVED	CURVED, 19CM
	40.101	X-RAY MACHINE PORTABLE, MOBILE STAN	100KVP/35MM + STAND
	40.211	X-RAY FILM, 8 x 10	BOX OF 100
	40.212	X-RAY FILM, 10 x 12	BOX OF 100
	40.213	X-RAY FILM, 12 x 15	BOX OF 100
	40.214	X-RAY FILMS 14X17	BOX 100
	40.221	X-RAY DEVELOPER, PACKET FOR 1000ML	PACKET FOR 10 LITER
	40.225	X-RAY FIXER, PACKET FOR 1000ML	PACKET FOR 10 LITER
	40.231	X-RAY CASSETTE 8 x 10	PIECE
	40.232	X-RAY CASSETTE 10 x 12	PIECE
	40.233	X-RAY CASSETTE 12 x 15	PIECE
	40.234	X-RAY CASSETTE 14 X17	PIECE
	40.241	SCREEN 8 x 10	PIECE
	40.242	SCREEN 10 x 12	PIECE
	40.243	SCREEN 12 x 15	PIECE
XSCREEN	40.244	X-RAYS SCREEN 14 X 17	PIECE
	40.251	HANGER 8 x 10	PIECE
	40.252	HANGER 10 x 12	PIECE
	40.253	HANGER 12 x 15	PIECE
	40.254	X-RAYS HANGERS 14 X 17	PIECE
	40.311	TANK	PIECE

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Item code Boston	Product Number Afghan Program	Item Description / Generic Name	Counting Unit Specifications / Reference Data
	40.321	APRON PROTECTIVE	PIECE
	40.322	X-RAY GRID 12 X 15	PIECE
	40.323	LAB THERMOMETER 0-300 CM	PIECE
XRAWATER	40.324	WATER HEATER	PIECE
XRASAF	40.325	SAFE RED LIGHT	PIECE
	41.105	MICROSCOPE BINOCULAR OBJECTIVE	X10,X40,X100 OBJ
	41.111	MANUAL CENTRIFUGE	S.STEEL FRCC WTS.
	41.115	ANALYTICAL BALANCE	CAP.100GM,JEWL.TYPE
	41.123	HAEMOGLOBINOMETER TUBE	GLASS PIECE
	41.124	HAEMOGLOBINOMETER PIPETTE	WITH PIPETTE 2 TUBE
	41.125	HAEMOGLOBINOMETER SET	MAEMOMETER SAHLI
	41.127	DISTILLATION APPARATUS	1UNIT S.STL 2LIT CAP
	41.129	MORTAR AND PESTLE	CHINA CLAY DIAM 6"
	41.131	TIMER (STOP WATCH)	1 PIECE WITH ALARM
	41.405	RECIPIENTS FOR STOOL SPECIMEN	1 PC.PLAS. WITH LID
	41.407	WOOD APPLICATORS	BOX OF 100
	41.411	MICROSCOPIC SLIDES 25X75MM	72 SLIDES/PACK
	41.413	MICROSCOPIC COVERSLIPS 20X20MM	100 COVERSLIPS/PACK
	41.415	PIPETTE,1ML SUBDIVIDED 0.01ML	GRADUATED TOP TO TIP
	41.421	PIPETTE,2ML SUBDIVIDED 0.01ML	GRADU.TOP & NOT TIP
	41.423	PIPETTE,5ML SUBDIVIDED 0.01ML	GRADU.TOP & NOT TIP
	41.425	PIPETTE,10ML SUBDIVIDED 0.1ML	GRADU.TOP & NOT TIP
	41.428	PASTEUR PIPETTES	150X16MM,PYREX
	41.431	TEST TUBE	1PC. 150X16MM,PYREX.
	41.433	TEST TUBE	1PC. 85X15MM ,PYREX
	41.438	GLASS RODS,SOLID	1PC. 6MM DIAMETER
	41.440	OIL DROPPER BOTTLE	PLASTIC 50ML
	41.441	DROP BOTTLE	1PC.100ML CLR. GLASS
	41.445	DROP BOTTLE	1PC.100ML BROWN GLAS
	41.455	CENTRIFUGAL TUBE CONICAL	15ML RUBBER TUBING
	41.515	COUNTING CHAMBER,IMPROVED	NEUBAUER\PIECE
	41.516	PIPETTE RBC, WITH RUBBER TUBING	FOR HEMACYTOMETER
	41.517	PIPETTE WBC, WITH RUBBER TUBING	FOR HEMACYTOMETER
	41.525	E.S.R WESTERGREN TUBE	1 PC.
	41.531	STAND FOR E.S.R.WESTERGREN TUBE	1 PIECE
	41.535	MICRO HAEMATOCRIT CAPILLARY TUBE	1000 PIECES
	41.605	NICKEL-CHROM ALLOY WIRE	1PC.1MM DIA,12 INCH
	41.607	LOOP HOLDERS	1 PC. S.STEEL
	41.608	MEASURING FLASK STOPPERED	GLASS 100ML
	41.609	MEASURING FLASK STOPPERED	GLASS 250ML
	41.610	MEASURING FLASK STOPPERED	GLASS 500ML
	41.611	WOODEN BLOCK FOR LOOP HOLDERS	WOODEN BLOCK
	41.612	TRIPOD STAND	IRON WITH STE. GAUZE
	41.613	SPIRIT LAMP,STEEL	1 PIECE STEEL
	41.614	MEASURICING CYLINDER GRADUATED	1 PC.100 ML,PLASTIC
	41.615	MEASURING CYLINDER GRADUATED	1PC. 250 ML,PLASTIC
	41.616	MEASURING CYLINDER GRADUATED	1PC.500 ML, PLASTIC
	41.617	TEST TUBE HOLDER	1 PC.WOODEN HANDLES

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Item code Boston	Product Number Afghan Program	Item Description / Generic Name	Counting Unit Specifications / Reference Data
	41.621	TEST TUBE STAND (STEEL)	1 PC. WITH 12 HOLES
	41.622	BRUSH FOR WASHING	WASH CYL,PIPE,T.TUB
	41.623	STAINING JAR (PLASTIC)	1 PC. JAR FOR SLIDE,
	41.624	BEAKER 50ML	GLASS PIECE
	41.625	BEAKER 100ML	GLASS PIECE
	41.626	BEAKER 500ML	GLASS PIECE
	41.627	FUNNEL GLASS	1 PC. 4"DIA.PYREX
	41.628	FUNNEL PLASTIC	1PC.4" DIAM.
	41.629	WASH BOTTLE,	1 PC WHITE PLASTIC
	41.631	DRAINING RACK FOR SLIDES	CAPACITY 20 SLIDES
	41.632	PETRI DISH	GLASS PIECE
	41.633	SLIDE BOX	CAPACITY 100 SLIDES
	41.635	DIAMOND PENCIL	1 PIECE
	41.639	ARTERY FORCEPS	STEEL SIZE 8"
	41.702	ACETIC ACID, GLACIAL	SOL 200ML
	41.707	SODIUM PHOSPHATE,(NA2HPO4 2H2O)	POW 1000GMS
	41.708	DIPOTASSIUM HYDROGEN PHOSPHATE	POW 1000GMS
	41.709	POTASSIUME DIHYDROGEN PHOSPHATE	POW 1000GMS
	41.710	POTASSIUM OXALATE	POW 1000GMS
	41.711	CARBOL FUCHSINE,	SOL 200ML
	41.712	SODIUM FLURIDE	POW 1000GMS
	41.713	POTASSIUM DICHROMAPE (K2CR2O7)	POW 1000GMS
	41.714	SULFOSALICYLIC ACID	POW 1000GMS
	41.717	GIEMSA STAIN	POW 25GMS
	41.721	GRAM IODINE	SOL 200ML
	41.727	METHYLENE BLUE	POW 25GMS
	41.729	GLYCEROL,SOLUTION	SOL 200ML
	41.732	TRISODIUM CITRATE,ANHYD	POW 1000GMS
	41.735	METHANOL	SOL 200ML
	41.738	ETHANOL,96 %	SOL 200ML
	41.741	METHYLALED SPIRIT	SOL 200ML
	41.743	BENEDICT SOLUTION	SOL 200ML
	41.745	XYLOL	SOL 200ML
	41.747	FORMALDEHYDE SOLUTION	SOL 200ML
	41.751	SODIUM CHLORIDE	POW 1000GMS ANAL GR.
	41.753	SULPHURIC ACID CONC.	SOL 200ML
	41.759	CARBOLIC ACID(PHENOL)	SOL 200ML
	41.761	OIL IMMERSION	SOL CEDDER WOOD OIL
	41.765	BLOOD LANCETS(FEATHER)	200 PCS
	41.766	GLAS BOTTEL FOR REPACKING, AMBER	CORKS, CAPS & LABELS
	41.767	GLASS BOTTLE BROWN	CAP 1/2KG
	41.769	GLASS BOTTLE BROWN	CAP 1/4KG
	41.773	MUG WITH HANDLE	1 PC. PLASTIC
	41.779	PLASTIC TUB	CAP. 5 LITRE
	41.785	PENCILS	PENCILS
	41.790	TRAY WITH RODS STAINING	S.STEEL 450X350X25MM
	41.792	RULER PLASTIC	1 PC.
	41.793	SODIUM CARBONATE	1000 GMS

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Item code Boston	Product Number Afghan Program	Item Description / Generic Name	Counting Unit Specifications / Reference Data
	41.805	LAB.RECORD BOOK,WITH FILE COVERS	WHITE SHEETS 2 REMS
	41.807	SAFE LIGHT	CHARGEABLE
	41.905	FILTER PAPER NO.1	100 SHEETS
	41.911	PH PAPER,RANGE 6-8	1 BOOK
	41.913	FLASH LIGHT	1 PC. WITH 3 CELLS
	95.501	RUCKSACK, NYLON	PIECE
SUITCASME	95.502	METAL SUIT CASE WITH LOCK	APROX.2.5X1.5X1 FT
	99.111	FIELD MANUAL, DRUGS	PIECE
	99.121	"GREEN BOOK"	PIECE
MARKBLACK	99.123	MARKER BLACK	3 PRMT.BLACK MARKERS
	99.124	MARKER BLUE	3 PRMT.BLUE MARKERS
	99.125	BALL-PENS	BALL-PENS PIECES
COTTCLO	99.126	COTTON CLOTH	1 PC. 2 SQ. FT
	99.127	RULER	PLASTIC PIECE
	99.301	POCKET FOR MEDICINE	CMx CM
LANTERN	99.503	LANTERN	GAS WITH 5 MANTLE

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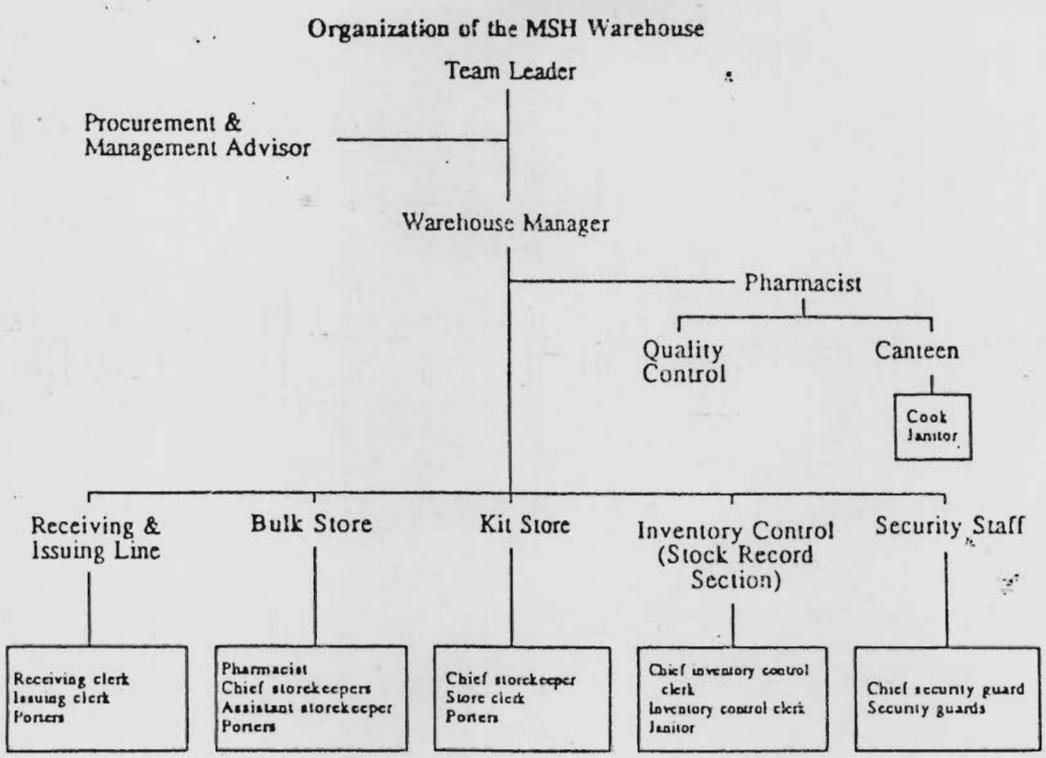

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Appendix VII - 4

List of Afghan Drug Depots Supported by MSH

1. SCNA Rokha Depot in Panjsheer District Zone 2.
2. SCNA Faizabad Zone 5
3. SCNA Balkh Zone 3
4. SCNA Takhar - Taloqan Zone 1
5. SSWA Herat Depot at Talab
6. SSWA Farah Depot
7. SSWA Badghis Depot
8. SSWA Ghor Depot
9. HCPP Khost Depot
10. HCCA Wardak Depot
11. HCCA Ghazni Depot

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Appendix VII - 5

SUPPLIES MANAGEMENT WORKSHOP
COURSE SCHEDULE

Oct. 6th to 17th, 1991

DAY	TOPIC	TIME	RESPONSIBILITY
1.	10.6.91		
	- Registration of Participants	8.30 To 9,00	Abdullah
	- Introduction to Workshop	9.00 To 10.00	Vim Dias/ Abdullah
	- Introduction to Supply System Organization	10.15 To 12.30	Vim Dias/ Abdullah
	- Current Operations at Drug Depots in Afghanistan	2.00 To 4.30	Vim Dias/ Abdullah
	Complete Drug Depot Profile		Groups
	Presentations by Participants		Groups
2.	10.7.91		
	- Basics of Management	8.30 To 10.30	Vim Dias/ Abdullah
	- Improving Communication Skills	10.45 To 12.30	John Eaton
	- Assessment of Training Needs	2.00 To 3.15	John Eaton
	- Use of Visual Aids	3.30 To 4.30	John Eaton
3.	10.8.91		
	- How to make a Good Presentation	8.30 To 10.30	John Eaton
	- Training Methodologies Lecture Discussions Role Plays Case Studies Activities On the Job Training	10.45 To 12.30	John Eaton
	- Group Activities Based On Above Methods of Training	2.00 To 4.30	

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10.9.91

- Problem Identification & Problem Solving	8.30 To 9.30	Vim Dias/ Abdullah
- A Discussion on Stores Management Techniques in Afghanistan. Problems & Solutions.	9.30 To 12.30	Vim Dias/ Abdullah
- Inventory Control Techniques and Forecasting Drug Requirements	2.00 To 4.30	Vim Dias/ Abdullah

10.10.91

- A review of Inventory Control Techniques in use in Afghanistan, Problems and Solutions	8.30 To 9.30	Vim Dias/ Abdullah
- Use of Push/Pull Systems & Kit Systems for drug distribution. Problems & Solutions	9.30 To 12.30	Vim Dias/ Abdullah
- Inventory Records & Activity	2.00 To 4.30	Vim Dias/ Abdullah

10.13.91

- Procurement Practices	8.30 To 10.30	Vim Dias/ Abdullah
- Open Session	10.45 To 12.30	Vim Dias/ Abdullah
- Systematic Cost Reduction in Drug logistics	2.00 To 4.30	Vim Dias/ Abdullah

10.14.91

- Revolving Drug Funds, Theory & Practice	8.30 To 12.30	Vim Dias/ Abdullah
- Activity, Developing a RDF	2.00 To 4.30	Groups

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10.15.91

- Quality Assurance	8.30 To	10.30	Sarwar/ Abdullah
- How to Prepare Simple Feasibility Studies For Donor Assistance	10.45 To	12.30	John Eaton
- Develop Plans for Strengthening Drug Logistics Systems in Afghanistan	2.00 To	4.30	Groups

10.16.91

- Develop Plans for Strengthening Drug Logistics Systems in Afghanistan, continued	8.30 To	4.30	Groups

10.17.91

- Group Presentations and Discussions	8.30 To	12.30	Groups
- Preparation of Final Plans	2.00 To	3.15	Groups
- Summary of Workshop Proceedings	3.30 To	4.00	Vim Dias/ Abdullah
- Course Evaluation	4.00 To	4.30	Participants
- Close of Workshop			

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Appendix IX - 1

Afghanistan Health Sector Support Project

Management Sciences for Health

BUDGET

Period

October 01, 1992
Through
September 30, 1993

Afghanistan Health Sector Support Project, MSH

DETAIL OF TRAINING-SEMINARS

COST CODE :-------
07

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

SUB-CODE :-------

DETAIL OF SEMINAR(s)	NUMBER OF SEMINAR(s)	EXPECTED CHARGES OF PER SEMINAR (Rs)	TOTAL CHARGES OF SEMINARS (Rs)	TOTAL CHARGES OF SEMINARS ($)	COMMENTS, IF ANY
T O T A L :					

354

Afghanistan Health Sector Support Project, MSH

DETAIL OF TRAINING-REFERENCE MATERIALS

COST CODE :-------
08

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

SUB-CODE :-------

DETAIL OF REFERENCE MATERIALS	QUANTITY	RATE PER ITEM (Rs)	TOTAL AMOUNT (Rs)	TOTAL AMOUNT ($)	COMMENTS, IF ANY
T O T A L :					

Afghanistan Health Sector Support Project, MSH

DETAIL OF ALLOWANCES

COST CODE :-------
13

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

SUB-CODE :-------

NO. OF EMPLOYEES	POSITION	LOCATION	RATE PER DAY	NUMBER OF DAY(s)	TOTAL AMOUNT (Rs)	TOTAL AMOUNT ($)	COMMENTS, IF ANY
T O T A L :							

356

Afghanistan Health Sector Support Project, MSH

DETAIL OF STIPENDS

COST CODE :-------
14

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

SUB-CODE :-------

NO. OF BHWs	RATE PER BHW (Rs)	TOTAL AMOUNT (Rs)	TOTAL AMOUNT ($)	COMMENTS, IF ANY
T O T A L :				

Afghanistan Health Sector Support Project, MSH
DETAIL OF PER DIEM

COST CODE :-------
15
SUB-CODE :-------

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

LOCATION	NO. OF PERSONS	NO. OF DAYS	RATE PER DAY (Rs)	TOTAL AMOUNT (Rs)	TOTAL AMOUNT ($)	COMMENTS, IF ANY
T O T A L :						

358

Afghanistan Health Sector Support Project, MSH
DETAIL OF FOOD

COST CODE :-------
16
SUB-CODE :-------

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

NO. OF PERSONS	NO. OF DAYS	RATE PER DAY (Rs)	TOTAL AMOUNT (Rs)	TOTAL AMOUNT ($)	COMMENTS, IF ANY
T O T A L:					

Afghanistan Health Sector Support Project, MSH
DETAIL OF TRAVEL - IN AFGHANISTAN

COST CODE :-------
17

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

SUB-CODE :-------

DETAIL OF TRAVEL (LOCATION)	NO. OF PERSONS	EXPECTED FARE PER TRIP(AFGH)	TOTAL AMOUNT (AFGH)	TOTAL AMOUNT ($)	COMMENTS, IF ANY
T O T A L :					

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Afghanistan Health Sector Support Project, MSH

DETAIL OF TRAVEL - IN PAKISTAN

COST CODE :-------
18

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

SUB-CODE :-------

DETAIL OF TRAVEL (LOCATION)	NO. OF PERSONS	EXPECTED FARE PER TRIP (Rs)	TOTAL AMOUNT (Rs)	TOTAL AMOUNT ($)	COMMENTS, IF ANY
T O T A L :					

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Afghanistan Health Sector Support Project, MSH
DETAIL OF UTILITIES - TELEPHONE,GAS & ELECTRICITY

COST CODE :---------
20,21 & 22
SUB-CODE :----------

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

DESCRIPTION	LOCATION	NO. OF BILLS	EXPECTED AMOUNT PER MONTH (Rs)	TOTAL AMOUNT (Rs)	TOTAL AMOUNT ($)	COMMENTS, IF ANY
TOTAL:						

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Afghanistan Health Sector Support Project, MSH

DETAIL OF REPAIRS AND MAINTENANCE

COST CODE :---------
23

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

SUB-CODE :---------

DETAIL OF REPAIRS & MAINTENANCE	TOTAL AMOUNT (RS)	TOTAL AMOUNT ($)	COMMENTS, IF ANY
T O T A L :			

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Afghanistan Health Sector Support Project, MSH

DETAIL OF VEHICLES MAINTENANCE

COST CODE :---------
24

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

SUB-CODE :---------

DETAIL OF WORK	NO. OF VEHICLES	EXPECTED EXP OF EACH VEHICLE (Rs)	TOTAL COST (Rs)	TOTAL COST ($)	COMMENTS, IF ANY
T O T A L :					

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Afghanistan Health Sector Support Project, MSH
DETAIL OF BOOKS AND SUBSCRIPTIONS

COST CODE :---------
25

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

SUB-CODE :---------

DETAILS	TOTAL AMOUNT (Rs)	TOTAL AMOUNT ($)	COMMENTS, IF ANY
T O T A L :			

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365

Afghanistan Health Sector Support Project, MSH

DETAIL OF LANGUAGE INSTRUCTIONS

COST CODE :---------
26

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

SUB-CODE :---------

DETAIL OF LANGUAGE COURSE	NO. OF COURSES	NO. OF PERSONS	FEE PER COURSE (Rs)	TOTAL AMOUNT (Rs)	TOTAL AMOUNT ($)	COMMENTS, IF ANY
T O T A L :						

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366

Afghanistan Health Sector Support Project, MSH
DETAIL OF MEDICAL EXAMINATION

COST CODE :---------
27

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

SUB-CODE :---------

DETAIL OF EXAMINATION/ TEST	NO. OF EMPLOYEES	FEE PER EXAM/TEST (Rs)	TOTAL AMOUNT (Rs)	TOTAL AMOUNT ($)	COMMENTS, IF ANY
T O T A L :					

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Afghanistan Health Sector Support Project, MSH

DETAIL OF RENT - CAR

COST CODE :---------
28

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

SUB-CODE :---------

TYPE OF VEHICLE	LEASE PERIOD (From --- To)	NO. OF VEHICLES	RENT PER VEHICLE (Rs)	TOTAL AMOUNT (Rs)	TOTAL AMOUNT ($)	COMMENTS, IF ANY
T O T A L :						

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EQUIPMENTS / CAPITAL IMPROVEMENTS BUDGET

SCHEDULE - D

DEPARTMENT :----------

COST CENTER NAME :----------

PERIOD : OCTOBER 1992 THRU SEPTEMBER 1993

ITEM ($500 OR OVER)	COST Rs.	COST $	SUGGESTED VENDOR	JUSTIFICATION
T O T A L :				

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AFGHANISTAN HEALTH SECTOR SUPPORT PROJECT
MANAGEMENT SCIENCES FOR HEALTH, PESHAWAR - PAKISTAN

SUMMARY BY QUARTER OF PROJECTED STATISTICS & COSTS
OCTOBER 1992 THRU SEPTEMBER 1993

DEPARTMENT NAME	CODE	COST CENTER NAME	UNIT COST PER STATISIC ($)	PROJECTED STATISTICS BY QUARTER Q1 Dec '92	Q2 Mar '93	Q3 June 93	Q4 Sep '93	TOTAL	FY-93 PROJECTED COST BY QUART Q1 Dec '92	Q2 Mar '93	Q3 June 93	Q4 Sep '93	TOTAL COST October 92 Sept.93-($)	Q1 Oct.-Dec 1992	Q2 Jan-Mar 1993	Q3 Apr-Jun 1993	Q4 Jul-Sep 1993	TOTAL ACTUAL EXPENSES
TRAINING	501	Training Center -MOPH	per trainee in training															
	503	Doctors/Midlevel Ref.-MOPH	per trainee in training															
	505	Training BHWs Ref.-MOPH	per trainee in training															
	507	Mid-level BHO & MCHC-MOPH	per trainee in training															
	508	Field Assessment	per trainee assessed															
	512	Mid-level Inservice-AHSA	per trainee in training															
	514	Training BHWs Ref.-AHSA	per trainee in training															
	519	Specialized Training	per trainee in training															
	592	Com.Cont.Med.Edu.Prog.-MOPH	per trainee in training															
	593	Medical Certification-AHSA	per H/Worker certified															
		Sub-total Training :																
HEALTH SERVICES DELIVERY	521	Fielded BHWs, MOPH	per fielded BHW															
	522	Basic Health Centers, MOPH	per clinic															
	525	Comprehensive H/Cent-MOPH	per health center															
	526	Emergency Medical Relief Suppo																
	523	Primary Care Hospital,MOPH	per hospital															
	531	Fielded BHWs, AHSA	per fielded BHW															
	532	Basic Health Centers, AHSA	per clinic staff															
	535	Comprehensive H/Cent-AHSA	per health center staff															
	533	Primary Care Hospital,AHSA	per hospital staff															
	534	Referral Hospital, AHSA	per hospital															
	541	Monitoring - Pakistan	per monitor															
	542	Monitoring - Afghanistan	per monitor															
		Sub-total H.S.Delivery :																
CHILD SURVIVAL & DISEASE CONTROL	551	PMD-Admin. & Training-MOPH	per person trained															
	552	PMD-Child Vaccination-MOPH	per doze - child															
	553	PMD-Women Vaccination-MOPH	per doze - woman															
	555	PMD-Admin. & Training-AHSA	per person trained															
	556	PMD-Child Vaccination-AHSA	per doze - child															
	557	PMD-Women Vaccination-AHSA	per doze - woman															
	558	PMD-Other Program.Afg-AHSA	per program/activity															
		Sub-total CSDC :																
MCH & HEALTH PROMOTION	561	MCH Admin.,- MOPH, Pak.	per admin.staff member															
	562	MCH H/Centers & Posts-MOPH	per health center															
	563	MCH H/Centers & Posts-AREA	per health center															
	568	MCH Community Health Worker	per CHW trainee															
		Sub-total MCH :																

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DEPARTMENT NAME	CODE	COST CENTER NAME	UNIT COST PER STATIST ($)	PROJECTED STATISTICS BY QUARTER Q1 Dec '92	Q2 Mar '93	Q3 June 93	Q4 Sep '93	TOTAL	FY-93 PROJECTED COST BY QUART Q1 Dec '92	Q2 Mar '93	Q3 June 93	Q4 Sep '93	TOTAL COST October 92 Sept.93-($)	Q1 Oct.-Dec 1992	Q2 Jan-Mar 1993	Q3 Apr-Jun 1993	Q4 Jul-Sep 1993	TOTAL ACTUAL EXPENSES
MANAGEMENT SERVICES	571	Warehouse & Proc.-F/Opern.	per month of operation															
	572	Warehouse Prev.Medicines	per month of operation															
		Sub-total Management Servc:																
HEALTH ADMINIS-TRATION	581	Health Administration. Pakista	per month per staff mem															
	582	SCWA - Peshawar	per month per staff mem															
	583	SSWA - Peshawar	per month per staff mem															
	584	Hazarajat - Peshawar	per month per staff mem															
	585	NASR - Peshawar	per month per staff mem															
	586	Haqqani - Peshawar	per month per staff mem															
	587	Health Administration. Afghan.	per month per staff mem															
		Sub-total Health Admin: Pak.																
HEALTH ADMINIS-TRATION AFGHANISTAN	611	Administrative Units & Depots	Per month of operation															
	682	SCWA Afghanistan	Per month of operation															
	683	SSWA Afghanistan	Per month of operation															
	684	HCCA - Hazarajat Afghanistan	Per month of operation															
	685	NASR Afghanistan	Per month of operation															
	686	Haqqani Afghanistan	Per month of operation															
		Sub-total Health Admin: Afg.																
		TOTAL PROGRAM EXPENDITURES:																

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AFGHANISTAN HEALTH SECTOR SUPPORT PROJECT
MANAGEMENT SCIENCES FOR HEALTH, PESHAWAR - PAKISTAN

DEPARTMENT NAME	CODE	COST CENTER NAME	UNIT OF STATISTIC	OCTOBER 1992	NOVEMBER 1992	DECEMBER 1992	TOTAL Q1	JANUARY 1993	FEBRUARY 1993	MARCH 1993	TOTAL Q2	APRIL 1993	MAY 1993	JUNE 1993	TOTAL Q3	JULY 1993	AUGUST 1993	SEPTEMBER 1993	TOTAL Q4
TRAINING	501	Training Center -MOPH	trainees in training																
	502	Training BHWs-Initial-MOPH	trainees in training																
	503	Doctors/Midlevel Ref.-MOPH	trainees in training																
	505	Training BHWs Ref.-MOPH	trainees in training																
	507	Mid-level RHO & MCHO-MOPH	trainees in training																
	508	Field Assessment	trainees assessed																
	511	Training BHWs-Initial-AHSA	trainees in training																
	512	Mid-level Inservice-AHSA	trainees in training																
	514	Training BHWs Ref.-AHSA	trainees in training																
	519	Specialized Training	trainees in training																
	520	Mid-level RHO & MCHO-AHSA	trainees in training																
	592	Com.Cont.Med.Edu.Prog.-MOPH	trainees in training																
	593	Medical Certification-AHSA	H/Workers certified																
HEALTH SERVICES DELIVERY	521	Fielded BHWs, MOPH	fielded BHWs																
	522	Basic Health Centers, MOPH	clinics																
	525	Comprehensive H/Cent-MOPH	health centers																
	523	Primary Care Hospital,MOPH	hospital																
	531	Fielded BHWs, AHSA	fielded BHWs																
	532	Basic Health Centers, AHSA	clinics																
	535	Comprehensive H/Cent-AHSA	health centers																
	533	Primary Care Hospital,AHSA	hospitals																
	534	Referral Hospital, AHSA	hospital																
	541	Monitoring - Pakistan	monitors																
	542	Monitoring - Afghanistan	monitors																
CHILD SURVIVAL & DISEASE CONTROL	551	PMD-Admin. & Training-MOPH	persons trained																
	552	PMD-Child Vaccination-MOPH	dozes - child																
	553	PMD-Women Vaccination-MOPH	dozes - woman																
	555	PMD-Admin. & Training-AHSA	persons trained																
	556	PMD-Child Vaccination-AHSA	dozes - child																
	557	PMD-Women Vaccination-AHSA	dozes - woman																
	558	PMD-Other Program.Afg-AHSA	programs/activities																
MCH & HEALTH PROMOTION	561	MCH Training - MOPH.Pak.	admin. staff members																
	562	MCH H.Centers & Posts-MOPH	health centers																
	563	MCH H.Centers & Posts-AHSA	health centers																
	564	Family Planning Services	# of Clinics																
	566	MCH Community Health Worker	CHW trainees																

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DEPARTMENT NAME	CODE	COST CENTER NAME	UNIT OF STATISTIC	OCTOBER 1992	NOVEMBER 1992	DECEMBER 1992	TOTAL Q1	JANUARY 1993	FEBRUARY 1993	MARCH 1993	TOTAL Q2	APRIL 1993	MAY 1993	JUNE 1993	TOTAL Q3	JULY 1993	AUGUST 1993	SEPTEMBER 1993	TOTAL Q4
MANAGEMENT SERVICES	571	Warehouse & Proc.-P/Opern.	month of operation																
	572	Warehouse Prev.Medicines	month of operation																
HEALTH ADMINISTRATION	581	MCPH - Peshawar	staff members																
	582	SCWA - Peshawar	staff members																
	583	SSWA - Peshawar	staff members																
	584	Hazarajat - Peshawar	staff members																
	585	NASR - Peshawar	staff members																
	586	Haqqani - Peshawar	staff members																
	587	Health Admn. Afghanistan	staff members																
ADMINISTRATION AFGHANISTAN	611	Administrative Units & Depot	Admin. Office																
	682	SCWA Afghanistan	Ministry Office																
	683	SSWA Afghanistan	Ministry Office																
	684	HCCA Afghanistan	Ministry Office																
	685	NASR Afghanistan	Ministry Office																
	685	Haqanni Afghanistan	Ministry Office																

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AFGHANISTAN HEALTH SECTOR SUPPORT PROJECT . MSH

S T A T I S T I C S B U D G E T

Schedule - A

DEPARTMENT :----------

OCTOBER 1992 THRU SEPTEMBER 1993

COST CODE	COST CENTER NAME	UNIT OF STATISTIC	October 1992	November 1992	December 1992	January 1993	February 1993	March 1993	April 1993	May 1993	June 1993	July 1993	August 1993	September 1993	TOTA

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S A L A R Y B U D G E T

SCHEDULE - B

DEPARTMENT :----------

COST CENTER NAME :----------

COST CODE :----------

PERIOD : OCTOBER 1992 THRU SEPTEMBER 1993

NUMBER OF EMPLOYEE(s)	DESCRIPTION TITLE	LOCATION	RATE PER MONTH RUPEES	NUMBER OF MONTH(s)	TOTAL SALARY RUPEES	TOTAL SALARY DOLLARS	COMMENTS
	T O T A L :						

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AFGHANISTAN HEALTH SECTOR SUPPORT PROJECT . MSH

OPERATING EXPENSES SUMMARY SCHEDULE - C

DEPARTMENT :----------

COST CODE : ----------

COST CENTER NAME :----------

PERIOD : OCTOBER 1992 THRU SEPTEMBER 1993

COST CODE	DESCRIPTION	AMOUNT Rs	AMOUNT $	COMMENTS
01	Salaries			
02	Consultancy			
03	Supplies - Medical			
04	Supplies - Non-medical			
05	Supplies - Office			
06	Freight			
07	Training - Seminars			
08	Training - Reference material			
10	Equipment - Medical			
11	Equipment - Non-medical			
12	Capital improvements			
13	Allowances			
14	Stipends			
15	Per diem			
16	Food			
17	Travel - In Afghanistan			
18	Travel - In Pakistan			

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COST CODE	DESCRIPTION	AMOUNT Rs	AMOUNT $	COMMENTS
19	Rent - Offices			
20	Utilities - Telephone			
21	Utilities - Gas			
22	Utilities - Electricity			
23	Repair & maintenance			
24	Vehicle maintenance			
25	Books & subscriptions			
26	Language instructions			
27	Medical examination			
28	Rent - Car			
29	Miscellaneous			
30	Postage & shipping			
31	Administrative write off			
32	Insurance			
33	Travel Air-fare			
	T O T A L :			

U N I T C O S T B U D G E T

SCHEDULE - E

DEPARTMENT :----------

COST CENTER NAME :----------

PAGE - -

OCT.01, 1992 THRU SEP.30, 1993

COST CODE :----------

COST CODE	COST CENTER NAME	UNIT OF STATISTIC	OCT ($)	NOV ($)	DEC ($)	JAN ($)	FEB ($)	MAR ($)	APR ($)	MAY ($)	JUN ($)	JUL ($)	AUG ($)	SEP ($)
		T O T A L :												

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Afghanistan Health Sector Support Project, MSH

DETAIL OF FREIGHT

COST CODE :-------
06

OCTOBER 01,1992 THRU SEPTEMBER 30,1993

SUB-CODE :-------

DETAIL OF ITEM(s)	LOCATION	RATE PER KG/SEER (AFGH)	TOTAL AMOUNT (AFGH)	TOTAL AMOUNT ($)	COMMENTS, IF ANY
T O T A L :					

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