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AFGHANISTAN HEALTH SECTOR SUPPORT PROJECT

SURVEY AND OPERATIONS RESEARCH STRATEGY  
FOR 1990

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## I. INTRODUCTION:

The Afghanistan Health Sector Support Project began on October first 1986 through a three year Cooperative Agreement awarded to Management Sciences for Health (MSH) by the United States Agency for International Development (USAID). In February 1989 the Cooperative Agreement was amended extending the Project until December 31, 1992.

With the Project amendment, the original Project Goal and Purpose -- to expand and strengthen health services inside Afghanistan as rapidly as possible and to strengthen the capability of the Seven Party Alliance health Committee (AHC) to plan, operate, and monitor an expanded health services system in Afghanistan -- were changed only slightly, giving more emphasis to civilian care, particularly women and children, and an increased focus on development of health services in organized areas.

In order to be able to plan health services in Afghanistan and set priority programs, the project realized the need to conduct basic health surveys and operations research, with the primary objective to conduct studies aimed at improving the quality, efficiency, coverage, and sustainability of the health services initiated by the project.

The Scope of Work for this consultancy was, in 4 weeks, to define the health planning and management questions which need to be answered by cross-border surveys; conduct literature review to determine what information is already available; to determine the types, content and proposed number of cross border surveys needed; to prepare a prototype plan for survey logistics to determine the feasibility and cost of different survey options as well as the potential constraints for obtaining reliable information; and to prepare a draft survey schedule for 1990, including estimated financial and technical assistance requirements.

In preparation of the cross border survey strategy, the following Peshawar based organizations have been contacted: WHO, UNICEF, AVICEN, ACBAR, ARIC, CMC, ARC, UNHCR, IRC, MSF, Swedish committee, and Freedom Medicine.

## II. EXECUTIVE SUMMARY:

The Afghanistan Health Sector Support Project began in October 1986 with the goal to expand and strengthen health services inside Afghanistan and to strengthen the capability of the seven party Alliance Health Committee to plan, operate and monitor health services system in Afghanistan.

In order to be able to plan health services in Afghanistan and set priority programs, the project realized the need to conduct basic health surveys and operations research, with the primary objective to conduct studies aimed at improving the quality, efficiency, coverage, and sustainability of the health services initiated by the project. For this reason a 4 week technical assistance was initiated to identify the survey and operations research needs for the project and to describe the strategy for conducting cross border surveys in 1990.

The identified research options are: mortality profile; morbidity profile; sources of health care and private health expenditure; the extent of physical disability in the population; Malaria survey; Tuberculosis Study; maternal health assessment study; MCH human resources study; and Malnutrition and feeding practice survey.

Priority for selecting which research to conduct in 1990 has been decided based on the importance of the research topic in relation to the Project operations and in relation to other topics, the logistical and technical feasibility of conducting the research topic, and the interest of the field staff in the research topic.

The suggested research strategy for 1990 is:

To conduct Mortality, Morbidity and Health Expenditure Household Survey;

To prepare for a prospective study to assess the cost effectiveness of different TB case management alternatives;

To prepare for TB community Prevalence survey;

To prepare for Malaria survey;

To conduct MCH human resources study.

### III. LITERATURE REVIEW:

The following is a brief description of important health surveys and research studies that have recently been done inside Afghanistan. Some studies that have been done in the Refugee Camps in Pakistan are also briefly presented with the objective of benefitting from the lessons learned with regard to study methodology and logistical difficulties.

#### 1. Pre-War Studies inside Afghanistan:

1.1. A Health Survey of Three Provinces of Afghanistan, Ministry of Public Health and Management Sciences for Health, 1977:

##### Methodology:

In a Household Survey, 486 females and 237 males living in 17 villages of 3 different provinces, Ghazni, Helmand, Baghlan were interviewed to obtain information about the health of their household and the steps they take when a member of that household is sick. Two established Basic Health Centers were chosen as focal points for village selection. Selection of BHCs was based on length of operation (and thus their potential impact on the community), as well as on the desire to achieve a representative variation of geographic, social, and economic conditions within each province. Village selection was accomplished by preparing grid maps of areas adjacent to the selected BHCs and by random selection of villages at 1 km, 10 km, and 15 km from the health center. Within each village, household selection was done systematically, using prelists of households developed by a random start method. Depending on the size of the village, every second or third household on the prelist form was sampled. Within a household an attempt was made to interview an adult male and an adult female, preferably but not exclusively, a husband and a wife. Only one wife was interviewed per polygamous marriage. All interviews were carried out by trained male and female interviewers using separate interview forms for men and women that had been designed, pretested, and revised before the start of the survey.

##### Results:

The population surveyed included 3,483 individuals living in 486 households, thus an average of 7.17 persons per household. The mean number of rooms per household was 2.25, with an average of 3.18 persons per room. Women of completed reproductive age, that is, over 45, reported having 9.37 children ever born and 5.67 still living. The Crude Birth Rate was 48.5, Crude Death Rate was 24.2. Infant Mortality Rate was 157. Almost 60% of all deaths in the preceding year were of children under 5 years.

Three types of illnesses, respiratory ailments, gastrointestinal illnesses, and fevers, accounted for 57 percent of all illnesses mentioned.

## 1.2. Health and Disease in Rural Afghanistan, Alfred Buck, 1972.

**Methodology:** Four major areas of Afghanistan were selected which were considered representative of contrasts in the environment, and of differences in the ethnic, religious and occupational characteristics of the population. These four areas were: 1) the central mountains of the Koh-i-Baba in the Province of Bamyan, 2) the northeastern central plain in the Province of Qunduz, 3) the agriculture development area of the Helmand valley, near the city of Lashkargar, and 4) the foothills of the Paropamisus mountain range in the northeastern corner of Afghanistan in the Province of Herat. The finally selected villages were:

Saidabad in the Province of Bayman, with predominantly Moghul population;

Bulla Guchi in the Province of Qunduz, with Uzbek residents; Gawargin in the Helmand Valley, with Pushtoon population; and Korach in the Province of Herat with Tajik and Sayed ethnic groups.

A complete map of each village was prepared in which each house was listed. Thereafter, the population sample was defined by selecting either natural boundaries which enclosed the main part of the village or, if the village was very large, a representative segment. Excluded were small hamlets, individual houses or satellite communities which, although politically part of the village, were found scattered over a wide area. All houses in the sample area were given consecutive numbers which were listed on the map and painted on the houses. Finally, all families were visited by a census team which was composed of an Afghan male nurse and members of the local power structure.

The medical information of the study was obtained by five principal methods, namely health interviews, standardized physical examinations, laboratory tests, skin tests, and chest radiography. In addition, special ophthalmological examinations, including eye microscopy with slit lamp, funduscopy and conjunctival scraping for trachoma inclusion bodies, were carried out. The actual field procedures administered to and requested from all individuals in the study comprised a health interview; a physical examination; four skin tests, two with different types of tuberculin (PPD-S and PPD-G), and one each with histoplasmin and Echinococcus granulosus antigen; a venipuncture for drawing approximately 10 milliliters of blood; acquisition of fresh urine and stool specimens; and, for children under the age of 10, a rectal swab for bacteriological examinations. Furthermore, chest roentgenograms were taken routinely of persons who were six years or older.

**Results:** Estimated Fertility Rate/year per 100 women aged 15-45 was 20.5. Birth Rate was 44.6. Infant Mortality Rate 205/1000 live births.

Of the 1,317 blood smears made in the study, 8 were found positive for plasmodium malaria. All were identified as P. Vivax. Tuberculin test revealed positive reaction ranging from

36.2 to 59.3 percent for Tuberculin PPD-S, and from 38.7 to 53.3 for Tuberculin PPD-G.

## 2. Post war Studies inside Afghanistan:

There are very few studies describing mortality or morbidity patterns inside Afghanistan after the break out of the civil war. Some of these studies are:

### 2.1. Goitre Survey for AVICEN at Kajab-E-Behsud, Wardak Province, Barbara Bill, 1989.

Eight villages in woleswali of Behsud district of Wardak Province were chosen for the survey. The sample included 286 families. Random sampling was originally planned, whereby from a central place in the village a certain direction was selected, and intervals between houses were to be chosen randomly. Yet, this methodology proved not suitable in small villages with scattered households of 2-3 in one cluster. A decision was made to examine all women aged 15-45 in the sample, who were considered high risk group. Women were interviewed and examined by a foreign woman interviewer. Results showed that 64 out of all 214 women examined (30%) had palpable and/or visible thyroid gland.

### 2.2. Report on Health Problems in Zabul Province, by The Health Unlimited Team, John Watson, 1985.

Fifteen villages with a total population of 963 people were investigated for population structure by interviewing male householders who were asked to come to a meeting with the Health Unlimited team. Women in 21 villages nearest to a Maternal and Child Health Clinic were asked about their child bearing history. Clinic Records were also examined. The team attempted to examine all children under 5 years in the MCH clinic. Yet only 79% were actually seen. The presence of persists cough, fever and blood in sputum was used to diagnoses T.B. Sputum samples were obtained from a proportion of suspected T.B. cases. Samples were stained using ZN technique and examined under a unioocular microscope using oil immersion.

Results: Infant Mortality Rate was suggested to exceed 200/1000. Of the 107 women who had their childbearing history recorded there was a total of 519 live births, an average of 4.9 births each. Women aged 35-44 had an average of 7.7 births each. The morbidity pattern from the records of the Health Clinic suggests that Worms, Diarrhea, Gastritis, Anaemia, Malnutrition and Lower Respiratory Tract Infection were the leading causes of morbidity. Low weight for age was observed among children under 5 years, 17% of children were less than 60% of Reference Weight for Age. Out of 1393 individuals seen in the base clinic, 102 had symptoms and signs clinically suggestive of T.B. Sputum Samples of 99 suspected cases were positive in 34 of them. Twenty one samples were "query positive".

### 2.3. Tuberculosis Assessment Study, Ghazni Province, By Medecins Sans Frontieres (MSF), 1983.

Analysis of 394 Patient Records in Jaghori-Quli Jab Hospital revealed that 12% of patients had completed a one year course of treatment, 54% of patients did not continue the one year therapy and 42% stopped treatment before 6 months from the date of starting. No information available about the correlation between patients who completed their treatment with the distance that they have to walk to get to the hospital.

### 3. Monitoring Trips inside Afghanistan:

This is the most common methodology used recently to learn about the health situation inside Afghanistan. The methodology is widely adopted by many projects based in Peshawar. Typically, a monitoring trip is performed by a team consists of an expatriate and Afghan counterparts and assistant translators that follow a predetermined route crossing one or more Provinces. The aim in the majority of the monitoring trips is to perform basic evaluation and verify the status of health facilities and health personnel in the visited provinces. Some monitoring trips attempt to collect data at the health facility level. In general, provinces near the Pakistani border, such as Kunar, Paktia and Paktika, are the target for such monitoring trips.

There are many reports describing monitoring trips, the following are some examples:

- Report on Health in Kunar, WHO, 1989.
- Badakshan Provincial Profile, WHO, Operation Salam, 1989.
- Paktika Province, UN Mission, Operation Salam, 1989.
- Coordination of Medical Committees (CMC) Monitoring Trips in Takhar, Kunduz, Baghlan, Kapisa and Kandhar Provinces, 1989.

Figure 1 is presenting a map with recent studies in Afghanistan by study topic, Province and supporting organization.

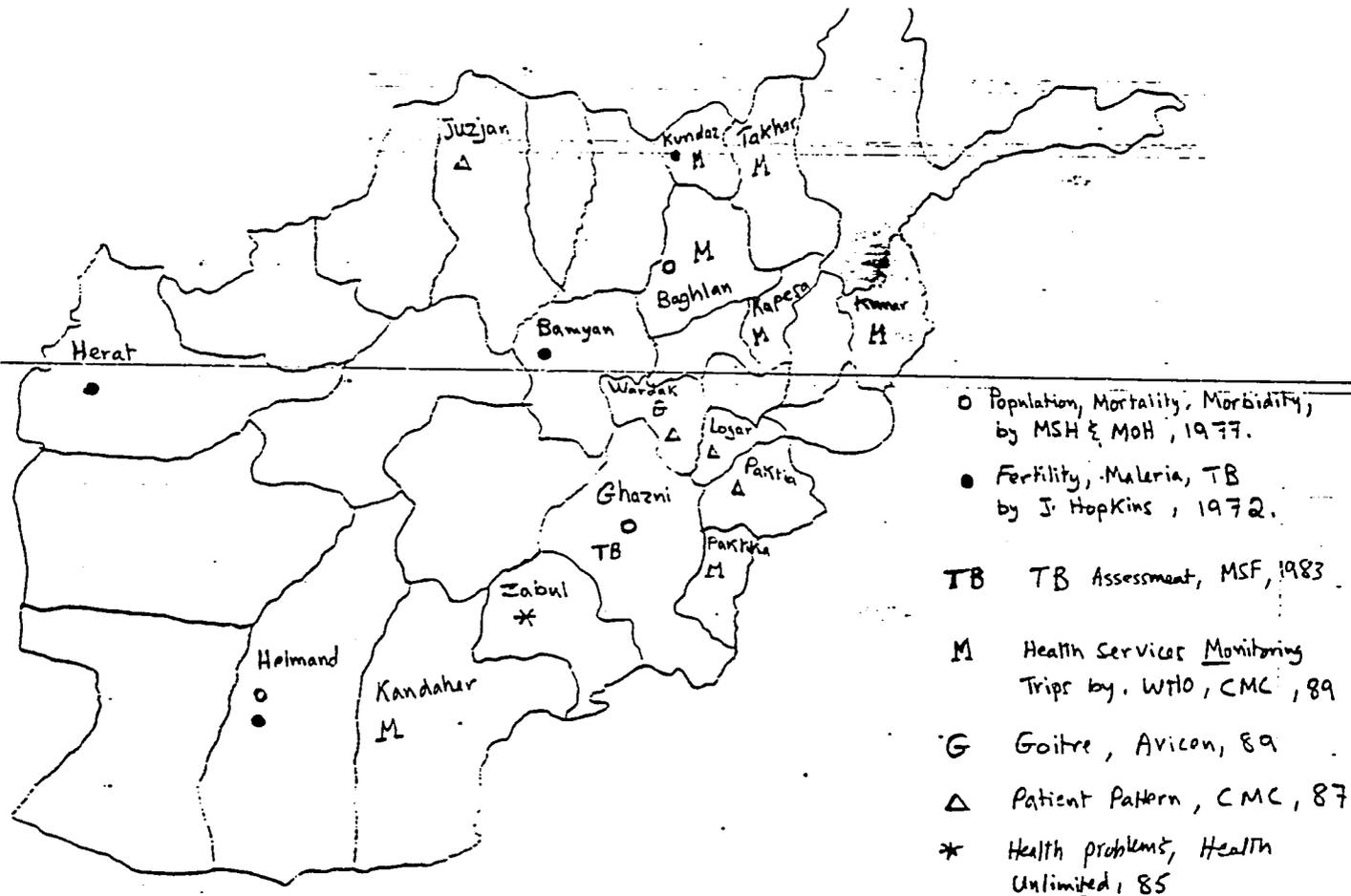
### 4. Studies in the Refugee Camps:

Although the population in refugee camps can not be representative of the population inside Afghanistan, and hence results of studies in the camps can not be inferred to reflect the Afghan population conditions, yet, methodology and logistical arrangements for refugee camp studies can be of value in designing research strategies inside Afghanistan. A brief description of the methodology employed in examples of such studies are presented below:

#### 4.1. Diarrhea Morbidity and Mortality and Treatment Practices in Afghan Refugee Camps, UNHCR, 1989.

A Household Survey was designed according to the WHO Household

Figure 1, Recent Studies Inside Afghanistan by Topic, Province and Supporting Organization.  
 (NB. Provincial Health Profile Survey is not included)



Survey Manual published in 1986. The sample size was determined according to childhood diarrhea expected mortality rate which was estimated to be 35 per 1000. Hence, the sample needed was 5500 children. Refugee camps were chosen randomly with the probability of being chosen proportionate to camp population size. i.e. larger camps had more probability of being chosen. Each chosen camp was mapped and divided into 6-8 sections. Compounds were randomly selected within each section using a numeric disc and random number tables. Survey team consisted of a team supervisor and 3 interviewers, all were Pakistani women. Data analysis was done using Lotus 123 software.

#### 4.2. The Impact of Male Primary Health Care Program on the Health Knowledge and Practices of the Population in Afghan Refugee Villages, Save the Children (UK), 1988.

In order to evaluate the impact of the primary health care program a household survey was conducted to investigate the prevalence of Diarrhea, the use of ORS, community knowledge about childhood diarrhea management, community acquaintance with their BHW, utilization of health services and B.C.G. immunization coverage. The T.B. case defaulting rate, which was identified as the failure to collect drugs after 2 weeks after the due date, was also measured.

A multi-stage cluster sampling was employed. Selection of villages was done by Stratified Random Selection. Odd villages were excluded, e.g. widow and orphan villages. Each village in each stratified group was given a unique number. All numbers were mixed in a "Chitralli cap" and chosen from.

For the selection of compounds, each chosen village was divided into 5 areas in relation to the Basic Health Unit. For each area 35 compounds were selected. The first one selected randomly, then the next one was chosen by simply shifting to the next one to the right. When there was no compound to the right, the next closest compound was selected.

#### 4.3. Health Status of Afghan Women and Children as Assessment of Trends in 10 Refugee Camps. International Rescue Committee, Ellen Krijgh, 1987.

A Household Survey was conducted to measure IMR, prevalence of diseases, malnutrition among children, women's fertility rates, women's opinion in family planning and environmental conditions in the camps. Cluster Sampling was employed, 5 clusters of equal size were selected. In each cluster the initial household was chosen blindly, subsequent households were chosen by moving to the next house on the left. Interviewers were all women.

#### 4.4. Evaluation of Infant Mortality and Childhood Nutritional Status Among Afghan Refugees in Pakistan, Centers for Disease Control with UNHCR, 1986.

Thirty clusters were decided to represent the 2.4 million Afghan refugee living in Pakistan. Clusters were identified randomly. To choose households within each cluster, the team supervisor chose the first household randomly. Subsequent households were chosen by moving to the left till 45 households are covered. If no household was found on the left, the next closest household was visited. The team of interviewers composed of 3-4 lady health visitors and a supervisor.

Both arms of each child in the sample were examined for a BCG vaccination scar. Every fourth child aged 1-4 years was weighed using Salter Scale, and the child height or length was determined using a portable measuring board. Infants less than one year old were neither weighed nor measured. Weight for Height measurements were then compared to the WHO/NCHS/CDC Reference Standard. Information was collected on the occurrence of diarrhea during the seven days prior to the interview for all children less than 5 years.

### III. SURVEY AND OPERATIONS RESEARCH OPTIONS FOR THE AFGHANISTAN HEALTH SECTOR SUPPORT PROJECT.

Although the scope of work for this consultancy was to design the Project's Survey and Operations Research strategy for 1990, the strategy for the whole life span of the project, up until 1992 had to be thought out, so that the 1990 strategy would fit in the overall Project strategy.

On light of the literature review, discussions with MSH team members and MOH staff, and meetings with different international organizations concerned about health problems in Afghanistan, there is a general lack of recent baseline information on mortality, morbidity and other vital statistics that reflect the health situation for the population inside Afghanistan. This situation of lack of baseline data puts a burden on health planners to validate the rationale for fund allocation. For example, there is a general feeling that TB is prevalent in Afghanistan. Yet, there is very little evidence of the extent of this health problem. Another example is the lack of information on the incidence of Malaria, especially *M. Falciparum*, and the incidence of Chloroquine Resistant Malaria.

In short, the need for information is definitely there. The question is, what can the AHSSP do in the current situation of continuing civil war and logistical and technical difficulties in conducting research in Afghanistan while being based in Pakistan?.

This section of the report briefly describes the important health information needs. It is by no means here suggested that the AHSSP adopts all the presented study ideas. Yet, the ideas presented here should be considered as options for the Project to choose from according to pre-set criteria that weigh the importance, the cost and the feasibility of conducting different study options.

#### 1. Mortality Profile:

Objectives: A baseline survey to study causes of death for all age groups; causes of death for children less than 5 years; Infant Mortality Rate and Child Mortality Rate.

Methodology: A Household Survey is suggested in 2 to 4 Afghan Provinces. A questionnaire can be designed to help interviewers conduct Verbal Autopsy for all the identified mortality cases that took place within the one year preceding the interview.

The study sample can be drawn by Stratified Random Selection of politically accessible villages. This method will assure adequate presentation of villages of different geographic or ethnic background. To select households within each village Cluster Sampling Technique can be employed. The sample size should be

based on the expected IMR and Under 5 Mortality Rate. Interviewers can be either specially recruited survey teams, AHSSP Monitors or Basic Health Workers.

Special Constraints: The key for success of any of the household surveys will depend to a great extent on the quality and the level of training of the interviewers as well as the presence of experienced field supervisors. Obtaining accurate information about the age of individuals in the sample will be a special difficulty.

## 2. Morbidity Profile:

### Objectives:

- 2.1. To study causes of illness at the community level.
- 2.2. To study the morbidity pattern at the health facility level.

### Methodology:

2.1. A methodology similar to that suggested for the Mortality Profile can be adopted i.e. A Household Survey can be conducted through a structured questionnaire, Stratified Random Selection of politically accessible villages, Cluster Sampling Technique to select households.

2.2. Morbidity at the health facility level can be investigated from the Monthly reports and from the Green Books available in each facility.

Special Constraints: It is likely to have under reporting of female morbidity if men interviewers are used.

## 3. Sources of Health Care and Private Health Expenditure:

### Objectives:

- 3.1. To investigate the sources of health care in the community.
- 3.2. To investigate community behavior toward sick persons and the level of utilization of different each source.
- 3.3. To investigate community expenditure on private health care. This can be of value to learn about the possibility of having a sustainable health services in the future.

### Methodology:

Sources of health care in the community can be obtained from the ongoing Provincial Health Profile Survey. A Household Survey can be designed to investigate the community utilization of available health sources and family expenditure on private health care.

#### 4. Studying the Extent of Physical Disability in the Community!

Objectives: To study the extent of disability in the population which has been caused by the war. To study the different types of disabilities and the health care options for the disabled population, as a step to determine the need for special care for the disabled.

Methodology: A Household Survey in Provinces which were hit extensively by the war.

Special Constraints: Provinces which were hit extensively by the war, where physical disability is likely to be a problem, may be heavily depopulated and unsafe to conduct household surveys.

#### 5. Malaria Survey:

Objectives:

5.1. To determine the incidence of Malaria and the ratio of Malaria Falciparum; and to measure the Incidence of Asymptomatic Malaria "carriers".

5.2. To measure the incidence of Chloroquine Resistant Malaria.

Methodology:

Blood samples can be taken from patients coming to chosen health facilities with fever. To detect asymptomatic Malaria, blood samples can be taken at schools from students age 4 to 14. All collected blood samples will be examined in Peshawar. It is suggested that the incidence of malaria be studied in 2 Provinces where Malaria is endemic and where MSH has active clinics or district hospital. Kunduuz, Baghlan and Takhar Provinces have been suggested in the north.

Special Constraints: A competent field supervisor, preferably a physician familiar with research methodology and Malaria sampling technique and a pilot study to field test the survey methodology will be needed. Preparation time before the field work is expected to be long due to the difficulty of the study logistics. For example, special wooden boxes will be needed for transferring slide to and from the field. Also, arrangements for examining slides in Peshawar have to be worked out ahead of time with a qualified and willing reference laboratory.

#### 6. T.B. Study:

Objectives:

6.1. To measure the Incidence of T.B. at the health facility level l.e. new cases.

6.2. To measure T.B. prevalence in the community.

6.3. To evaluate B.C.G. immunization coverage.

6.4. To investigate the cost effectiveness of T.B. case management alternatives.

Methodology: The incidence of T.B. at the health facility level can be studied by collecting data retrospectively from hospital files and special T.B. case registration forms. Random sputum samples will need to be taken at the community level to learn about the T.B. prevalence, B.C.G. immunization coverage can be studied, in coordination with UNICEF and AVIVEN, by checking vaccination scar in children.

Takhar Province is suggested for measuring the ratio of T.B. cases because MSH a hospital where T.B. cases are treated. Ghazni and Wardak are also possibilities.

Prospective investigation of case management alternatives can be done by monitoring different case follow up arrangements and by doing a cost effectiveness evaluation of each arrangement. The evaluation can take into consideration the rate of case defaulting and the cost of case tracking and follow-up. Coordination with other organizations who already have T.B. treatment programs in Afghanistan will be required.

Special Constraints: Random sputum sampling in the community requires sophisticated logistical arrangement in the field which may not be feasible under the current circumstances.

## 7. Maternal Health Assessment Study:

Objectives: To obtain baseline information on prenatal, natal and post natal care, Maternal Mortality Rate, outcome of pregnancy and Fertility Rate.

Methodology: A household survey can be employed, with female interviewers in randomly selected villages. Households within each village can be chosen by cluster sampling technique. The questionnaire can also include prenatal assessment of maternal anaemia, nutrition and tetanus vaccination.

Perinatal behavior can be investigated through focus group discussions with Afghan women in a number of villages.

It is suggested to conduct the Maternal Health Assessment Study in one of the provinces where MSH has an active MCH program.

Special Constraints: If Maternal Mortality Rate is to be measured the sample size for the household survey will have to be very large. Also, female interviewers are not available.

## 8. MCH Human Resources Study:

Objectives: To take inventory of qualified female health personnel and check their willingness to participate in MCH programs; and to evaluate the effectiveness of Dai training by BHWs. Results of this study can be fed back into the BHW Dai training program adopted recently by MSH.

Methodology: Information about the availability of female health personnel, e.g. nurses, midwives and female health technicians, can be obtained through the ongoing Provincial Health Resources Profile Survey. Identified female health personnel will be contacted and interviewed to check their willingness to participate in MCH activities.

Focus Group Discussions with Dais in different villages can be used to assess their knowledge, needs and to understand the circumstances that they operate under.

Special Constraints: A qualified female interviewer, preferably experienced in the focus group discussion methodology will be needed to be able to reach female health workers and Dais.

## 9. Malnutrition and Feeding Practice:

### Objectives:

9.1. To obtain baseline information on the nutrition status of preschool children.

9.2. To understand community feeding and weaning practices.

Methodology: A household survey following the same methodology described above i.e. Stratified Random Selection of villages and cluster Sampling to choose households within each village. Focus group discussion can be used to understand community feeding and weaning practices.

The following table summarizes the AHSSP Survey and Operations Research Options Inside Afghanistan.

AFGHANISTAN HEALTH SECTOR SUPPORT PROJECT  
 SURVEY AND OPERATIONS RESEARCH OPTIONS FOR 1990-1992.

GOAL: To collect basic field information necessary to plan cost effective sustainable health services inside Afghanistan  
 i.e. WHERE TO PUT RESOURCES

PRIORITY FOR SELECTING RESEARCH TOPICS WILL BE DECIDED BASED ON THREE MAIN CRITERIA: HOW IMPORTANT, HOW FEASIBLE AND HOW INTERESTED THE LOCAL STAFF ARE IN THE RESEARCH TOPIC.

RESEARCH TOPIC & OBJECTIVES	METHOD.	1990	1991	1992	METHODOLOGY DESCRIPTION	SPECIAL CONSTRAINTS
<b>1. MORTALITY PROFILE:</b>						
A baseline survey to study causes of death for all age groups; causes of death for children less than 5 years; Infant Mortality Rate and preschool Child Mortality Rate	HHS	X			<ul style="list-style-type: none"> <li>- Household Survey</li> <li>- Verbal Autopsy through a structured questionnaire</li> <li>- Survey is to be implemented in 2-4 provinces</li> <li>- Stratified Random Selection of politically accessible villages</li> <li>- Cluster Sampling Technique will be employed to select Households</li> <li>- Interviewers can be: Survey team, Project Monitors or EHWs trained in the field.</li> </ul>	<ul style="list-style-type: none"> <li>‡ Obtaining accurate age will be a special difficulty.</li> <li>‡ IMR and Preschool Mortality Rate will be taken into consideration when determining the sample size</li> <li>‡ If EHWs are selected to collect data, training have to take place in the field immediately before data collection, and field supervision will be essential.</li> </ul>
<b>2. MORBIDITY PROFILE:</b>						
2.1. Morbidity Pattern at Community Level.	HHS	X			<ul style="list-style-type: none"> <li>- As above i.e. Household Survey through a structured questionnaire, stratified random selection of villages and cluster sample technique for selecting households</li> </ul>	<ul style="list-style-type: none"> <li>‡ Same as above</li> </ul>
2.2. Morbidity pattern at Health Facility Level	Monthly Reports & Green Book.	X	X		<ul style="list-style-type: none"> <li>- Morbidity at health facility level will be studied from the monthly reports and the Green Books available in each health facility.</li> <li>- Survey is to be implemented in 2-4 provinces.</li> </ul>	<ul style="list-style-type: none"> <li>‡ If interviewers are men it is likely to have under reporting of female morbidity.</li> <li>‡ Field supervision is essential</li> </ul>

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RESEARCH TOPIC & OBJECTIVES	METHOD.	1990	1991	1992	METHODOLOGY DESCRIPTION	SPECIAL CONSTRAINTS
					- Interviewers can be: Survey team, Project Monitors or BHWs trained in the field.	
<b>3. SOURCES OF HEALTH CARE &amp; PRIVATE HEALTH EXPENDITURE:</b>						
3.1. Investigating the Sources of Health Care in the Community.	Prov. Profile & HHS	X	X		- Ongoing Provincial Health Profile Survey can be used as bases for obtaining information about the availability of Health facilities.	
3.2. Investigating Community Behavior Toward Sick Persons.	HHS	X	X		- A Household Survey can be designed to investigate the community utilization of available sources of health care and family expenditure on private health care.	
3.3. Investigating Community Expenditure on Private Health Care.	HHS	X				
<b>4. STUDYING THE EXTENT OF PHYSICAL DISABILITY IN THE COMMUNITY</b>						
	HHS			X	- Household Survey to measure the types and extent of physical disability in the community and the health care options for the disabled.	‡ Compared to other research topics, Physical Disability may be of lower priority.
<b>5. MALARIA SURVEY</b>						
5.1. To determine the incidence of Malaria and the ratio of Malaria Falciparum; and to measure the incidence of Asymptomatic Malaria "carriers".	Blood Samples		X		- Methodology may be similar to the Malaria Survey Protocol suggested by CMC i.e.:  - Blood samples may be taken from patients coming to chosen health facilities with fever.	‡ A competent field supervisor preferably a physician familiar with research methodology and Malaria sampling techniques will be needed.
5.2. Incidence of Chloroquine Resistant Malaria.	CDC				- Blood samples can be taken at schools from students age 4 to 14 to detect asymptomatic Malaria.  - All samples will be examined in Peshawar.  - It is suggested to conduct this survey in 2 provinces where Malaria is endemic and where MSH has active clinics or district hospital (Kunduz, Baghlan & Takhar) have been suggested in the north.  - CDC may be needed to advise on Chloroquine Resistant Malaria study methodology .	‡ A pilot study to field test the survey methodology will be needed.  ‡ Preparation for examining slides in Peshawar will be needed before the trip.  ‡ Transporting slides and needed stains will be a special difficulty.  ‡ Investigating the ratio of Chloroquine Resistant Malaria can be planned in the future.(after 1992)

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RESEARCH TOPIC & OBJECTIVES	METHOD.	1990	1991	1992	METHODOLOGY DESCRIPTION	SPECIAL CONSTRAINTS
<b>6. T.B. STUDY:</b>						
6.1. To measure the incidence of T.B at the Health Facility Level i.e. New Cases.	Hospital Forms		X		- Data will be collected retrospectively from hospital files and TB registration forms.	‡ Random sputum samples from the community requires sophisticated logistics preparation in the field which may not be feasible under the current circumstances.
6.2. To measure T.B Prevalence in the community.	Random Sputum Samples				- A community survey can be conducted to check BCG scar in children.	‡ Field supervision is essential.
6.3. To evaluate B.C.G. immunization coverage.	Check BCG Scar		X		- Prospective investigation of case management alternatives can be done by setting different case follow up and treatment packages in different sites and do cost effectiveness evaluation.	
6.4. To investigate cost effective case management alternatives.	Prospective Testing of Alternatives		X	X	- Takhar, Taloqan or Jaghori Provinces are suggested for TB studies due to the availability of TB case management facilities.	
<b>7. MATERNAL HEALTH ASSESSMENT STUDY:</b>						
To obtain baseline information on prenatal, natal & post natal care; Maternal Mortality Rate, outcome of pregnancy and Fertility Rate.	HHS		X	X	- Household survey with female interviewers in randomly selected villages.	‡ Female field supervisor and interviewers will have to be recruited and trained.
	Focus Group Discussion		X	X	- Households will be chosen through cluster sampling technique.  - Prenatal assessment will include maternal anaemia, nutrition and Tetanus vaccination.  - Perinatal behavior can be investigated through focus group discussion with Afghan women in a number of villages.	‡ If Maternal Mortality Rate is to be measured the sample size will have to be very large.  ‡ Technical and logistics support in the field can be provided by an established MCH facility.
					- It is suggested to conduct the study in one province where MSH has an active MCH program. (Takhar)	
<b>8. MCH HUMAN RESOURCES STUDY</b>						
To investigate the availability of female health personnel and their willingness to participate in MCH programs.	Community Leaders & Interviews with Female H.		X	X	- Information about the availability of female health personnel will be obtained through the ongoing Preventional Health Resources Profile Survey.	‡ Community leaders can provide information about the availability of female health personnel
			X	X		‡ A qualified female interviewer is needed to investigate the

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RESEARCH TOPIC & OBJECTIVES	METHOD.	1990	1991	1992	METHODOLOGY DESCRIPTION	SPECIAL CONSTRAINTS
	Personnel.				- Identified female health personnel will be contacted and interviewed to check their willingness to participate in MCH activities. (1-2 provinces)	willingness of female health workers to participate in future MCH activities.
<b>9. MALNUTRITION &amp; FEEDING PRACTICE</b>						
9.1. To obtain baseline information on the nutrition status of preschool children.	MHS		X		- Weight for age, height for age and weight for height will be measured for children under five in the chosen areas, in addition to midarm circumference.	! Adequate training and a competent field supervisor is essential.
9.2. To understand community feeding and weaning practices.	MHS or Focus Group Discussion		X		- Hemoglobin measurement using Prismatic Hemoglobinometer or "hemoglobin Color Notebook".  - Cluster sampling in randomly selected villages in 1-2 provinces will be used.  - Feeding pattern, weaning pattern availability of food will be studied through a short community questionnaire.	! This research can be combined with the Malaria Survey since both require blood sampling.  ! Obtaining an accurate age will be a special difficulty, that is why the weight for height indicator has a particular importance.  ! Female interviewers are preferred.

## V. AFGHANISTAN HEALTH SECTOR SUPPORT PROJECT SURVEY AND OPERATIONS RESEARCH STRATEGY FOR 1990.

The overall strategy for conducting research inside Afghanistan in 1990 is to collect basic information necessary to plan cost effective sustainable health services. The strategy also is to involve the MOH counterparts in the process of designing, conducting, analyzing and utilizing the results of survey and operations research studies.

In the previous section of this report the information needs "options" were presented. In this section a choice is going to be suggested as for which pieces of research the AHSSP should start with in 1990. Priority for deciding the strategy for 1990 has been determined based on three main criteria:

- How important the topic is in relation to other topics;
- How feasible it is technically and logistically to conduct the research topic in the current political circumstances;
- How interested the local staff at the province level are in the research topic.

Deciding which Province to carry which study will depend also on how suitable the Province is for the study topic, e.g. Malaria endemic valleys for Malaria studies, and how safe it is to send a research team to the Province. See Figure 2, Areas of Intensive Fighting and Concentration of Landmines.

### 1. Mortality, Morbidity and Health Expenditure Household Survey:

#### 1.1. Objectives:

This is a baseline survey to study causes of death for all age groups; causes of death for children less than 5 years; Infant Mortality Rate and Preschool Child Mortality Rate; Causes of Morbidity in the community and the distribution of sickness by age and sex; and the volume of the household expenditure on health.

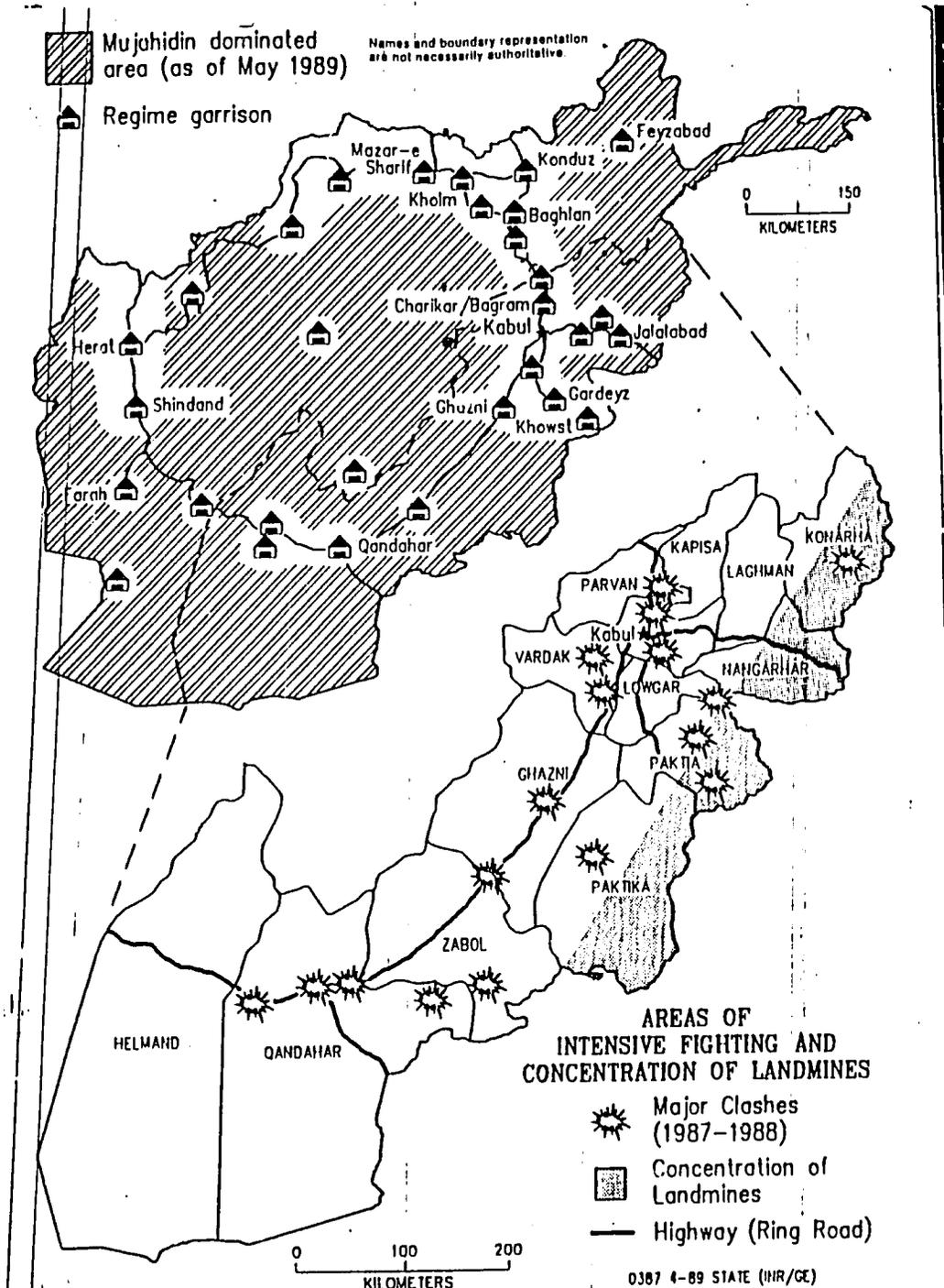
Results of the survey can be used by planners in the health sector to decide where to put financial resources as well as to document the current magnitude of different mortality rates for the purpose of future evaluation of the impact of health programs.

#### 1.2. Methodology:

A Household Survey is suggested to be carried out through a designed Questionnaire. The questionnaire should enable trained interviewers to detect and conduct a retrospective verbal autopsy for all cases of death that took place in the sample population within the elapsed one year. Morbidity during the elapsed 2 weeks to the interview can be studied as well as the money or kind expenditure on health within the elapsed one month.

Figure 2, Areas of Intensive Fighting and concentration of Landmines in Afghanistan.

Source: The Repatriation of Afghan Refugees, W. Wood, 1989.



The survey is to be conducted in more than one location inside Afghanistan. Two to 4 provinces are suggested. This number of provinces is not necessarily to guarantee a sample representative of all Afghanistan, which is a very difficult task in the current political situation, yet it will insure having data from different communities and geographical settings. Wardak is one of the Provinces that seems suitable for such a survey due to the presence and the interest of the Provincial Health officer Dr. Saddik Allah Wira, and the relative stability in the Province. To choose villages for the sample a Stratified Random Selection of politically accessible villages is suggested. Villages of similar geographical and ethnic background will be grouped together and a sample from each group will be chosen randomly. Households within the sample villages are to be selected by employing Cluster Sampling Technique. The first household in the sample can be chosen blindly, for example by tossing a coin, walking to the left or right for 50 strides, tossing a coin for a second time for a second left or right turn and again walking about 50 strides and tossing a third time for a compound to be selected on the left or right while facing a series of compound entrances. In the most favorable circumstances this would mean a number of compounds with attached walls in between them, and in more difficult cases compounds would be single units, lying far apart and only reachable over difficult terrain. The choice of subsequent households can be made by simply moving to the left or right.

The sample size is to be calculated bearing in mind the expected Infant Mortality Rate and the Preschool Child Mortality Rate. Recent reports suggested a wide range of IMR from only 50/1000 livebirths in some refugee camps to over 200/1000 inside Afghanistan. To be safe, IMR of 50/1000 should be the basis of calculating the sample size. See Table "Required Sample Sizes for Initial Mortality Survey" in Annex 1. There is no available data suggesting what the Child Mortality Rate might be inside Afghanistan. Yet, recent studies in other comparable countries, e.g. Yemen, suggest Child Mortality Rate of 30-60/1000. For the purpose of estimating the sample size in this study a Child Mortality Rate of 30/1000 should be the basis for calculating the sample size. For measuring morbidity and family health expenditure, the sample size may not need to be as large as the sample required for measuring mortality. For that reason, it is suggested here that the household be conducted in "two tier sample", i.e. 100% of the household in the sample can be asked about mortality and only 50% can be asked about morbidity and health expenditure.

### 1.3. Feasibility and Special Constraints:

To collect necessary information from all households in the sample more than one team of interviewers may need to be recruited and trained. Interviewers can be:

    Specially recruited survey team: such a team can be recruited from the refugee camps.

**Project Monitors:** These staff are already making trips inside Afghanistan to check the availability of facilities and staff through the ongoing Provincial Health Resources Profile. The disadvantage of using project monitors is that they already operate on a very busy schedule to accomplish field operations tasks. It is not practical to add another big task, such as conducting household interviews .

**Basic Health Workers:** BHWs are already in the field and they are known by people in the community, which can facilitate the process of obtaining needed information. Yet, BHWs are busy seeing patients in their units. It may be too distracting for them to be involved in the survey in the same time.

Field supervision is essential to guarantee the reliability of data. Each data collecting team should be accompanied by an experienced field supervisor who should be familiar with the research methodology and should be able to provide guidance and solve technical problems as they may arise.

Field testing of the questionnaire is another necessary step to assure the quality of data. Field testing can be done in one of the refugee camps around Peshawar. Modification of the Questionnaire will be based on results of field testing.

One special difficulty in conducting the Mortality Profile Survey will be to obtain accurate ages of children. This can affect the results of the study especially when calculating mortality rates. A calendar of local social, religious and political events that the community can easily recall should be prepared ahead of time with the assistance of community leaders or BHWs in the area. This can facilitate obtaining accurate child age by comparing the time of birth of the child with the specific significant event.

#### 1.4. Preparation for the Field Work:

1.4.1. Technical Preparation: The following steps need to be taken before the stage of data collection starts:

- Design questionnaire
- Recruit Data collection teams and field supervisors.
- Select Provinces for data collection
- Determine sample size
- Train field supervisors and interviewers
- Conduct field testing
- Modify questionnaire accordingly
- Produce questionnaire forms (type & copy)
- Set coding and data analysis plans
- Set report writing and results dissemination plan.

1.4.2. Administrative Preparation and Logistics: This should include getting approval from different political parties and commanders in the selected area for conducting the survey. Also, security arrangement for the team may be needed along the trip route. For example the team can be escorted in parts of the trip by

mujahideen assigned by commanders of the region.

Transportation arrangements will be needed from Peshawar to the border and from the border to the center of selected provinces. Transportation arrangements should include transporting personnel and commodities e.g. questionnaire forms and belongings of the travelling personnel.

Per diem will need to be figured out and released in advance. It will also be useful to supply each interviewer with an "interviewer kit" containing some essential items such as a sleeping bag, a flashlight, first aid items, a map, mosquito repellent, etc.

#### 1.5. Time Frame:

The Mortality Profile Survey will be implemented over 3 stages: Preparatory; Data Collection; and Analysis and Reporting. The following is the suggested schedule for carrying out the survey tasks:

<u>Activity</u>	<u>Time Frame</u>	
	1990	91
	May	J. J. A. S. O. N. D. J. F. M.

#### A. Preparatory Stage:

##### Technical:

Design questionnaire.	---
Recruit teams & supervisors.	-----
Select Provinces	-----
Determine sample size	-----
Train teams & supervisors	-----
Conduct field testing	-----
Modify questionnaire	---
Produce questionnaire forms	--
Set coding and analysis plans	-----
Report writing & dissemination plan.	-----

##### Administrative:

Parties & Commanders approvals	-----
Security Arrangement	-----
Transportation arrangement	-----
Per diem arrangement	-----
Interviewer Kit arrangement	-----

#### B. Data Collection:

Activity

Time Frame

1990 91  
May J. J. A. S. O. N. D. J. F. M.

C. Analysis & Reporting: -----

Data Coding ---

Data Entry ---

Data Analysis -

Report Writing

Results Dissemination

1.6. Technical Assistance:

Short term Technical Assistance will be needed especially in the preparatory stage of the survey. The selected consultant will work in close communication with the Health Services Development Advisor and local MOH and Project counterparts. Substantial experience in designing, carrying out and analyzing similar household surveys in similar community setting will be required. Specific Tasks include:

- Design the Overall Survey Technical Plan with detailed description of required activities and responsibilities i.e. what needs to be done and who is responsible for doing it.
- Design the questionnaire with feedback and advice from MSH team members and MOH counterparts.
- Decide on sample size with scientific validation of the decision.
- Decide, with advice from MOH staff, counterparts and field operations and project monitors, on Provinces and specific locations for data collection.
- Provide advice for selecting field supervisors and data collection teams.
- Arrange and conduct classroom and field training for supervisors and data collection teams.
- Supervise and assist in conducting field testing of the questionnaire and do necessary modifications accordingly.
- Develop a code book for data entry and guidelines for data collection.
- Set data coding, data entry and data analysis plans including advice on software.

The level of effort for fulfilling the above tasks is estimated to be 12 person weeks. If data analysis and reporting are to be added to the scope of work another 8 person weeks of TA will be required.

### 1.7. Cost Estimate:

The cost estimate in this section includes only the additional expenses that will be needed over the current AHSS Project expenses. i.e. it does not include project staff time, computer time, etc. It is also assumed that the household survey will be conducted in 2 Provinces, hence two interviewer teams and 2 field supervisors will be needed.

	No. of Units	Duration	\$	Cost
Local Staff:				
Field Supervisors	2	3 months	500	3,000
Interviewers	10	2 months	400	8,000
Expatriates:	1	60 days	250	15,000
Transportation:	4	20 days	50	4,000
Per Diem (Afghanistan)	12	30 days	15	5,400
Questionnaire Production				1,000
Report Production & Dissemination				2,000
Other expense				1,000
TOTAL				<u>39,400</u>

### 2. Tuberculosis Cost Effective Case Management Operations Research:

As described in the previous section of the report, there are at least 4 pieces of Survey or Operations Research Studies that are needed in the area of TB: the Incidence of TB at the health facility level; TB Prevalence in the community; BCG immunization coverage; and TB cost effective case management alternatives.

The cost effective case management alternatives is suggested to be started in 1990. Since the plan is to monitor different patterns of case management prospectively over a period of time, e.g. one year, Data Analysis and reporting will take place in 1991.

#### 2.1. Objectives:

The overall objectives of this Operations Research is to identify cost effective means of managing TB cases that can achieve the least case defaulting rate within affordable cost.

#### 2.2. Methodology:

Health facilities which manage TB cases inside Afghanistan, for example those supported by MSH in Jaghori and Taloqan, can be

identified and their records examined for case drop out rate. The facility staff can be interviewed to get information about the system of case finding and treatment follow up.

In order to evaluate different system of case management this Operations Research should not be limited only to MSH supported facilities, which most probably are using the same case management system. Other facilities supported by other organizations, and using different case management and follow up system should be involved to allow the variety required for identifying the most cost effective case management system.

### 2.3. Preparation for the Field Work:

The field work for this study should be an ongoing activity performed on day to day bases by the staff working in the chosen health facilities. Additional Field work required for the purpose of this study should be: to assure the adequacy and the quality of the collected data; and to extrapolate the required data from the health facilities records to special study forms.

As mentioned above, data will be collected prospectively over one year period. Yet, before the data collection phase the following technical tasks need to be undertaken:

- Describe in detail the study design, including determining the criteria for evaluating the different TB case management alternatives and the bases for deciding which alternative is the most cost effective.
- Identify and contact organizations that are supporting TB health facilities inside Afghanistan and get their approval and support to conduct the study.
- Examine the TB records in all identified health facility and suggest any additions to satisfy the study needs. This step may require printing new health records to some facilities.
- Set data collection quality assurance plan.
- Set data coding, entry and analysis plans.
- Set report writing and result dissemination plans.

All the above tasks can be done through inviting technical assistance. The recruited person should have experience in Operations Research Methodology and Cost Effectiveness Evaluation. The level of effort for completing the above tasks is estimated to be 8 person weeks.

### 2.4. Cost Estimate:

Additional cost to the AHSSP for 1990 will be the cost of 8 weeks worth of technical assistance, travel and per diem for the chosen consultant and probably the cost for printing new TB forms.

Hence the additional cost for 1990 can be:

Technical Assistance Time	\$250 x 6 x 8 = \$10,000
Travel	\$2,000
Per diem (Peshawar)	\$70 x 56 = \$3,920
Other expense	\$1,000
	-----
Total	\$16,920

### 3. Tuberculosis Prevalence Survey:

As described in the Survey and Operations Research Options section of this report, the objective of the TB Prevalence Survey is to measure the TB prevalence in the community through random sputum sampling. It was also mentioned previously that arranging the logistics for this survey will be a special constraint.

Although the field work is to be conducted in 1991, Technical and logistical plans should be thought ahead of time. For this reason, Technical Assistance will be required in 1990 to complete the following tasks:

- Design the overall technical plan for the survey including detailed description of survey methodology, sample size, technique and rationale for selecting Provinces, villagen, households and persons within each household in the sample.
- Describe in detail the technique for taking sputum samples including staining and examining the samples.
- Advise on the number and qualifications of field workers.
- Describe in detail the logistical requirements for carrying out such survey, e.g. sputum pots, rods, stains, etc., with provision of quantities and advice on sources of obtaining the required commodities in coordination with the Project's procurement unit.
- Describe the laboratory technical and logistical requirements for carrying out the sputum sample examination, and pay a visit to existing potential reference laboratories in Peshawar and recommend one as the study reference laboratory.
- Develop training guidelines for field workers including instructions on sputum taking techniques.
- Develop data entry, coding, analysis and reporting plans, including coding manual.

The level of effort for the above scope of work is 8 weeks. The selected candidate should have experience in carrying out similar TB prevalence surveys, with medical and laboratory background. He/she should be willing to come back for another Technical Assistance in 1991 to train field workers, supervise field work inside Afghanistan and do data analysis and reporting.

#### 4. Malaria Survey:

As described earlier, the objective is to determine the incidence of Malaria, the Ratio of Malaria Falciparum and to measure the incidence of Asymptomatic Malaria "carriers". The suggested methodology is to obtain blood samples from patients coming to selected health facilities with fever, and to obtain samples at schools from students age 4 to 14 to detect carriers. Slides are to be prepared in the field and examined in Peshawar in a selected reference Laboratory.

The plan suggested is to complete all the technical detailed study design and logistical plan this year and to conduct the field work in 1991. For this reason Technical Assistance will be needed in 1990 to complete the following tasks:

- Design detailed technical plan including detailed description of study methodology, Sample size, Rationale for selecting Provinces and health facilities. the technical plan should be done in coordination with other organizations which are involved in Malaria control activities inside Afghanistan.
- Advise on the number and qualifications of field workers.
- Describe in detail the methodology of taking blood samples and preparing slides and submit training guidelines.
- Design the logistical plan for conducting the survey and advise on the logistical requirements e.g. slides, stains, needles, etc., with provision of quantities.
- Pay visits to potential reference laboratories in Peshawar and advise on the most suitable one to be the reference laboratory for the survey.
- Develop data entry, coding, analysis and reporting plans, including coding manual.

The level of effort for the above scope of work is 8 weeks. The selected candidate should have experience in carrying out similar Malaria surveys, with medical and laboratory background. He/she should be willing to come back for another Technical Assistance in 1991 to train field workers, supervise field work inside Afghanistan and do data analysis and reporting.

## 5. MCH Human Resources Study:

### Objectives:

- To evaluate the impact of the recently adopted Dai training program by Basic Health Workers.
- To help planners understand Dais role in the community and the circumstances that they are working under.
- To investigate the availability of female health personnel in the field and their willingness to participate in MCH activities.

### Methodology:

Focus Group Discussion methodology is suggested in which a number of Dais residing in different villages can be interviewed in groups through a structured discussion led by an experienced interviewer.

This study is suggested to take place in 1990 in one or two provinces. Technical Assistance will be required. A female candidate should be recruited who has adequate experience in the Focus Group Study Methodology, and preferably speaks Persian or Pushton and has background in MCH. The specific scope of work should include:

- Design and describe in detail, in consultation with Training and MCH programs in the AHSSP, the study methodology including the rationale for selecting the study sites, details of the focus group discussion design, expected results and utilization of results.
- Conduct Focus Group Discussions with different groups Dais in the field.
- Submit a report on study results and recommend actions to MOH planners and project staff.

The level of effort for such a consultancy is 12 weeks. The cost estimate includes:

Technical Assistance Time	\$250 x 12 x 5	= \$15,000
Translator/ assistance	\$30x 8 x 5	= \$1,200
Travel to Peshawar		\$2,000
Per diem (Peshawar)	\$70 x 12 x 7	= \$5,880
Transportation to & in Afghanistan	\$50 x 20 days	= \$1,000
Per diem (Afghanistan) 2 persons	x \$15 x 20 days	= \$ 600
Other expense		\$1,000
Total		\$26,680

**VI. SUMMARY OF WORK PLAN FOR 1990:**







## REQUIRED SAMPLE SIZES FOR INITIAL MORTALITY SURVEY

Estimated Current Mortality Rate	Minimum Reduction in Mortality Rate to Be Detected (expressed as a percentage of the current rate)				
	25%	30%	33%	40%	50%
.010	50 700	35 200	29 000	19 800	12 700
.011	46 000	32 000	26 400	18 000	11 500
.012	42 100	29 300	24 200	16 500	10 500
.013	38 900	27 000	22 300	15 200	9 700
.014	36 000	25 000	20 700	14 100	9 000
.015	33 600	23 300	19 300	13 100	8 400
.016	31 500	21 900	18 000	12 300	7 800
.017	29 600	20 500	17 000	11 500	7 400
.018	28 000	19 400	16 000	10 900	6 900
.019	26 400	18 300	15 200	10 300	6 600
.020	25 100	17 400	14 400	9 800	6 200
.025	20 000	13 900	11 400	7 800	5 900
.030	16 500	11 400	9 500	6 400	5 600
.035	14 100	9 800	8 100	5 500	5 400
.040	12 300	8 500	7 000	4 800	5 200
.045	10 800	7 500	6 200	4 200	4 900
.050	9 700	6 700	5 500	3 800	4 700
.055	8 700	6 100	5 000	3 400	4 600
.060	8 000	5 500	4 600	3 100	4 400
.065	7 300	5 100	4 200	2 800	4 200
.070	6 800	4 700	3 900	2 600	4 100
.075	6 300	4 300	3 600	2 400	4 000
.080	5 800	4 000	3 300	2 300	3 800

**MORTALITY AND CAUSE OF DEATH SURVEY  
THE GAMBIA 1989  
CAUSE OF DEATH QUESTIONNAIRE**

Date =    /    /89

Interviewer number = \_\_\_\_\_

Village (name):

Village number = \_\_\_\_\_

Name of head of compound:

Compound number = \_\_\_\_\_

Name of head of household:

Name of woman:

Woman number = \_\_\_\_\_

Name of child:

Child number = \_\_\_\_\_

1. Did the child arrive sooner than expected (1), later than expected (2), or at about the right time (3)? \_\_\_\_\_
2. At birth, how did the size of the child compare to other new-born babies you have seen? (v.small=1,small=2,average=3,large=4,DK=9) \_\_\_\_\_
3. What was its age at death in months? \_\_\_\_\_ Y \_\_\_\_\_ M  
[INTERVIEWER: Years and months if it died after its 2nd. birthday].
4. What signs or symptoms were present in the week before death?  
[INTERVIEWER: First listen carefully and tick the appropriate row in column 1. Then prompt for the signs not mentioned].

Sign or symptom	Mentioned spontaneously (1)	After Prompting (2)
Fever?	.....	.....
Rash?	.....	.....
Diarrhoea?	.....	.....
Convulsions or fits?	.....	.....
Others (specify)?	.....	.....
	.....	.....

5. In the week before death, did the child have a cough? (Y=1, N=2, DK=9) \_\_\_\_\_
6. For how many days? (NONE="0") \_\_\_\_\_
7. Did the child have difficulty breathing (laboured breathing or shortness of breath) before death? (Y=1, N=2, DK=9) \_\_\_\_\_
8. For how many days? (NONE="0") \_\_\_\_\_
9. In the opinion of the household, what was the main cause of death?  
..... \_\_\_\_\_
10. What was the most obvious characteristic of the illness before death? \_\_\_\_\_

INTERVIEWER: The following questions are to answered by you on the basis of your experience and the information you have already obtained from the mother. Discuss the circumstances of the child's death informally with the mother and then make up your own mind. Remember the definitions of "acute lower respiratory tract infection" and "diarrhoeal disease" we used in the training. Now answer the following questions yourself:

11. In your opinion (the interviewer), was the death associated with an acute lower respiratory tract infection like pneumonia? (Y=1, N=2) \_\_\_\_\_

12. In your opinion (the interviewer), was the death diarrhoea-associated? (Y=1, N=1) \_\_\_\_\_

13. If you answered "NO" to both questions 12 and 13, what in your opinion was the cause of death? Describe the main cause and any other important subsidiary causes.

Main cause: ..... \_\_\_\_\_

Other causes (if any): .....  
.....  
..... \_\_\_\_\_

INTERVIEWER: Thank the woman for her help, check you have completed all the identification on all the questionnaires, and that you have all the forms (Women's Questionnaire and Cause of Death Questionnaires) belonging to this woman.

oOo



11. How many of your own sons live with you in this compound? (DK=9) \_\_\_\_\_
12. How many of your own sons now live elsewhere? (DK=9) \_\_\_\_\_
13. How many of your own daughters live with you in this compound? (DK=9) \_\_\_\_\_
14. How many of your own daughters live elsewhere? (DK=9) \_\_\_\_\_
15. Have you ever given birth to a child who later died, even if he or she lived for only a short time? (If NO - skip to Q. 18) YES/NO
16. How many of your own sons have died? (None=0) \_\_\_\_\_
17. How many of your own daughters have died? (None=0) \_\_\_\_\_
18. INTERVIEWER: Sum the answers to Qs.11, 12, 13, 14, 16 & 17. TOTAL = \_\_\_\_\_
19. So altogether you have had (TOTAL from Q.18) live births? YES/NO

INTERVIEWER: If the answer is NO, check each of the previous answers in turn.

20. In what month and year was your most recent last live birth, regardless of whether the child is still alive today? month: \_\_\_\_\_  
year: \_\_\_\_\_

INTERVIEWER: Check if the answer to Q.18 is 2 or more. If less than 2, skip to Q.23.

21. Was the birth before last a boy or a girl? (B=1, G=2, Twins=3) \_\_\_\_\_
22. Is he or she still alive today? (Y=1, N=2, DK=9) \_\_\_\_\_

23. In summary, could you please give me the following information on your more recent live births even if they have died? We will begin with the most recent.

Order	Name? (if any)	Month & year of birth?	Boy or girl? (B = 1 G = 2 T = 3)	Now alive? (Y = 1 N = 2 DK = 3)	If dead, month year at death (or age at death in completed months and years) ?
1. Last:	.....	.....	.....	.....	.....
2. Next to last:	.....	.....	.....	.....	.....
3. Second to last:	.....	.....	.....	.....	.....

Total dead children

=====

INTERVIEWER: Begin a separate Cause of Death Questionnaire for each dead child. If no dead children, thank the woman for her help and continue with the next woman.