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AGENCY FOR INTERNATIONAL DEVELOPMENT

# PROJECT REVIEW PAPER FACESHEET

TO BE COMPLETED BY ORIGINATING OFFICE

1. TRANSACTION CODE (X' APPROPRIATE BOX) [X] ORIGINAL [ ] CHANGE [ ] ADD [ ] DELETE — PRP 85, DOCUMENT CODE 2

2. COUNTRY/REGIONAL ENTITY/GRANTEE: Pakistan

3. DOCUMENT REVISION NUMBER:

4. PROJECT NUMBER: 391-4150

5. BUREAU: A. SYMBOL ASIA; B. CODE 2

6. PROPOSED PP SUBMISSION DATE: MO. 05 YR. 76

7. PROJECT TITLE - SHORT (STAY WITHIN BRACKETS): [ Basic Health Services ]

8. ESTIMATED FY OF AUTHORIZATION/OBLIGATION: A. INITIAL FY 77; B. FINAL FY 79

9. SPECIAL CONCERNS CODE (MAXIMUM SIX CODES OF FOUR POSITIONS EACH): BR | BL | BS | DEL

10. [illegible] CODE:

11. ESTIMATED TOTAL COST ($000 OR EQUIVALENT, $1 = )

| PROGRAM FINANCING | FIRST YEAR A. FX | FIRST YEAR B. L/C | FIRST YEAR C. TOTAL | ALL YEARS D. FX | ALL YEARS E. L/C | ALL YEARS F. TOTAL |
|---|---|---|---|---|---|---|
| AID APPROPRIATED TOTAL | 2,640 | 4,860 | 7,500 | 2,640 | 12,360 | 15,000 |
| (GRANT) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) |
| (LOAN) | ( 2,640 ) | ( 4,860 ) | ( 7,500 ) | ( 2,640 ) | ( 12,360 ) | ( 15,000 ) |
| OTHER U.S. 1. | | | | | | |
| OTHER U.S. 2. | | | | | | |
| HOST GOVERNMENT | | 3,000 | 3,000 | | 10,200 | 10,200 |
| OTHER DONOR(S) | | | | | | |
| TOTALS | 2,640 | 7,860 | 10,500 | 2,640 | 22,560 | 25,200 |

12. ESTIMATED COSTS/AID APPROPRIATED FUNDS ($000)

| A. APPROPRIATION ALPHA CODE | B. PRIMARY PURPOSE CODE | C. PRIMARY TECH. CODE | FY 77 D. GRANT | FY 77 E. LOAN | FY 78 F. GRANT | FY 78 G. LOAN | FY 79 H. GRANT | FY 79 I. LOAN | ALL YEARS J. GRANT | ALL YEARS K. LOAN |
|---|---|---|---|---|---|---|---|---|---|---|
| PH | 420 | 510 | | 7,500 | | - | | 7,500 | | 15,000 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| TOTALS | | | | 7,500 | | | | 7,500 | | 15,000 |

13. PROJECT PURPOSE(S) (STAY WITHIN BRACKETS) [ ] CHECK IF DIFFERENT FROM PID

[ Improved rural health manpower system developed with requisite administrative, management and logistic support. ]



14. WERE CHANGES MADE IN PID FACESHEET DATA NOT INCLUDED ABOVE? IF YES, ATTACH CHANGED PID FACESHEET. [ ] YES [X] NO

15. PLANNING RESOURCE REQUIREMENTS (STAFF/FUNDS)

Approximately 7 man months of short term TDY assistance ($24,500).

16. ORIGINATING OFFICE CLEARANCE

SIGNATURE: William R. McIntyre William R McIntyre

TITLE: Assistant Director for Population, Health and Nutrition

DATE SIGNED: MO. DAY YR.

17. DATE RECEIVED IN A.I.D./W, OR FOR A.I.D./W DOCUMENTS, DATE OF DISTRIBUTION: MO. DAY YR.

AID 1330-3 (5-75)

# INTRODUCTION

This Project Review Paper is based on final draft materials submitted to the Mission by the Health Loan Team which was in Pakistan from October 9 through November 14, 1975. The members of the team were :

| | |
|---|---|
| William J. Bicknell, M. D. , M. P. H. (Team Leader) | Family Health Care, Inc. Professional Associate |
| Archie MacPherson, M. D. , M. P. H. | University of Hawaii Associate Professor School of Medicine |
| Alan Fairbank, M. P. A. | Family Health Care, Inc. Research Associate |
| Jeremiah Norris, M. P. A. | Family Health Care, Inc. Director, International Division. |

The USAID project committee, which is listed in Section IX, was also assisted by Dr. Carl M. Stevens, Professor of Economics at Reed College in Oregon, who is an advisor to the Health Section of the Planning Division of the Ministry of Finance, Planning and Economic Affairs.

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# I. PRIORITY AND RELEVANCE

## Background

The present Pakistan health delivery system is characterised by wide regional variation and multiple modes of delivery of services in both rural and urban areas. Historically, the health system has served urban over rural needs; placed more emphasis on the training of doctors than mid-level health workers; skimped on operating budgets for the public health sector, particularly in rural areas; and neglected preventive and community health in favor of curative services. A major dialogue within the Government of Pakistan on health policy is presently approaching a definitive conclusion. This dialogue, which has included considerable discussion on the directions of manpower development for future health services delivery, has been under way for more than three years.

On October 30, 1975, President Faxal Elahi Chaudry addressed a National Conference on Health Planning on this issue. He said "I appreciate the reality that good health for the largest number of people is the key to social success and economic progress of a nation. But, at the same time, we have to understand that possession of technical and professional knowledge does not by itself ensure better health for the people or prevention of disease unless we devise a proper health system by means of which health cover can be extended to all the people, especially the poor and those in rural areas."

The Western-based health system, public and private, probably does not reach more than 15% of the total, and 5% of the rural population. Health is a sector which has never received sustained high priority in competition with other programs. For FY 1975 Pakistan's GNP was estimated at $10 billion. Total Government expenditures were $2.5 billion and Pakistan expended approximately $60 million, or 80 cents per capita on government health services.

This figure of 80 cents per person spent for the public health sector in FY 1975 contrasts with 42 cents in FY 1973 and 54 cents in FY 1974. Projected Federal and Provincial expenditures for health in FY 1976 show a significant increase to $1.40 per capita. It should be noted that these seeming increases would be less dramatic if adjusted for inflation. As a percentage of GNP, this works out to about 0.5 percent in FY 1973 and FY 1974, 0.6 percent in FY 1975, and a projected 0.9 percent in FY 1976. While health has thus been accorded an increased share of GNP in the current fiscal year, the

Annual Development Plan of recent years do not reflect any dramatic reordering of health priorities. Allocations have been higher for rural health and other preventive activities and also for hospitals, medical schools and curative activities. Notwithstanding the growing preference of the federal Planning Division and the Provinces for preventive rural health and paramedical training, the number of commissioned medical colleges in Pakistan has been increased from 7 to 14 since 1972. Total first-year admissions in medical schools have increased from 1,000 to 3,984 seats.

The existing health system reflects a pattern not unusual for developing countries. There are 37,000 hospital beds in the country, with only 4,000 of these in rural areas where 75% of the population resides. There are approximately 8,000 practicing physicians. An estimated 80% of these live and practice in urban settings. At the present time about 35% of the 3,500 posts for doctors in public health institutions are vacant, virtually all in rural areas.

The statistics and data that are currently available suggest that Pakistanis today rely far more on the private sector than the public sector for health care. The annual expenditure for doctor-based private services, mainly drugs, hospital costs and physicians' income, is thought to be about $300 million. This is five times the amount spent in the public sector, and raises per capita public and private expenditures to about 3.2% of GNP. In addition there are more than 40,000 traditional practitioners who prescribe and dispense a variety of remedies, both herbal and western. Assuming the average traditional practitioner earns about $75 per month, this would mean a total expenditure for traditional medicine of about $36 million each year.

Relevance of Proposed Project to Government Priorities

The working papers, which the federal Planning Division has been developing with the Provinces in the effort to reach a consensus on a health plan for the Fifth Five-Year Plan have put forward as the prime objective, the need "to rapidly expand basic health coverage, concentrating first on rural areas."

In March 1975, the Government completed, with assistance and support from WHO, a Country Health Programming exercise. The proposals in the CHP document are designed around four components of a Basic Health System:

* Physical Infrastructure
* Manpower and Training
* Logistic and Drug Support
* A Management and Information System

The fundamental thrust of the objectives of the Country Health Program document, the Fifth Plan papers prepared by the Planning Division, and the thinking of WHO are consistent with, and in part stimulated by, the increased priority accorded to the health sector and health status in recent economic development theory. As a recent ILO-WEP study pointed out: "... concern with growth, trade and aid, while very important, is not sufficient for achieving a substantial and significant change in the life of the great majority of the population". It is precisely with respect to substantial change for the great majority -- a significant, widespread increase in well being -- that improvements in health may constitute a strategic boost to development. Improved health status -- longer life, decreased incapacity, less pain, discomfort and anxiety -- can be regarded as crucial components of individuals' real income, the widespread distribution of which ought to be regarded, as it is by the Government, as a prime objective of social policy. In particular, the potential impact which improved health status has on improving worker productivity, employment levels, and overall economic growth, can be particularly beneficial if accomplished in rural areas. Increased agricultural productivity and employment for rural residents, and the resulting higher real incomes, might well provide incentives to moderate the present and growing rural-to-urban migration.

All of these objectives are fully in line with AID's own declared priorities, with the Mission's Development Assistance Program (DAP submission), and with the intent of the U.S. Congress with respect to the mounting of programs intended to benefit directly the rural poor.

The Loan Team charged with preparing recommendations for this PRP has agreed in principle with the basic views of WHO, the Country Health Programme document and the Planning Commission which emphasize extending rural health coverage and preventive services.

The Team has recommended to the Mission a project to assist the Government of Pakistan in accomplishing the following objectives:

1. The establishment of an institutional framework for a coordinated policy, administrative and logistic support system for rural health concurrent with the extension of basic services to rural areas.

2. The establishment of training units and the training of mid-level and community health workers for the delivery of such services.

3. The eventual integration of existing vertical programs (e.g., malaria control, population, nutrition) within the basic health services network in rural areas.

The Team has advised the Mission these objectives can be met under the following conditions:

- A national commitment is made to extend basic health services to rural areas by substantially increasing, in real terms, the requisite resources.

- The authority inherent in this commitment results in the linkage of resource allocation to program development.

- Feedback channels are provided to harness program impact with national economic planning and health policy initiatives.

Relevance of Proposed Project to the DAP Strategy

Pakistan's population is predominantly rural and poor. There are 43,000 villages containing perhaps 55 million of the country's 73 million people. In these rural areas, the 1971-72 income per household was about $40 or less per month and the median farm size was less than 10 acres.

The Basic Health Services loan project is one of a cluster of proposed activities which would be supportive of the Government of Pakistan's strategy in promoting the economic and social advancement of this rural population. The other projects we are supporting would improve on-farm water management, rainfed agriculture, rural primary education, rural power availabilities, rural roads, rural potable water, access of farmers to essential inputs, and the dissemination of development information in rural areas.

Each of these projects will enable a larger segment of the rural poor to take advantage of modern technology and services. Each will increase the participation of villagers in the economic process. Each will accelerate the rate change from traditional to modern behavior.

The goal of economic and social development, as it affects the majority who are poor, is to help achieve a situation where each individual has the opportunity to lead a full life. Increased food production and reduced population growth are fundamental to this process and the cluster of projects we are supporting will each contribute to it. We anticipate that taken together a process of synergy will result and the projects will have a greater impact per unit of input than any one of them in isolation.

There is incipient evidence that improved health status is a prerequisite to fertility reduction. Coupled with a massive population program intended to assure adequate supplies of contraceptives, as well as direct and indirect incentives, these projects should have a significant positive impact on population growth.

Considered as a whole, these separate but mutually reinforcing activities are designed to achieve a better life for the rural poor.

# II. PROJECT DESCRIPTION

## Introduction

This project is designed to help the Government of Pakistan in efforts to achieve its stated health sector goals of improved basic health services by assisting in the development of an improved health manpower system and requisite administrative, management and logistic support for the delivery of basic preventive and curative services to the rural population. Concurrent with the setting in place of a requisite institutional framework, the production of mid-level and community health workers as proposed by the Government will be initiated. The resultant basic rural health services system should be so designed as to allow eventual integration of existing categorical programs when technically feasible.

The proposed system would have two purposes:

A. Over the short-term -- well trained health workers posted throughout a carefully designed and supported system, deployed as quickly as possible.

B. Over the long-term -- maximum feasible integration of auxiliary health services into a provincially operated rural health service infrastructure.

These system purposes can be accomplished by:

1. Developing mid-level and Community Health Worker manpower and logistic support.

2. Strengthening Federal/Provincial coordination and system support capacity.

3. Strengthening national resources critical for the support of rural health services:

   a) Vital and health statistics -- health system development

   b) National Laboratory Services

This project proposes that the Mission assist the Government of Pakistan in undertaking these activities by:

(1) Providing financial assistance for:

(a) Developing a framework for delivering basic rural health services;

(b) Developing and operating National and regional resource centers supporting the training, deployment, and supervision of rural health workers;

(c) Developing and operating training units for training mid-level health workers;

(d) Participant training for Pakistani teachers, health administrators, medical supervisors, and laboratory specialists, and technicians;

(e) Operating costs of delivering basic curative and preventive services through a system staffed by mid-level and community health workers.

(2) Providing technical assistance for:

(a) Designing teaching methodologies, curricula, and patient treatment protocols for programs to train mid-level and community health workers, concurrent with;

(b) Strengthening management and logistic support capability of health care delivery system for extending basic services into rural areas.

By adopting the approach of moving in balance on the design and implementation of an appropriate institutional framework within which the development and successful deployment of mid-level and community health workers will take place, this project implies a long-term commitment, paralleling that of the Government of Pakistan, towards a stepped up effort to extend and improve basic health services

in rural areas. It is consistent with the program proposals of the Country Health Program developed by the Federal Ministry of Health with the assistance of the World Health Organization. It is directly supportive of the Government of Pakistan's desire to move quickly to provide simple, effective, low-cost personal health services, both curative and preventive, to 50% of the rural population by 1980.

The Health Loan Team has proposed to the Mission a project, the components of which are described below, which if successfully implemented over the five-year period, will have developed a system of trained, deployed, and supported mid-level and community health workers delivering primary health services to 7.5 million people in rural areas. This represents a substantial increase over the presently estimated 3 million rural residents now covered by public/private health services of highly uneven quality. The project will also have developed an extensive management and training network which would provide the basis for a dramatic increase, at low cost (about 90 cents per person covered per year), in the rate of expansion of rural health services during the succeeding ten years (see Table 1, Section X).

While there is a pressing social need and sense of national urgency supporting the more rapid development of basic rural health services, it is recognized that the faster the speed at which the Government of Pakistan wishes to move toward greatly expanded rural health coverage, the greater will be management and initial program support requirements. In addition, the start-up costs will be higher, the longer term recurring costs may be greater, and the quality and effectiveness of the health care ultimately delivered may be lower.

In an optimal environment, with financial and institutional constraints minimized, alternative staffing and deployment patterns could probably be devised to bring overall rural coverage closer to the Government's aspiration of 50 per cent by 1980. But if the aim is efficient and effective low-cost services, this 50 per cent target is very optimistic and probably not attainable. The exact degree to which this proposed Health Loan can reasonably be expected to help Pakistan achieve its 50 per cent goal by 1980 is a question which must be resolved more definitively, and with due consideration of the Government's overall health sector objectives, during the Project Paper development process.

## Organization: Federal/Provincial Coordination in Developing Support Capacity

The Country Health Program document has stated the need for a strong management and information system to coordinate health development programs in Pakistan. A well defined organizational structure with a national mandate and capacity to formulate and implement a major program is necessary to enhance prospects for program success. As one possible approach, the Health Loan Team articulated an organizational system which is appended to this paper as Annex I. The Team saw merit in an entity invested with authorities greater than usual for regular Government bodies, guided by an Advisory Council. While the nature of the organizational system that is adopted will have to be decided by the Government of Pakistan, it is clear that what is needed is an accountable organization with recognized authority, resources, goals and objectives.

The organizational system adopted by the Government will have to have the capability to work through the Federal Government and the Provinces to:

-- Develop goals, objectives, and working plans pursuant to the purposes of this project.

-- Identify and assess existing health service delivery efforts in relation to the health needs of rural residents.

-- Initiate policy coordination, management, administrative and logistic support mechanisms requisite for the rapid deployment of mid-level and community health workers.

-- Support the dissemination of information about methods of providing and financing preventive/curative health services, including the holding of periodic conferences, workshops, newsletters and other information and education materials for the support of training activities.

-- Sponsor research and prepare recommendations related to the short and long-term health issues of rural residents, and sponsor other such research as is necessary to relate findings to Pakistan's health problems and requirements.

-- Promote the coordination, planning and integration of public and private resources to develop comprehensive health services for rural residents.

-- Obtain inter-ministerial and inter-provincial support for implementing a health manpower strategy concurrent with system development, and to disseminate the successful results of this project nation-wide.

-- Work with appropriate groups and organizations to promote a country-wide concern and set of priorities for low-income rural residents.

-- Be responsible for conducting general program reviews of the loan project and make the results available to Federal and Provincial health and planning authorities, WHO, US AID, UNICEF and other bodies.

The nature and elements of the organizational system needed to carry through the above functions will merit careful analysis and discussion as development of the Project Paper takes place.

Mid-level and Community Health Worker Manpower Development and Logistic Support:

This project aims at improving the health status of the currently underserved or non-served rural population by extending a broad range of integrated preventive and curative health services to them. Essential to the strengthening of health services is the development of a sound infrastructure through which the services of well-trained health workers can be rendered. Their success in rural areas requires that they be adequately supported in the field with medication and supplies and that they be provided with frequent supervision and continuing education. Referral mechanisms must be in place and continuing guidance and leadership must be provided. Their role as members of a health team need to be clearly defined and frequently reinforced.

The health manpower component planned for this basic health system under the loan is made up of a three-tiered health team. At the head of this team is the physician located in district or tehsil hospitals or in rural health centers. Mid-level health workers will make up the middle tier. They will be located in basic health units or sub-centers. The last tier and the widest in terms of

numbers will be community health workers who will be village-based and live among the population they serve. This approach coheres with the thinking and recommendations already favored by the Government of Pakistan as well as WHO.

Roles and Responsibilities

Doctors will function in the basic health services system as team leaders, health system managers, educators, supervisors and as referral points for complicated medical problems beyond the management competence of the mid-level and community health workers. They will organize and implement preventive activities within their service area and insure that preventive campaigns are carried out appropriately by other members of the health team.

The mid-level health worker's role and responsibilities will be as follows :

a) To organize and train the community health worker team for its catchment area. They will in consultation with community leaders select individuals for training as community health workers and will provide leadership, supervision and referral functions for them. They will be the linkage between the community workers and the health services system for implementing preventive and curative campaigns.

b) To function in their community as a preventive and promotive health worker.

c) To carry out epidemiologic surveillance, and acquire and record basic vital data covering the population served.

d) To provide primary health care curative services to their service area directly and on a referral basis from the community health workers. This curative role will not be allowed to overshadow his/her function as a preventive worker and team leader.

The role and responsibilities of the community health workers will be as follows :

a) To work under the direction and supervision of the mid-level worker to improve the health status of the community in which he/she lives, by carrying out an active preventive

and promotive outreach program to the homes of the people.

b) To carry out an active health education program to promote environmental and personal hygiene, particularly related to safe water supplies and sanitary disposal of wastes.

c) To maintain adequate immunization levels in his/her community as determined by district and provincial officials.

d) To carry out a nutritional surveillance program by regular infant weighing and to educate parents regarding sound nutrition practices.

e) To detect pregnancy early and carry out a sound prenatal care program. Detection and referral where appropriate of high risk pregnant women.

f) To actively participate in government programs for child spacing and family planning.

g) To act as the functionary for vertical programs in his/her community. (Tuberculosis, malaria, etc).

h) To provide curative services for a small number of common uncomplicated health problems. (Diarrhea, dysentary, fever, upper respiratory tract illness, minor trauma, minor skin disorder and malaria.).

Resource Center

The development of a system to train and deploy mid-level and community health workers will require establishment of a capability for effective management of resources related to an effective manpower development effort. We refer to this capability here as national and regional basic health service resource centers. These "centers" would:

-- organize and coordinate the development of curricula and the selection of training sites;

-- establish selection criteria for students;

-- coordinate the activities of the various training sites;

-- assist in the development of a logistic and supply infrastructure;

-- initiate evaluation and monitoring of the training centers and the basic health services system as it becomes increasingly staffed with the mid-level and community health worker;

-- carry out financial feasibility studies related to recurrent costs of the system;

-- develop recommendations regarding modification of resource allocations to sustain the cost of the system;

-- recommend mobilization of new funds or delay in continued expansion of the basic health system if financial constraints so dictate.

The nature of these resource centers -- whether the needed work will require additional personnel, the placement of the centers within Government, the number to be established, etc. -- will have to be considered and decided by the Government in moving towards the Project Paper.

The Training Program

A variety of pedagogic models can be utilized. In view of the diversity of workers being recruited into the program, a competency-based format is recommended. In this model, criteria for achievement of set educational objectives are established and evaluation testing can be developed to establish competency to meet predetermined objectives. The duration of training would vary according to the prior experience and ability of the student. Since the health workers will be trained primarily in prevention and simple treatment, the curriculum should be problem-oriented. It should omit unnecessary complex basic science material and medical technology which is beyond that required by mid-level and community health workers. Workshops to establish a job description or task description for each type of worker are already underway in Pakistan. Curriculum materials will be based on these task descriptions. They will relate closely to the health problems of the region and be designed to train health workers to function with a limited range of facilities and supplies. Since Pakistan plans to rapidly expand the number of training sites and programs, a modular approach to curriculum design should be seriously considered. It reduces tutor time, involves the student in more active learning activities and assures more uniformity of learning for the students, even with different tutors. This will become increasingly important as the rapid replication phase of manpower training occurs.(Phase III).

## Selection Criteria

The Government of Pakistan and each of the Provinces have established selection criteria for both types of health workers to be trained. These selection criteria were chosen to maximize the probable deployment of health workers to rural areas and their acceptance by the communities which they will serve. Preference will be given to candidates with prior health experience such as Dispensers, Lady Health Visitors and some of the workers in vertical programs, e.g. Family Welfare Visitors and Malaria Workers. Some of the schools presently training these workers need only expand their curriculum and where possible their enrollment.

## Training Units

During Program Years 1-2, we propose that 12 training units initially be established. An additional 12 units will be started in Program Year 3, completing Phase I of the proposed project. These 24 training units will continue to function during Phase II, Program Years 4 and 5. If the external evaluation indicates that Phase III is warranted, then the 24 training units in place will serve as a spearhead to a subsequent, rapid replication (Phase III, Program Years 6-15) in which as many as 12 new units would be established each year until sufficient units were developed to meet the manpower needs of the basic health services system. (The upper limit is 48 training units.)

We propose that the training units will limit classes to 20 students each during Phase I. After the units become proficient in the training and deployment of health workers, each unit might be able to train two classes of 20 each during Phases II and III.

It is proposed that the training units will be sited in the most peripheral health facilities which have sufficient staff for training purposes and the out-patient volume to support a training program for 20 students. Rural health centers will serve as some of the training centers. If sufficient rural health centers which meet the criteria cannot be selected, then training units can be established in Tehsil or District Hospitals.

The initial 12 training units will complete development of curriculum material, determine the feasibility of various pedogogic techniques, identify problem areas in their deployment area in terms of management,

logistics and supply, and work with the regional resources center to resolve their problems. Supervisorial, referral and continuing education functions will be developed during this stage of the program. The major task of developing, training and organizing a team of community health workers will be carried out when the first class graduates. Problem areas in recruitment, training and maintenance of functioning team relationships must be identified and resolved prior to graduation of large numbers of health workers. Essential to the Government of Pakistan is a financial impact study of the recurrent cost of maintaining a large force of health workers in the field prior to rapid replication of training units.

The theoretical maximum output from the training units at the end of one year of operation would be 240 mid-level health workers. They will be deployed to Basic Health Units or to an equivalent installation and will immediately begin the recruitment and training of community health workers (ideally one per village). This will be at the rate of approximately five per Basic Health Unit for a total of 1200. In the second phase, each training unit will be able to train two classes per year for a total of 480 mid-level workers and approximately 2400 community health workers.

Assuming the above model proves technically feasible, a careful review should be performed prior to replication in Phase III. If the study indicates at this point that the administrative, logistic and financial support system has developed to support an expanded basic health services system, the Government of Pakistan can then rapidly expand the number of training units.

The logistics and management development component is to assist a highly dispersed and rapidly implemented rural health system to be supported by a simple but effective management mechanism. This should be in place before graduates arrive to staff basic health units. The management system at the district level should have the capacity to do the following:

1) Identify facilities suitable for use as basic health units.

2) Consumate rental agreements where appropriate prior to staffing as well as equipping and completing minimum renovations.

3) Resupplying on a timely basis with necessary drugs and other consumable supplies.

4) Pay mid-level workers and any associated staff in a timely manner.

5) Monitor basic health unit performance including:

(a) Selection with village participation of village health worker trainees.

(b) Training and field supervision of village health workers.

(c) The basic health unit/mid-level workers patient care schedule.

(d) Record keeping:

(i) Summary daily patient logs

(ii) Individual patient cards

(iii) Consumable supply records, including drugs

(iv) Staff attendance records

(v) Cash and in-kind receipts and disbursements.

(e) Review monthly activity report from basic health unit and rural health centers, relating to preventive services, such as nutrition, environmental sanitation and water supply, immunizations, and family planning; curative and maternal and child health service visits per month, classifying patients as to age, sex and categories of illness.

(f) Frequent field supervisorial visits from district to rural health centers, from rural health center to basic health unit; and basic health unit to village health worker post.

In an aggregate sense, at the national and provincial levels, the management system should have the capacity to:

1. Provide overall coordination and balance between recruitment, selection, training, placements, material support, professional supervision, and health education.

2. Direct future year planning in light of past and current year systems performance.

3. Maintain expenditures within funds available.

4. Develop and maintain a program and budget projection and monitoring capacity that identifies fiscal and program bottlenecks as early as possible and allows corrective action of two types:

   (a) Immediate short-term corrective action.

   (b) Long-term changes in policies and procedures if warranted by the problem.

5. Detect patterns of utilization/performance that can be used to develop indicators of systems performance at the basic health unit/rural health center and at district level that forms the basis for a management by exception procedure.

6. Develop criteria for management performance that allows progressive integration of rural health services with other provincial health services on the basis of proven provincial capacity to plan for and manage a progressively more complex integrated rural health system. The Government recognizes that integration can best be accomplished in a step-wise incremental manner that is performance-oriented. It was the Health Loan Team's view that complete and permanent integration should be deferred until there has been sufficient time (perhaps three consecutive years) to be reasonably sure of full-scale satisfactory performance in the integrated mode on a provincial basis.

Manpower Development, supported by an effective Management and Logistic system, will provide preventive and curative personal health services, with an emphasis on:

-- maternal and child health care;

-- control of communicable diseases - through immunizations and improvement in village, home, and personal hygiene;

-- definitive treatment for common, easily-diagnozed illness and minor trauma;

-- identification of problems requiring the sophisticated skills of physicians and hospitals.

As recommended by the Planning Commission and the CHP document, this will be done through basic health units -- one for every 10,000 people, staffed with well-trained and supervised medical auxiliaries and supported by front-line village health workers. Basic health units are to be developed in clusters of five constituting a rural health complex. One unit in each complex will be designated the core rural health center. It will have slightly larger staff with overall supervisorial and administrative responsibility for the rural health complex -- the core health center to be situated so as to have the potential of adding 5 to 10 infirmary beds when financially feasible.

The intensity of initial staffing of basic health units by mid-level workers could range from one to three, depending on geographic location, local setting, and provincial preferences. However, provision of effective health care and the important task of training the community health workers would prove difficult where fewer than three mid-level workers were posted per basic health unit. (Cost figures in the Financial Plan, Section VII, and pace of deployment data already mentioned, are based on the assumption that one basic health unit is fully staffed with three mid-level health workers and five community health workers. And, each rural health complex will have one additional mid-level worker for training/ supervisorial purposes.)

## Strengthening National Resources for the Support of Rural Health Services :

A. Vital and Health Statistics :

The Government fully recongizes the need, as evidenced in the Country Health Program and other documents, for a strengthened capability to maintain vital and health statistics. The Health Loan Team identified this as an area vital to the development of a long-term infrastructure for delivery of rural health services. This need will be jointly assessed during development of the Project Paper with a view to deciding whether USAID assistance could be usefully engaged to help Pakistan strengthen this area. Possibilities for consideration include the funding of operational costs as well as overseas training in the U.S. or third countries for Pakistani staff responsible for health and vital statistics.

B. National Health Laboratories -- This activity covers :

(a) Epidemiological intelligence and Communicable Disease Control : The Government recognizes that a communicable disease control strategy dependent on health workers at the periphery must have, as part of its core support, a first-quality national reference laboratory and biological production service. Thus the continued and accelerated development of a full cadre of professional and technical manpower (the latter including laboratory equipment and maintenance technicians) in the National Health Laboratories is of critical importance.

(b) Production of Biologicals and Drug Efficacy -- There are published findings which indicate that about 25% of the drugs on the market are substandard. The Government is taking a series of steps to improve the quality of drugs and recognizes that expanded rural health services will not only require availability of drugs but drugs which are appropriately compounded with quality control such that consistent theraputic effects can be achieved. During development of the Project Paper the needs of the National Health Laboratories and other Government-supported drug testing centers in Lahore and Karachi can be assessed in the following areas :

-- Augmented professional and technical manpower training
-- Overseas training
-- Technical assistance
-- Provision of equipment and supplies

As part of the Project Development Schedule of this paper, it is proposed that a special consultant from the Communicable Disease Control Center in Atlanta spend approximately two to three weeks in Pakistan to work with the Health Ministry and WHO in looking into biological/drug quality issues. The recommendations of this consultant could then hopefully be incorporated into the Project Paper.

## III. AID AND OTHER RELEVANT EXPERIENCE

During the late 50s and early 60s USAID Pakistan was involved in a technical assistance program to improve the quality of training of health professionals and health auxiliaries as they then existed. This included a contract with Indiana University to assist in the establishment of a Basic Medical Science Institute at the Jinnah Post Graduate Medical Center.

Technical advisory assistance was also provided to Post Graduate nursing education, post graduate sanitary engineering training, sanitary inspector and Lady Health Visitor Training Schools, and assistance to the Institute of Hygiene and Preventive Medicine in developing a curricula and training for Health Educators.

In the early 60s, USAID provided rupee grants to finance the construction of 12 training/demonstration Rural Health Centers in key areas throughout the country. These centers were established and used as field training sites for both professional and para-professional students slated for assignment in rural areas. These RHCs were utilized for this purpose until AID technical assistance for health phased out in the mid-sixties. This experience has impressed upon the Mission the importance of programming integrally within the health sector in lieu of solo efforts, i.e., physical facilities. USAID is currently supporting several health-related activities in Pakistan. The Expanded Population Planning Project with the Ministry of Health's Population Planning Council; the Nutrition Planning and Research Project with the Federal Planning Commission; and a major new project with the Health Ministry for Malaria Control. In the first three years of the five-year Expanded Population Project (FYs 73, 74 and 75) nearly $16 million in commodities have been made available for the program plus several million dollars in US-held Pakistani rupees.

The Nutrition Project with the Federal Planning Commission is of potentially large significance from the standpoint of Government decision-making on health-related programs. The Planning Commission has created a Nutrition Unit and charged it with the research and analysis needed to develop a National Nutrition Strategy targeted to the most cost-effective means of improving the nutritional status of the population.

In October of 1975, USAID and the Government of Pakistan signed a major Malaria Control agreement under which the U.S. will provide an initial loan of $20 million and a grant of US-owned rupees in the equivalent of $25 million for a five-year effort, in which WHO is providing technical assistance, to bring down the incidence of malaria from an estimated 15 million cases today to no more than a few thousand cases within five years. One important feature of this joint activity involves the eventual integration of more than 6,000 malaria workers into the general health services of the country. These workers, properly retrained as the incidence of malaria begins to decline, could become an important component of the communicable disease control element of a major program to improve health in rural areas.

In addition to projects already underway that would involve linkages with a loan for the improvement of rural health services, other projects are contemplated. AID anticipates a loan to commence in FY 1977 to help the Government of Pakistan achieve a significant reduction in morbidity and mortality by making potable drinking water available to a larger proportion of the rural poor.

In nutrition, USAID is well along toward implementation of two grant projects to fortify basic staples -- the fortification with iron and B vitamins of ration shop wheat flour which is consumed by some 15 million urban poor, and the fortification with vitamin A of tea, which is the most popular beverage in the country.

Other AID experience outside this Mission suggests that the training of mid-level and community health workers is a promising means of delivering basic services in rural areas, once an institutional framework is set in place. Such projects are underway in Thailand and Guatemala (health promoters supported by community revenues), and one was recently approved for Korea. The latter includes the mid-level health worker in demonstration projects to be conducted under the institutional aegis of the AID funded Korea Health Development Corporation. We will assess AID and other country experiences in health manpower development during the Project Proposal stage.

## IV. BENEFICIARIES

The implementation of this project will directly benefit five major groups : the rural poor majority; women; health providers in the public sector; health system managers in the public sector; and, offer employment opportunities to mid-level and community health workers.

The largest group to realize direct benefits from this project will be low income groups in rural areas, where 75 percent of the population lives, to whom access to and availability of modern health care has been de: .d by economic, cultural, geographic and other factors. The rural poor majority should ultimately receive the greatest share of the project's benefits when implementation is successful.

There has been no systematic countrywide survey of the nature and demand for health services in rural Pakistan. However, Pakistani authorities with extensive field experience believe demand for health services is very strong. Open-ended meetings with villagers consistently establish better health services as among their foremost priorities. A more definitive study of actual demand by rural residents has been proposed in the Project Development Schedule, Section IX, item (xi).

Rural residents have demonstrated their acceptance of non-physician providers of health care, such as Hakims, Lady Health (and Welfare) Visitors, Health Guards, and others whose services are sought. The project will be further enhanced by selecting non-physician health workers from the areas in which they live.

To the extent that basic health services are expanded and improved through this project, women will receive a large share of the benefits insofar as the priority target group of such services will be younger children and women of child-bearing age. Not only will women and children as a group receive more attention from the health care system, but women will have to be recruited and trained in large numbers if this is to be accomplished.

The role of women, both as providers and beneficiaries of health care, is a particularly critical issue in this project. Not only must ways be found to attract females into careersas Mid-level Health Workers, but a system for delivery of services to rural women must be devised that is acceptable both to the women and to long-standing cultural traditions.

Having as it does the prime objective of establishing an institutional framework to facilitate the rapid expansion of basic health services to the rural population, this project will initially help the managers of the public health system -- in both Federal and Provincial Ministries of Health -- to become more efficient and productive in organizing the provision of health services to the people. Improving the quality of services, increasing equitability in access to services, and expanding the availability of services -- all are objectives whose achievement depends on improving the ability of health administrators to systematically manage and support the health providers.

The many Mid-level Health Workers and Community Health Workers to be trained under this project will directly benefit from the acquisition of valuable skills and from the attendant opportunity for steady employment. However, in a larger sense, every category of health provider should benefit indirectly from this project if, in its implementation, (1) it is successful in enlisting the assistance and support of the wider medical profession in organizing a system of providers trained to meet the health needs of the public; and (2) it is successful in integrating into a Basic Health Services system the many functionally separate and vertically organized health workers in the family planning and malaria eradication programs.

## V. FEASIBILITY ISSUES

This project is dependent upon the resolution of some serious issues of feasibility - economic, technical, financial, and social. As the Loan Team was asked by AID/Washington to pay particular attention to this Section of the PRP, their detailed findings can be found in Annex II. For purposes of conceptual clarity and brevity, some of the key issues are outlined below:

1. Funding: Resources must be mobilized in a manner that allows the country to meet the operating expenses of the program. Even if the percentage of the health budget devoted to rural services increases and the percentage of Government expenditures devoted to health continues to increase, it may be necessary to develop local village level mechanisms for resource mobilization. How to do this, through what organizational structure(s), with what expectations as to nature and sources of operating revenues are difficult policy questions to be addressed in the near future.

This project, it should be emphasized, is service-intensive rather than capital-intensive. One major block to widespread availability of rural services is inappropriately trained personnel. Hopefully facility requirements can be kept simple and achievable. It appears to be consistent with Government plans, wherever possible, to use existing facilities now available but either unused or underutilized because of shortages of manpower and consumable supplies, particularly drugs.

2. Control of Hospital and Medical School Expansion

There is increasing awareness in the Government that the rapid expansion of the number and size of medical colleges presents serious problems. The projected investment costs of building, and the ultimate recurring costs of operating, an expanded number of medical colleges and teaching hospitals represents an annual financial commitment which, even with no expansion of any other component of the health budget, will not be fully met without infusions of external capital resources. (See Table 2, Section X). Precise identification of the nature and magnitude of the near-term conflict between medical college/teaching hospital expansion and the development of a significant rural health program is necessary. In addition, the Health Loan Team remarked upon the probability that for various reasons, i.e. decline in quality of technical training, the migration of Pakistani physicians abroad might decline substantially

in the future, leading to an increase in physicians in-country. This could lead to a growing trend for further urban facility investment and other direct and indirect support of the urban medical community -- a possible scenario that will have to be addressed.

3. Management and Infrastructure

A large-scale rural health system presents a management task that promises to go several orders of magnitude beyond that required for one-dimensional, vertical programs. How precisely to develop the trained managers and the related management system and logistics and support infrastructure is an issue that will require most careful analysis. (See Annex II).

4. Analysis of Current Costs, Revenues, Manpower and Service Patterns -- Coordination of Future Health Sector Development

At present there is a lack of reasonably precise information on the qualitative and quantitative characteristics of Pakistan's health delivery system, particularly in the area of manpower. Since a good understanding of the service and financial dynamics of the present system is essential to planning for and implementing a sound and pervasive rural health policy, the Health Section of the Planning Commission currently has underway a survey of the staffing of public installations; capacity, costs and other parameters of existing training institutions; location of extant manpower stocks, and so on. We agree with the Health Section that good baseline data on the manpower sector is necessary in order to integrate planned prospective events with what now exists. Given the current administrative workload on the Section, a survey task of this nature would impose an additional burden which would be difficult to accomodate. The loan project should contain some provision to assist the survey. It should be noted that once the survey is completed and the baseline data are in place, these can be kept up to date with less staff effort. An important part of this survey enterprise should be the design of ongoing information systems for this purpose. The results of such an analytic effort will allow the precise formulation of both program and budget policy options that must be faced if a rural system of the magnitude proposed is to be successful.

## 5. Technical Assistance

A central issue to be addressed in development of the Project Paper is the level of technical assistance needed for effective implementation of this project. The Health Loan Team has recommended to the Mission that 26 man-years of long-term technical assistance (to be divided between staff on two and three year assignments) and three man-years of short-term consultant time are the minimum requirement for having a reasonable chance of meeting the project purpose; the main contingent of these advisors would be engaged during the first two to three years. At the same time, the Team has cautioned that it may be difficult to recruit the magnitude of long-term advisors proposed -- an issue on which AID/Washington advice will be needed. The Government of Pakistan is understandably concerned about this proposed high initial level of technical assistance. Informal conversations indicate that the Government would prefer an arrangement that put greater emphasis on the calling forward of short-term advisors as mutually agreed to be necessary. For purposes of filling the Project Review Paper requirement for a Financial Plan, the Mission is utilizing in this paper the technical assistance requirements recommended by the Health Loan Team. However, the Mission wishes to stress our view that it would be imprudent to try to resolve this issue at this stage. Only after it has been jointly decided with the Government what the project will finally look like, and after the Government has decided how it will organize the needed support systems for successful rural health delivery, can we reach the stage where a decision on the level of technical assistance -- long-term and short-term -- can be jointly taken and incorporated into the Project Paper. In pursuing this dialogue, we shall keep particular parameters in view : (a) The Government, USAID, WHO, and the Health Team are in agreement that a strong and sensitive management system is needed if an approach of this complexity and size is going to get off the ground and keep going successfully; (b) We share the Government view that long-term technical assistance should be kept to the minimum necessary for project success; (c) WHO should be closely involved in the dialogue; (d) The possibility of multilateralizing both short-term and long-term technical assistance, involving other donors to the extent possible, should be actively pursued; and (e) A joint effort should be made to develop a system by which Pakistanis, presently in-country or abroad, can be recruited for the technical assistance work to the extent feasible.

## 6. The Role of Women

Women in Pakistan, particularly in rural areas, remain in the homes, largely out of the work force, and associate nearly exclusively with other women and children. This is a pervasive pattern based on the social and cultural heritage of the nation and its people. A very sick or dying child is probably sufficient to bring a woman to see the male health worker. But gaining preventive access to the child or to the mother requires a female health worker. There needs to be an effective system to analyze the specific factors and conditions which must be addressed if women are to be satisfactorily recruited into basic health services as mid-level workers and to stay in their jobs under suitable working and living conditions.

## 7. Professional Medical Associations

The Health Loan Team held informal meetings with the Pakistan Medical Association and key representatives from leadership of professional health associations to determine their attitudes toward the deployment of mid-level and community health workers. The PMA representatives took the following positions :

(1) There was a need for the development and widespread deployment of appropriately trained mid-level workers in rural areas.

(2) Health services improvement in rural areas should be undertaken in the context of overall rural development.

(3) Recruitment should be from the village.

(4) Training should be in Urdu.

(5) Physicians should be involved in the design of the training program and in the development of curriculum.

(6) The functions of the mid-level worker should be clearly distinct from those of physicians.

(7) The necessary supervisorial and consultative role of the physicians was underlined, as was the ultimate professional and supervisorial responsibility for mid-level workers and physicians.

(8) Support systems, both logistic and supervisorial, were critical to the success of a widespread effort.

The PMA representatives emphasized the importance of basing mid-level worker training and service on principles of allopathic ("Western") medicines. In this context they expressed concern that a misguided or inappropriately designed effort could lead to a new cadre of quacks operating outside the public health delivery system.

The attitude of the medical community as expressed at these meetings with selected members of their leadership was both positive and realistic. It will be important in developing the Project Paper to keep in touch with the views of PMA representatives and private physicians, to take account of their concerns and questions, and to continue to foster positive attitudes towards a three-tiered health manpower system for rural Pakistan.

8. Indigenous Practitioners

Some 6,000 of the estimated 42,000 registered hakims consider themselves professional, citing their degree from four-year Tibia Colleges, many of which teach some allopathic ("Western") methods of treatment. The 7,000 to 8,000 allopathic physicians estimated to be practicing in Pakistan naturally tend to resist suggestions that unani methods be integrated into an allopathic-based health system. The Government recognizes that substantially more hakims than physicians practice in small towns and rural areas. The Government has established a Commission to develop recommendations on the role and place of hakims, and homeopathis also, in Pakistan's total health structure. The recommendations of this Commission will be taken into account during preparation of the Project Paper, as issues which have to be addressed will undoubtedly be raised.

9. Relationship of Project to Fifth Five-Year Plan

The Government will apparently launch the Fifth Five-Year Plan in July 1976. Further development of this project will take place at the same time that the Health Chapter and other sections of the Fifth Plan are being developed. At this time, it can be said that the Health Loan project would be a component of the larger effort embracing urban health requirements, population planning,

malaria control and all the other components of the Fifth Plan health sector program. Exactly how the Mission project would be articulated and would inter-relate with the total Five-Year Health Plan, financially and otherwise, is an issue to be addressed in moving towards the Project Paper.

10. Early Need for Visible Progress in Health

The Government fully recognizes that the build-up and deployment of a massive corps of well-trained and well-accepted mid-level and community health workers cannot be accomplished hastily. This is true also for the build-up of the needed management support and logistical systems. At the same time, the Government is concerned that there must be visible progress in the health sector in the very near term. During the project preparation phase careful study must be made to insure that the scheduled build-up of health workers proposed in this document moves as quickly as is reasonable. In addition, means to maximize the first group of newly-trained health workers should be assessed such as an approach that would more rapidly enlarge initial coverage in rural areas by deploying trained mid-level workers on the basis of one instead of three per health center, thus covering more areas earlier. It should be noted on this point that the Health Team believed it would be unwise to thin out worker coverage initially, stating that to do so would increase administrative costs, reduce worker effectiveness, and possibly lead to user disillusionment with the new system.

Informal Mission discussions with Health authorities have surfaced the idea that the Government may wish to mount an interim strategy that could show tangible gains in health while the build-up of trained non-physician manpower and physical, management and logistical infrastructure was taking place. Among the ideas being discussed for incorporation into an interim strategy, which would enlarge upon health programs already underway are :

(a) A substantially stepped up effort to utilize Pakistan's very capable radio and television organizations to direct simple and actionable messages in health, hygiene and nutrition to the populace.

(b) A more vigorous effort to project important health programs for which the Government is making sizable

investments, for example the malaria control program, to gain both public cooperation of particular efforts and public understanding of the Government's growing commitment to rural health;

(c) A phased program, with an experimental design, to stock health outlets with an ample supply of basic drugs and medications at Government expense, which people could purchase at cost, the proceeds going to replenish inventories.

11. Federal-Provincial Cooperation

In developing the manpower training and deployment program for the basic health services, there would be some advantage in central coordination in order to help in standardizing various program elements, e.g. curricula design, training manuals, logistics systems, and so on. While the merits of this approach are generally recognized it is also recognized that there are regional differences in health profiles such that different emphases may be appropriate in different regions. Moreover, the legal framework for health sector responsibility and provincial interests in taking responsibility for local health sector events must be taken into account. Consequently, the matter of how much of what kinds of standardization will prove efficient and feasible remains as an important issue for discussion and analysis.

12. Need for Program Analysis

As is usual at this PRP stage of project development, the health services programs contemplated (efficiently deployed auxiliaries cum village level manpower) have been described only in general terms. In developing the project it will be necessary to do the requisite program analysis, i.e., specify the program production functions (identify all of the inputs and provide operational definitions of service-flow outputs) and do the input-cost and output-effectiveness analyses. This analysis must take into account the installations, manpower and other health sector resources already in place and attempt to assess the degree of demand and utilization.

## VI. OTHER DONORS

The World Health Organization and UNICEF are strongly committed to assisting Pakistan in strengthening rural health services. Both organizations are committed also to the principles of cooperative multilateral support and coordination of donor assistance.

Earlier this year, WHO sponsored the extensive Country Health Programming effort undertaken by the Federal Ministry of Health in cooperation with the Provincial health departments and the Planning Commission. The CHP document was of material value in preparation of this Project Review Paper and the PRP builds on the information and program thrusts put forward in the findings. Moreover, during its visit to Pakistan the AID Loan Team received the benefit of the insightful and positive input and advice of Dr. Awni Arif, the WHO Representative in Pakistan, and Dr. Thomas Fulop, WHO's Director of Manpower Development who came from Geneva specifically to meet with the team on the overall approach to the project.

It is anticipated that WHO will continue to collaborate closely with the Government and USAID in follow-on development of this project. WHO has noted the possibility of providing a full-time management/systems analyst to consult in developing the basic health services program. WHO also plans to provide assistance to the National Health Laboratories.

UNICEF plans to continue its support of rural health, which has so far consisted of drugs, vaccines and vehicles for health centers, and hand pumps for rural water systems. UNICEF wishes to coordinate its future assistance with programs funded by USAID as well as other donors.

During the Health Team's stay, an informal meeting was held with visiting representatives of the World Bank's Rural Development Division. Currently under consideration by the Bank is assistance to Kashmir for the development of rural health dispensaries. The Mission will continue to follow this activity as it may afford future opportunity for the placement of mid-level and community health workers in the AID sponsored loan.

Among bilateral donors who have indicated interest in rural health are Canada, West Germany, Norway and Great Britain. The interest of these donors will need further exploration.

Canada is well along in negotiating with Pakistan a five-year $3.3 million package for assistance to health programs in Punjab Province. Of this total, about $2.1 million would be for technical assistance and the rest for vehicles, equipment and supporting supplies. Specifically, the two-part Canadian package would make available four physicians to be affiliated with the new medical college being set up at the Institute of Hygiene and Preventive Medicine in Lahore; this will be Pakistan's first medical school to place emphasis on public health and preventive medicine. The second element would be the provision of three long-term advisors -- a doctor, a nurse and a health technician -- to work with the Punjab Government's newly created Medical Assistants training program. USAID will coordinate closely with Canadian, WHO and Government of Pakistan authorities to assure that all health resource inputs are complementary to the sector's goal.

Other bilateral donors who are active in the health sector, include France, Iran, Libya, and the Persian Gulf States. These donors have all expressed interest in helping to finance Pakistan's medical college/teaching hospital expansion.

## VII. FINANCIAL PLAN

The activities described above as Phases I and II of the program are expected to be carried out over a five-year period at an estimated total cost of $25,218,000. The USAID proposes financing $15.0 million of this program with an initial loan of $7.5 to be disbursed over the first three years of the program. During the project development stage AID and the Government of Pakistan will refine the specific set of actions necessary to develop the Basic Health Services delivery system. A time phased action plan for the three year period will be developed. Based on this plan and the provision of adequate budgetary funds to implement it, loan funds will be disbursed to the Government at the beginning of each year. Joint semi-annual and annual reviews will be conducted to monitor progress against the agreed plan and set the stage for the succeeding year's plan and disbursement. When the Government of Pakistan meets initial conditions for the establishment of a Basic Health Services Delivery System, the USAID proposes to negotiate a second loan, currently estimated at $7.5 million to support expansion of the system.

The cost estimates outlined below are based on physical requirements as estimated by the Health Loan Team. Costs of training units are based on the assumption that 12 units begin operation in year one and 12 follow-on units begin operation in year three. The five-year summary cost estimate for operating health complexes covered by this project is derived from the following plan of expansion based on Table 1, Section X.

| Program Year | Graduates per year | Cumulative Graduates | Rural Health Complexes |
|---|---|---|---|
| 1 | 0 | 0 | 0 |
| 2 | 240 | 240 | 15 |
| 3 | 240 | 480 | 30 |
| 4 | 480 | 960 | 60 |
| 5 | 480 | 1440 | 90 |

Each rural health complex has a present annual estimated cost of $46,000. Since costs are expected to be mainly for local inputs no foreign exchange component is estimated. Each increment of 240 graduates can support 15 rural health complexes staffed

at 3 mid-level workers per basic health unit and one additional mid-level worker at the core rural health center. A leaner staff pattern has been proposed by the Government of Pakistan which would allow the support of more rural health complexes. This would not substantially alter costs as they are largely personnel-dependent. These estimates are as follows :

| Program Year | Rural Health Complexes | Cost/Year (000 dollars) | Inflation | Adjusted cost per year |
|---|---|---|---|---|
| 1 | 0 | 0 | 15 % | 0 |
| 2 | 15 | 690 | 30 % | 897 |
| 3 | 30 | 1,380 | 45 % | 2,001 |
| 4 | 60 | 2,760 | 60 % | 4,416 |
| 5 | 90 | 4,140 | 80 % | 7,452 |
| | | | Total:- | 14,766 |

Summary cost estimates over the 5 year period are as follows :

| A. | National Resource Center | Foreign Exchange (000 dollars) | Local Currency (000 dollars) |
|---|---|---|---|
| | Local Personnel costs | | 224 |
| | Equipment | 52 | 74 |
| | Contract Technical Assistance | 1,197 | 297 |
| | Operating Costs | | 385 |
| | Contingency for Management | | |
| | System Development | | 180 |
| | Total:- | 1,249 | 1,160 |

| | | | |
|---|---|---|---|
| B. | Regional Resource Centers | | |
| | Local Personnel costs | | 355 |
| | Equipment | 151 | 30 |
| | Contract Technical Assistance | 894 | 216 |
| | Operating Costs | | 328 |
| | Total :- | 1,045 | 929 |
| C. | Training Units | | |
| | Local Personnel costs | | 3,433 |
| | Equipment | 221 | 90 |
| | Operating Costs (including student stipends) | | 2,203 |
| | Total:- | 221 | 5,726 |
| D. | National Health Laboratories | | |
| | Overseas training | 122 | 000 |
| | Total :- | 122 | 000 |
| E. | Rural Health Complexes | 000 | 14,766 |
| | Total :- | 2,637 | 22,581 |

After the initial five year program it is expected that rapid expansion of the Basic Health System will require annual financing at a level starting in the $ 10 million range. At the beginning of program year five a rigorous evaluation of the project will be conducted and decisions made with respect to initiating a ten year program of 5-10 million dollar loans for supporting national and regional resource centers, training sites, and rural health complexes.

# VIII. IMPLEMENTATION PLAN

**Phase 0:**

1. Project Development: (See Section IX)

2. Project Paper submitted to Washington May 10, 1976, approved June 30, 1976.

3. Continuing aspects of task (1) above until loan signed ($7.5 million) and contractor selected in late 1976.

**Phase I:**

**Program Year 1:**

(1) Establishment organizational framework for manpower development/logistics support system; select officer-in-charge, recruit staff and advisors.

(2) Establish regional resource centers and 12 training units.

(3) Initiate needed studies.

(4) Recruit 240 students.

(5) Complete initial curriculum development.

(6) Develop initial management logistic and professional support system for rural health complexes.

(7) Select Pakistanis for overseas training in vital and health statistics and national laboratories professional manpower development effort.

(8) Complete Phase II Project Review Paper.

(9) Complete financial and manpower analysis as well as policy options.

(10) Complete development of basic services output and operating cost data set for use by initial rural health complexes.

(11) Initiate cost reimbursement under initial loan for training sites as well as provincial and national support activities.

Program Year 2:

(1) Test initial female recruitment efforts based on preliminary results of social/anthropological study.

(2) Revise initial curriculum based on first training experience.

(3) a. Place initial graduates.

b. Implement initial support system in areas of placement.

c. Institute cost and service data collection for initial rural health complexes.

d. Monitor recruitment and training of community health workers by mid-level workers.

(4) Enroll 240 students with target of 30% rural females.

(5) Evaluate performance of initial community contribution schemes and modify methods/expectations based on results.

(6) Complete design work and initiate feasibility testing of full-scale logistic and management support system.

(7) Implement program changes deriving from financial and management analysis policy options.

(8) Prepare Project Paper and sign Phase II loan agreement ($7.5 million.)

Phase II:

Program Year 3:

(1) Place second group of 240 graduates and establish 12 additional training units.

(2) Repeat Program Year 2;(2) and (3).

(3) Recruit 480 students, target of 50 to 70% females.

(4) Complete final revisions of curriculum materials and service manuals in Urdu.

(5) Print and prepare item (4) for widespread national distribution.

(6) Initiate cost reimbursement/disbursements under Phase II loan in support of operating cost for initial basic health units.

(7) Assess national and provincial development and non-development budgeting performance re. actual expenditures on rural health.

(8) Monitor progress of provincial and national program and budget analysis re.: overall health sector commitments and specific feasibility of supporting projected rural health center expansion.

(9) Complete social and anthropological study.

Program Year 4:

(1) Initiate major external evaluation of total programs with the objective of answering the following questions:

Is a Phase III long-term loan warranted? Options: (a) Yes without qualifications; (b) Yes, with qualifications; (c) Judgment deferred pending further progress in program development; (d) not warranted.

(2) Based in part on results of the external evaluation initiate development of Phase III Project Review Paper.

(3) Recruit 480 students, target of 60 to 80% women.

(4) Implement and maximize integration of management logistic and professional support system with provincial Ministry of Health systems.

(5) Revise cost estimates based on actual experience of initial rural health complexes.

(6) Complete provincial and national program and budget analysis re: overall health sector commitments and specific feasibility of supporting projected further expansion of rural health services. Emphasis directed at assuring that operating costs fall fully within revenues available.

(7) Phase III Project Paper approved.

Program Year 5:

(1) Prepare for rapid expansion of training sites to upper limit of approximately 48.

(2) Assure effective operation of professional logistics management and manpower support systems.

(3) Sign Phase III agreement ($50 million or more) prior to end of Program Year 5.

Phase III:

Program Years 6 Through 15:

(1) Begin expansion of training units to upper limits by adding 12 in Program Year 6 and 12 in Program Year 7.

(2) Continue support of national and provincial health service activities, as well as expand number of training sites.

(3) Cost share on a decreasing scale operating costs of rural health centers.

(3) In last 1/3rd of Phase III loan initiate sliding scale decreasing to zero cost sharing re: (1) above.

(4) Continuously validate and modify operating costs, including overhead items such as logistic management and professional support, national and provincial resource centers, and training sites costs, will be fully met by the end of the Phase III loan.

(5) Conduct interim external evaluations at Program Year 8 and Program Year 12.

(6) Conduct final external evaluation with recommendations to the Government of Pakistan in Program Year 15.

(7) Final Program goals:

(a) Basic Health Services infrastructure operating effectively nation-wide.

(b) At final operation level the rural health services are delivering at a cost fully able to be borne by the Government of Pakistan without supplemental external aid.

(c) 60% or other revised target coverage of rural population by basic health services achieved.

(d) Social, political and financial commitments are sufficient to assure continued maintenance of the Basic Health Services program.

## IX. PROJECT DEVELOPMENT SCHEDULE

The Project Review Paper will be submitted to Washington by November 15, 1975. We anticipate receiving Washington's comments and approval of the PRP by mid-December, 1975. From December onwards, regular meetings will need to take place between USAID representatives and a working committee comprised of Government of Pakistan representatives. These meetings would frequently benefit from participation of WHO experts and Provincial authorities.

From January to May 1976, there should be extensive work on two fronts. The first entails resolving issues and completing program planning in sufficient detail to allow completion of a Project Paper by mid-May 1976. This effort will involve the assistance of US technical experts as well as Program and Capital Development staff from AID/W.

A. Those tasks which jointly must be accomplished with the Government of Pakistan are :

i) Refine the mid-level and community health worker production timetable and support requirements. AID/Washington or expert consultant time: two weeks.

ii) Develop initial description, time-table and key milestones for financial and program management, as well as logistic and support systems development. AID/Washington or expert consultant time: approximately three weeks.

iii) Arrange orientation travel and site visits for selected public and private national and provincial leaders to exemplary mid-level worker training and service programs, such as Thailand, Indonesia, Papua/ New Guinea, Hawaii, Guatemala and Iran. Approximate time: three to four weeks, depending on in-country schedule of those selected for the orientation visits.

iv) Conduct one or more post-travel workshops focussing on issue identification, issue resolution and consensus building prior to completion of the Project Paper. Expert consultant time : one week.

v) Determine overseas and in-country educational training requirements in support of the National Health Laboratories and Federal vital health statistics capacity. Expert consultant time: approximately two weeks. (CDC, Georgia).

vi) Initiate the social and anthropological study design relating to the role of women as mid-level health workers. Expert consultant time: five weeks.

vii) Determine the extent and type of community cost sharing efforts to be tested during Phase I of the Health Loan. AID/Washington or expert consultant time: two weeks.

viii) Complete design of the financial, manpower resources and service analysis for the Sind and the Punjab provinces (see Tables 3 and 4, Section X). AID/W or expert consultant time: one week.

ix) Provide out-of-country orientation of trainers to performance-oriented training and curriculum development systems. Time : two weeks.

x) Develop detailed criteria for ongoing provincial, national programs and budget analysis relating to rural health services. AID/Washington or expert consultant time : one week.

xi) Initiate demand and utilization study for determinants of health services delivery to rural areas. Time 3 weeks.

Depending on the personnel available from either AID/Washington or expert consultant pools, some of the tasks listed above are complementary and can therefore be merged.

B. The Mission understands the Government's desire to move quickly in development of rural health services. In this context, as a second area of important work, significant acceleration in project preparation can be achieved by the Government if progress is made in the areas described below prior to submission of the Project Paper. The Mission is prepared to assist the Government of Pakistan to :

i) Participate on a joint Basic Rural Health Services committee for the purposes of :

   a) policy coordination
   b) donor coordination (WHO, UNICEF, Canada, etc)
   c) inter-ministerial and interprovincial coordination
   d) coordination of planning for the extension of basic health services to rural areas
   e) identification of initial training sites for mid-level workers
   f) identification of categories of existing employed workers suitable for immediate competency-based training directed at broadening their preventive and curative skills .

ii) Assist in the further definition of the requisite components for administrative, management and logistic support elements necessary to the effective deployment of health manpower in rural areas.

iii) Assist in the further definition of the organizational structure needed to support a health delivery system for rural areas.

iv) Continue national and provincial workshops on health manpower as well as initial direct technical assistance to selected developing auxiliary programs.

As the loan project is particularly complex and will require continuing support and assistance from AID/Washington during implementation, it is desirable that at least one program representative from AID/Washington be detailed to Pakistan to work as an integral part of the project development effort from February through April 1976. Also, a representative from the Capital Development Office in Washington would be needed sometime during the month of April to assist in the final preparation of the PP.

If the project development schedule proceeds as planned, the PP covering the first 3 years of the basic Health Loan will be formally submitted to Washington on May 10, 1976. The Mission anticipates negotiating and signing the loan as early as possible, certainly prior to the close of calender year 1976.

The development of the Project Paper for Phase 2 will begin during the fall of 1978 and be submitted to Washington the following year. If approved, the Mission will sign the loan agreement before July 1, 1979, when implementation of Phase 2 will begin. The 3rd Phase of the Basic Health Loan will represent a major investment and will be initiated on the basis of proven performance during Phases 1 and 2.

The USAID project development committee for the Basic Health Services Loan is comprised of:

William R. McIntyre, Chairman
Assistant Director, Popopulation, Health & Nutrition

Chester S. Bell, Jr.
Assistant Director, Capital Development & Engineering

Marvin A. Schwartz,
Asst. Program Economist, DEA

Arthur S. Levin
Chief, Program Division

Gerald H. Zarr
Regional Legal Advisor

William A. Chevoor
Assistant Director, Controller

Howard B. Keller
Health & Malaria Advisor

Francis J. Murphy
Chief, Health & Nutrition Division

The visiting Health Loan Team and the USAID project committee benefited from the advice of a Government of Pakistan working group set up to counsel on this project comprised of:

Dr. (Mrs.) Shamsa Riaz Ahmad
Deputy Director General, Health Division
Ministry of Health

Lt. Col. M.L.K. Tahir
Coordinator, Country Health Programme
Ministry of Health

Mr. Mahmodul Hasan
Section Officer, Health Division
Ministry of Health

Dr. Siraj-ul-Haq Mahmood
Chief, Health Section
Planning Commission

## X. ATTACHMENTS

Preliminary Logical Framework

Table 1: Operating Costs of Proposed Expansion to Rural areas

Table 2: Estimated Expenditures through 1975 and Projected Capital Costs of New Medical Colleges/Teaching/ Hospital/Institutes.

a. Total Estimated Costs and Current Budgeted Expenditures on Capital Construction Projects, Punjab Province.

b. Projected Annual Costs of Building and Operating all Planned Medical Colleges, Medical Institutes, and Associated Teaching Hospitals.

c. First-year Admissions to Medical Colleges in Pakistan.

Table 3: Inventory of Categories of Manpower According to Level of Responsibility and by Type of Service Rendered.

Table 4: Suggested Inventory of Manpower and Finance at Existing Medical Establishments according to Type of Facility and Controlling Authority.

ANNEX I.

ANNEX II.

AID 1240

# LOGICAL FRAMEWORK FOR SUMMARIZING PROJECT DESIGN

Est. Project Completion Date _____

Date of this Summary _____

Project Title: BASIC HEALTH SERVICES

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DEVELOPMENT HYPOTHESES

MANAGEABLE INTEREST

If Inputs, Then Outputs

If Outputs, Then Purpose

If Purpose, Then Goal

| NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE INDICATORS | MEANS OF VERIFICATION | IMPORTANT ASSUMPTIONS |
|---|---|---|---|
| Program Goal: The broader objective to which this project contributes:<br><br>Improved quality of basic health services extended to the rural population. | Measures of Goal Achievement:<br><br>Increased % of rural population gaining access to and utilising basic health services. | 1) Initial development of data base for current utilisation of health services.<br>2) Follow up field surveys as program expands.<br>3) Samples of patient records. | Concerning long term value of program/project:<br><br>Higher Level Goal: Improved health status of rural population. |
| Project Purpose:<br><br>Improved health manpower system with requisite administrative, management and logistic support developed. | Conditions that will indicate purpose has been achieved: End of project status.<br>(1) Training units, management, supply, and logistics support systems structured and functioning adequately to ensure orderly and rapid expansion of basic health services.<br>(2) Adequate long-run budget and resource allocation to program provided for in planning and fiscal framework.<br>(3) Trained manpower being efficiently deployed and supported. | (1)(a) Records certifying level of output.<br>(b) Independent evaluation team comprised of experts in training management and logistics can agree that system is in place, coordinated, functioning adequately, and appropriately financed.<br>(2) Long range planning documents, Annual budget year 6. | Affecting purpose-to-goal link:<br>1) System of combined government and local financing can be established that is adequate to support expansion.<br>2) Integration of vertical programs proves feasible.<br>3) Establishment of manpower and administrative management capacity is essential pre-requisite to rapid expansion of basic health services.<br>4) Feedback channels are provided to link program impact with health policy initiatives. |
| Outputs:<br>(1) National structure for basic health services.<br>(2) National resource center established.<br>(3) Regional resource centers established.<br>(4) Training units established.<br>(5) Mid-level health workers trained.<br>(6) Community health workers trained.<br>(7) Curricula developed in Urdu and English for mid-level and community health workers.<br>(8) Rural health complexes staffed.<br>(9) Technical capacity of National Laboratories increased. | Magnitude of Outputs necessary and sufficient to achieve purpose.<br>(1) Nuclear staff appointed and functioning by year one.<br>(2&3) Centers with capability to control project development functioning by end year 1.<br>(4) 12 training units training 20 students each, year one.<br>24 training units training 20 students each, year three.<br>(5) 1,440 workers trained by year 5.<br>(6) 2,400 community health workers trained by year 5.<br>(7) X no. of curriculum packages published end yr. 1.<br>(8) 90 complexes staffed and partially equipped.<br>(9) 6 NHL personnel trained by year 3. | (1) Project manager certification.<br>(2&3) Field survey & evaluation.<br>(4-9) Project records.<br>Verification annually of quality + quantity of output by field surveys for all elements necessary. Should be incorporated into formal project records. | Affecting output-to-purpose link:<br>(1) Improvement of system linking health planning to resource allocation decisions is feasible.<br>(2) Personnel trained to serve in rural areas remain there and receive adequate community support. |
| Inputs: Activities and Types of Resources<br>(1) Technical services (contract)<br>(a) Physicians<br>(b) Curriculum development experts<br>(c) health management/administration consultants.<br>(2) Pakistani physician trainers<br>(3) Matriculate recruits selected from mid-level health worker positions.<br>(4) Recruits selected for community health worker positions.<br>(5) Training materials, facilities, housing.<br>(6) Conferences, seminars, workshops for trainers.<br>(7) Materials to equip rural health complexes.<br>(8) Operations support. | Level of Effort/Expenditure for each activity.<br>(1-6) Total budget estimate for 5 year program outlined in PRP is approx. $25,000,000 (USAID contribution $15,000,000). | Project records. | Affecting input-to-output link:<br>(1) Recruitment of expatriate and Pakistani personnel proves feasible on timely basis.<br>(2) Plan of action and financing through government budget proceeds on timely basis. |

| Year | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| (1) (a) | 4 | 4 | 1 | 0 | 0 |
| (b) | 4 | 4 | 0 | 0 | 0 |
| (c) | 4 | 4 | 1 | 0 | 0 |
| (2) | 32 | 32 | 64 | 64 | 64 |
| (3) | 240 | 240 | 480 | 480 | 480 |
| (4) | 0 | 200 | 500 | 850 | 850 |

TABLE 1

OPERATING COSTS OF
PROPOSED EXPANSION OF BASIC HEALTH SERVICES INTO RURAL AREAS BY TRAINING AND DEPLOYMENT OF MID-LEVEL HEALTH WORKERS /a

(in 1975 prices)

| Program Year | Number of Training Visits | Mid-level Health Worker Graduates /b | Cumulative MHW Graduates | Cumulative Rural Health Complex Formed /c | Annual Operating cost of Rural Health Complexes /c (,000,dollars) |
|---|---|---|---|---|---|
| Phase I | | | | | |
| 0 | 0 | | | | |
| 1 | 12 | | | | |
| 2 | 12 | 240 | 240 | 15 | 690 |
| 3 | 24 | 240 | 480 | 30 | 1,380 |
| Phase II | | | | | |
| 4 | 24 | 480 | 960 | 60 | 2,760 |
| 5 | 24 | 480 | 1,440 | 90 | 4,140 |
| Phase III | | | | | |
| 6 | 36 | 480 | 1,920 | 120 | 5,520 |
| 7 | 48 | 1,200 | 3,120 | 195 | 8,970 |
| 8 | 48 | 1,680 | 4,800 | 300 | 13,800 |
| 9 | 48 | 1,920 | 6,720 | 420 | 19,320 |
| 10 | 48 | 1,920 | 8,640 | 540 | 24,840 |
| 11 | 48 | 1,920 | 10,560 | 660 | 30,360 |
| 12 | 48 | 1,920 | 12,480 | 780 | 35,880 |
| 13 | 48 | 1,920 | 14,400 | 900 | 41,400 |
| 14 | 48 | 1,920 | 16,320 | 1,020 | 46,920 |
| 15 | 48 | 1,920 | 18,240 | 1,140 | 52,440 |

Notes: /a Phases I and II represent the pace of training and deployment proposed in this project to be financed by the Health Loan. Phase III represents one possible plan of expansion which is paced at:

1) Adding 12 new training units each in the first two years of Phase III, each beginning with classes of 20.

2) Expanding output of the 24 training units developed in Phase II to two classes of 20 per year, or 40 per year.

3) Expanding output similarly for those training units added in Phase III so that by Program Year 3, all 48 training units are producing 40 mid-level health workers every year.

/b Output of graduates lags one year behind formation of training units.

/c The Rural Health Complex referred to here, and described in terms of staffing and operating costs in the following appendix, is one possible way of organizing and staffing a rural health care delivery system. It rests on assumptions and principles similar to those of proposed organizing and staffing patterns found in the Country Health Programme and the Working Papers for the Development Perspective. It was developed primarily to help focus on expected operating costs of expanding effective, but low-cost health services delivery. The estimated annual cost of operating such a Rural Health Complex delivering services to about 50,000 people is $46,000 or about 90 cents per person covered per year.

## TABLE 1 c

(1) If population growth rate is 2.7% per year and 1975 population is 72.5 million, by 1995 total population will equal roughly 125 million.

(2) To provide adequate health coverage to at least 80 per cent of the rural population (which will likely total 95-100 million people by 1995), 8,000 Basic Health Units are needed, where one B.H.U. serves and average of 10,000 people.

(3) Each B.H.U. will be staffed by three mid-level health workers (MHWs) and by six village health workers (VHWs) on the assumption that MHWs handle two-fifths and that VHWs handle three-fifths of the projected 30,000 visits (preventive and curative) each year by people in the area served (@ 3.0 visits per person per year).

(4) Every group of five B.H.U.s will include a B.H.U. (Core Rural Health Center) with an additional MHW (Senior level) to serve as manager and superviser of that Rural Health Service Complex (four B.H.U.s and one core R.H.C.).

(5) Recurrent costs of one B.H.U.: (1975 prices)

| | | | |
|---|---|---|---|
| Salaries: | 3 MHWs @ Rs. 500/month* | = | Rs. 18,000/year |
| | 6 VHWs @ Rs. 300/month | = | + 21,600/year |
| | TOTAL | = | Rs. 39,600/year |
| Other costs: Estimated at 100% of salaries | | = | + 39,600/year |
| | TOTAL COSTS | = | Rs. 79,200/year |
| | Say: | | Rs. 80,000/year |

(6) Recurrent costs of one core R.H.C.: (1975 prices)

| | | | |
|---|---|---|---|
| Salaries: | 1 MHW (Senior) @ Rs. 700/month | = | Rs. 8,400/year |
| | 3 MHWs @ Rs. 500/month | = | 18,000/year |
| | 6 VHWs @ Rs. 300/month | = | + 21,600/year |
| | TOTAL | = | Rs. 48,000/year |
| Other costs: Estimated at 120% of salaries | | = | + 57,600/year |
| | TOTAL COSTS | = | Rs.105,600/year |
| | Say: | | Rs.110,000/year |

(7) Recurrent costs of one Rural Health Service Complex:
(assuming a constant 10% position vacancy rate)

Four Basic Health Units X (Rs. 80,000/year X 0.9)
= Rs. 288,000/year

One Core Rural Health Center X (Rs. 110,000/year X 0.9)
= Rs. 99,000/year

TOTAL = Rs. 387,000/year

Add indirect system support costs (lump sum) = + 73,000/year

TOTAL COSTS = Rs. 460,000/year

(3) If manpower is trained at a rate sufficient to staff 120 Rural Service Complexes per year by Program Year 3, annual recurrent costs of supporting and maintaining the system by Program Year 15 would be $52.44 million. That is, 1,140 Rural Health Service Complexes @ $46,000/year each = TOTAL ANNUAL RECURRENT COSTS of $52.44 million.

* Rs. 10 to $1.00 U.S.

TABLE 2

ESTIMATED EXPENDITURES THROUGH 1975 and PROJECTED CAPITAL COSTS OF NEW MEDICAL COLLEGES/TEACHING HOSPITALS/INSTITUTES

( In millions $ )

| Province | School | Year Commissioned | Estimated Capital Cost | Expended through 1975 | Allocated in A.D.P. 1975-76 |
|---|---|---|---|---|---|
| Punjab | Quaid-i-Azam M.C. | 1971 | $ 33 | 2.72 | 0.30 |
| | Punjab M.C. | 1973 | 45 | 0.40 | 0.55 |
| | Rawalpindi M.C. | 1973 | 45 | 0.40 | 0.55 |
| | Post-Grad M.I. | 1974 | 50 | 0 | 0.11 |
| | Lahore M.C. | 1975 | | | 0.12 |
| Sind | Sind M.C. | 1972 | 5.1 | 0.90 | 0.45 |
| | Chandka M.C. | 1972 | 6.2 | 1.36 | 0.90 |
| | People's M.C. | 1973 | 5.1 | 0.47 | 1.00 |
| | Atomic M.I. (at Chandka M.C.) | 1974 | 1.0 | 0.05 | 0.15 |
| Baluchistan | Bolan M.C. | 1972 | 32.6 | 2.5 | 1.7 |
| | TOTALS | | $ 223.0 | 6.30 | 6.43 |

Sources: (1) Punjab: "Estimated Capital Costs" and "Expenditure through 1975" data obtained directly from Department of Health. They represent a revision of lower estimates which appeared in Annual Development Programme for 1975-76, Government of the Punjab, the source of 1975-76 allocation figures.

(2) Sind: Annual Development Programme, 1975-76, Finance Department, Government of Sind.

(3) Baluchistan: Annual Development Programme of the Federal Government, 1975-76, Government of Pakistan, Planning Commission, June, 1975. (Construction of Bolan Medical College is being undertaken by the Federal Ministry of Health).

Note: Any development scheme costing Rs.10 million ($1 million) or more during the fiscal year must gain Federal approval in order to receive Federal development funds. In order to gain approval, the Province must submit a completed PC-1 form for the scheme (similar to USAID's Project Paper) to the Federal Planning Commission, outlining total estimated capital cost, amount and source of financing required, foreign exchange costs, ultimate operating costs, etc. The Planning Commission on its approval then forwards the scheme's PC-1 to the Executive Committee of the National Economic Council (ECNEC) which must approve the plan before funds can be disbursed. Of all the new medical colleges/teaching hospitals/institutes listed above, only Quaid-i-Azam Medical College and the Atomic Medical Institute have received ECNEC approval. While it is not clear how many of the rest have actually submitted PC-1 forms, none of them have yet received ECNEC approval for substantial financing. Meanwhile the Provinces continue to spend modest funds to renovate old buildings and improvise programs that somehow teach a swelling number of students. Quaid-i-Azam Medical College's original PC-1 listed total estimated cost at $6 million; to obtain continued Federal financing to cover the remaining amount of the revised estimate of $33 million, it must prepare and submit another PC-1 to the Planning Commission. The only foreign assistance toward the financing of any medical college known to us is the $700,000 being advanced by the Government of Iran for this fiscal year toward construction of Bolan Medical College, a Federal Project.

The failure of budget allocations to match the tremendous projected costs of these medical colleges and the size of financing actually needed to realize planned construction are reflected in the following Tables 3(b) and 3(c).

## TABLE 2 a.

## TOTAL ESTIMATED COSTS AND CURRENT BUDGETED EXPENDITURES ON CAPITAL CONSTRUCTION PROJECTS AT OLD AND NEW MEDICAL COLLEGE COMPLEXES IN PUNJAB PROVINCE, 1975-76.

| | School | Estimated Total costs of Capital Projects | Expenditures Budgeted for 75-76 Devel. | 1975-76 Budgeted Expenditures as % of Total Costs. |
|---|---|---|---|---|
| OLD | King Edward M. C.<br>Fatima Jinnah M. C.<br>Nishtar M. C. | Rs. 75,674,130 | 19,974,000 | 26.4% |
| NEW | Quaid-i-Azam M. C.<br>Rawalpindi M. C.<br>Lahore M. C.<br>Punjab M. C.<br>Post-Grad M. I. | 1,738,660,000 | 33,640,000 | 1.9% |
| | TOTALS | 1,814,334,000 | 53,614,000 | |
| | Cost/Budget Allocation to Old Medical Colleges as % of TOTAL. | 42% | 37.3% | |

Source: Annual Development Programme for 1975-76, Government of the Punjab.

Note: Estimates of cost/budget allocation for capital projects include those approved for the following (teaching )hospitals:
Nishtar Hospital (Nishtar M. C.)
Mayo Hospital
Lady Willingdon Hospital (King Edward M. C.)
Sir Ganga Ram Hospital
District Hospital, Lyallpur (Punjab M. C.).

## TABLE 2 b

## PROJECTED ANNUAL COSTS OF BUILDING AND OPERATING ALL PLANNED MEDICAL COLLEGES, MEDICAL INSTITUTES, AND ASSOCIATED TEACHING HOSPITALS**

(In 1975 prices)

($ in millions )

| Completion within 5 years | | | | Completion within 10 years | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Annual Recurring Costs | Annual Capital Costs | Total Annual Costs | | Annual Recurring Costs | Annual Capital Costs | Total Annual Costs. |
| 1976 | $ 1 | $ 44.6 | $45.6 | 1976 | $ .5 | $ 22.3 | $22.8 |
| 1977 | 2 | 44.6 | 46.6. | 1977 | 1 | 22.3 | 23.3 |
| 1978 | 4 | 44.6 | 47.6 | 1978 | 2 | 22.3 | 24.3 |
| 1979 | 6 | 44.6 | 48.6 | 1979 | 3 | 22.3 | 25.3 |
| 1980 | 8 | 44.6 | 49.6 | 1980 | 4 | 22.3 | 26.3 |
| 1981 | 10 | 44.6 | 50.6 | 1981 | 5 | 22.3 | 27.3 |
| 1982 | 10 | 0 | 10.0 | 1982 | 6 | 22.3 | 28.3 |
| | | | | 1983 | 7 | 22.3 | 29.3 |
| | | | | 1984 | 8 | 22.3 | 30.3 |
| | | | | 1985 | 9 | 22.3 | 31.3 |
| | | | | 1986 | 10 | 22.3 | 32.3 |
| | | | | 1987 | 10 | 0 | 10.0 |

**These estimated costs are based on the list and figures in Table 2 and would be incurred above and beyond what is currently being spent on established medical colleges and associated teaching hospitals (without allowing for inflation.)

Note: Total development expenditures in health sector in 1974-75 were equivalent to $31 million.

Assumption: One established medical college/teaching hospitals complex incurs estimated annual operating costs of at least $ 1million. (Increasing admissions have not in the past generally forced annual operating costs up by very much.)

## TABLE 2 c

## FIRST-YEAR ADMISSIONS TO MEDICAL COLLEGES IN PAKISTAN, /a 1971-1975

| Province | Name of Medical College | Year Started | Timing/b Capacity | First-Year Admissions 1971 | 1972 | 1973 | 1974 | 1975 |
|---|---|---|---|---|---|---|---|---|
| Punjab | King Edward | 1962 | 100 | 150 | 150 | 172 | 202 | 268 |
| | Nishtar | 1951 | 200 | 150 | 150 | 159 | 226 | 263 |
| | Fatima Jinnah/c | 1951 | 60 | 100 | 100 | 112 | 122 | 130 |
| | Quaid-i-Azam | 1971 | 200 | 100 | 100 | 120 | 206 | 240 |
| | Punjab | 1973 | 200 | | | | 200 | 242 |
| | Rawalpindi | 1973 | 100 | | | | 100 | 231 |
| | Lahore | 1975 | n.a. | | | | | 313 |
| | | Total Punjab: | | 500 | 500 | 563 | 1056 | 1745 |
| Sind | Dow | 1945 | n.a. | 223 | 266 | 345 | 434 | 400 |
| | Liaquat | 1951 | n.a. | 173 | 209 | 350 | 472 | 400 |
| | Sind | 1972 | n.a. | | | 200 | 307 | 310 |
| | Chandka | 1972 | n.a. | | | 106 | 337 | 340 |
| | People's /c | 1973 | n.a. | | | | 190 | 200 |
| | | Total Sind: | | 396 | 475 | 1009 | 1740 | 1510 |
| N.W.F.P. | Khyber /d | 1955 | 160 | 125 | 163 | 165 | 164 | 249 |
| Baluchistan | Bolan | 1972 | 100 | - | 75 | 120 | 140 | 100 |
| | | NATIONAL TOTALS: | | 1021 | 1213 | 1937 | 3100 | 3904 |

Sources: Information Document, Country Health Programme, Government of Pakistan, Ministry of Health and Social Welfare, December, 1974, Table 37; and from estimates of Provincial Departments of Health.

Notes: /a All medical colleges require F.Sc. (Pre-Medical) degree as minimum admission requirement; program and is for five years leading to M.B.B.S. degree.

/b "Training capacity" refers to size of physical facility, not to availability of requisite clinical or laboratory facilities, teaching faculty, or library.

/c Medical colleges for women only.

/d Khyber Medical College was operated as part of the University of Peshawar until 1974 when it came under the administration of the NWFP Department of Health.

## TABLE 3

( See next page )

**Inventory of Categories of Manpower According to Level of Responsibility and by Type of Service Rendered**

**(Data Presently Incomplete)**

ROWS

1. Frontline Workers
2. Mid-level Workers
3. Professional

COLUMNS

1. General Medicine
2. Traditional Medicine
3. Maternal and Child Health Care
4. Family Planning
5. Malaria Eradication
6. Environmental Sanitation
7. Immunization
8. Dental
9. Pharmacy
10. Other

Information Needed For Each Category

Name of manpower category
Number of trained personnel in country
Number employed in public sector
Number employed in private sector

**(Above data, if possible, to be collected by district, and aggregated)**

TABLE 3

| | GENERAL MEDICINE | TRADITIONAL MEDICINE | MCH | POPULATION PLANNING | MALARIA ERADICATION | ENVIRON-MENTAL SANITATION | SMALLPOX, BCG,TB | DENTAL | PHARMACY | OTHER |
|---|---|---|---|---|---|---|---|---|---|---|
| FRONT-LINE WORKER | | Vaids (Ayurvedic) (480) | Dai (1,325*) Untrained Dai | Registered Village Agent (23,231) Community Motivators (7,417) | Malaria Sprayers (Seasonally employed) Malaria Supervisors (3,606) Insect Collectors (117) | Sanitary Patrol | Vaccinators (1,220*) | | Chemist/Druggist (14,044 Dispenser/Compounder (8,148) | |
| MID-LEVEL AUXILIARY | Nurses (5,215) Nurse Tutors (135) | Hakims (36,000) | Lady Health Visitor (1000-2000) | (Lady Welfare Visitor) Family Planning Visitors (779-Total) (485-Rural) Population Planning Officer (1,084) | Malaria Superintendent (61) Malaria Inspector (373) Microscopist (488) Asst: Entomologist(45) | Sanitary Inspector (1,480) | | | Drug Inspector (23) | Multipurpose Health (Lab.) Technician (2000) |
| PROFESSIONAL LEVEL | Physicians (7,000 practicing) (11,000 in "training" | Hakims (6,000 Tibia grads) Homeopaths (13,261) | Lady Doctor | Lady Doctor (28) | Epidemiologist Malariologist Entomologist Parasitologist 12 | Sanitary Engineer | | Dental Surgeon (896) | Pharmacist (852) | |

* Number indicates for Punjab only.

Sources: Information Document, Country Health Programme, Government of Pakistan, Ministry of Health & Social Welfare December, 1974

Working Papers for the Development Perspective (1978-80): Health, Government of Pakistan, Planning Commission

## TABLE 4

**Suggested Inventory of Manpower and Finance at Existing Medical Establishments according to Type of Facility and Controlling Authority.**

(Data to be filled in when available)

ROWS

1. Hospitals : General (Civil)
   District
   Tehsil/Taluka
   Mental
   Specialty
   Other
2. Dispensary
3. M.C.H. Center
4. T.B. Clinic
5. Rural Health Center
6. Basic Health Unit/Sub-Center
7. Family Planning Clinics

COLUMNS

1. Military
2. Government : Federal
   Provincial
   Local
3. Semi-Government : Railway
   Social Security
   P.I.A.
   State Bank
   Jail
   Police
   Forest
   Canal
   Other

4. Private-Aided : Missionary
Red-Crescent
Other

5. Private-Non-Aided

Information Needed for Each Categroy

Number of such facilities

Identity of controlling authority

Source of finance and operating funds (Government subsidy)

Annual appropriation

Actual annual expenditure

Amount and source of patient revenues

Staff : funded positions ) by category
vacant positions )

Services actually provided :

Type ) inpatient and
Number ) outpatient

(Above data to be aggregated for each district and each province)

**ANNEX I**

In Section II, the Health Team outlined to the Mission its recommendation for an organizational framework to support the extension of basic health services to rural residents. In this annex, those recommendations are elaborated as illustrated below.

Federal/Provincial Coordination in Developing Support Capacity.

A basic rural health services delivery system will be strengthened by an organizational entity having the functions to:

- receive funds from international donors,
- handle in-country receipts from governments, both provincial and national, as well as income from private sources,
- disperse funds by contract to provincial governments, schools, private agencies, cooperatives, etc.,
- have the authority to hire and maintain its own staff (full-time, part-time, and consultant) without respect to job or salary classifications, or any federal or provincial civil service structure and without requirements for granting tenure to employees.

This organization could be called a Rural Health Services Council or Cell. It could contract with provincial or private sector groups or directly operate provincial backup centers, and if for any reason it is necessary, the Council/Cell could be responsible for the supervision and operation of training programs for mid-level workers within district hospitals or other facilities. Further, if manpower production at the mid-level was out running the capacity for provincial logistic support or technical supervision, the Council/Cell could, on a contract and time limited basis, provide direct support to rural health complexes.

The Council/Cell should be a time-limited organization. Residual functions authorized to be carried on by a successor organization shall be confined solely to national evaluation standard setting and technical assistance components outlined in Section II. The Council/Cell should have decision-making authority over all funds received from all other sources within Pakistan. It is recognized that donor agencies in particular, as well as government funding agencies within Pakistan, have the right to condition use of their own funds and once such conditions are accepted by, say a Board of Directors governing this entity, they will be binding unless altered by mutual agreement.

The Council/Cell, or whatever body which can be legally instituted under the Constitution of Pakistan, should be directed by a Board composed of: three Federal representatives, one each from the Ministry of Health, Planning Commission, Finance Ministry: and from each province, a representative of the Ministry of Health. Ex-officio non voting members not to exceed five in number may be chosen by a two-third vote of the Board. They can serve a two year term unless a shorter term or removal is directed by the Board with a simple majority vote.

The Council/Cell entity may, in addition, constitute an advisory body made up of one representative from each bilateral and multilateral donor or provider of technical assistance in the health field. The principal functions listed below for the advisory body could be under the directorship of the Health Section in the Planning Commission:

1. Donor resource coordination

2. Program, and technical advisory guidance to the Council.

3. Analyze through evaluative research techniques the programmatic experience of the manpower, administrative, management and logistic support system for rural health delivery.

4. Analyze activities of similar rural health projects in Pakistan and other countries.

5. Perform ad hoc research activities as requested by the Council for the purpose of filling specific information gaps

6. Conduct seminars for high-level Pakistani policy-makers on national health issues, i.e., engage multi-sectorial decision makers in the formulation of national health policy.

7. Distill policy-relevant material from the programmatic experiences of the health loan which are relevant to future national health policy and program development.

8. Develop a broad framework for classifying national health problems and establish a comprehensive cross-file and data bank on completed studies and work in progress related to these health problems.

9. Facilitate contacts between domestic and foreign researchers, institutions, and organizations active in the health services delivery field.

The Health Team envisioned this basic health services project as problem-oriented. Persons responsible for its policy and direction must be open to full exploration of all conceivable means to problem solution, regardless of whether those means are currently acceptable or fashionable. This is a modern concept, and in order to be effective this concept must be protected from pressures to conform to currently fashionable ways. Pressures for conformity are normally exerted through control of (a) policy, or (b) funds, or (c) authority to appoint and remove key staff. Consequently, these functions must be immunized from parochial influence by placing them solely within a body reflecting and representing the broad interests of the Pakistani people and a broad range of disciplines.

This basic health services project should promote sensitivity to interrelationships between health status and economic development, and it should augment the Government's concerns and endeavors toward achievement of national economic development goals. For maximum mutual benefit, this implies active involvement of the Planning Commission and all key ministries, national and provincial, in the direction and evaluation of the project. Further, health strategies for the next five-year plan should benefit from both private and public sector inputs in reaching social equity in resource distribution.

One example of the Team's concept is illustrated in an AID loan recently approved for Korea. In this project, a health development corporation, a semiautonomous body to be created by the project, will be responsible for planning research and operational aspects of the demonstration under direction of a national health council which represents various ministries and other interests--such as agricultural cooperatives and universities. Other research and analysis components as well as evaluation will be conducted through a secretariat operating as an arm of the Economic Planning Board. These are unique features for health delivery projects, stressing a great degree of authonomy for the new organization and the need for broad-based public and interministerial participation in the projects funded under the loan.*

* Implementation of "New Directions" in Development Assistance, Report to the Committee on International Relations, prepared by the Agency for International Development, July 22, 1975.

Pakistan is not Korea, and the two countries share more contrasts than commonalities. Still, AID is the only donor/lender willing to support basic health services delivery projects. Others, i.e., World Bank, refrain from this activity because they believe they cannot obtain the government's commitment to basic health delivery and instead fund within other sectors, such as rural development projects containing line item budgets for dispensaries, etc. Therefore, the Health Team felt the Mission ought to secure its interests by attempting to sponsor a semi-autonomous organization compatible with Pakistani law and supported by a national commitment to deliver basic health services in rural areas. Furthermore, if the Mission is successful with this organization, the project would provide maximum attractability to external donors who now fund the Pakistani health sector piecemeal.

**ANNEX II**

## FEASIBILITY ISSUES

### I. Realistic Health Planning/Balanced Allocation of Resources:

Overall consumption expenditures on health care in Pakistan are difficult to estimate. Reasonably reliable figures are available for the public sector, however, showing FY 1975 operating costs (non-development budget) of Rs. 270 million*devoted to health services by the Federal and Provincial governments. Assuming a population of 72.5 million, the per capita expenditure was Rs. 3/72 (about (US $0.40), or assuming a 15% level of coverage, about Rs. 25 per person covered (by government services) per year. Assuming that only 5% of the rural population is now covered (National Planning Commission estimate), a crude extrapolation of budget figures indicate that the public health sector spends about Rs. 30 per urban person covered and about Rs. 10 per rural person covered per year.

This latter estimate does not represent costs of a fully staffed and supported rural system. After full deployment and management support of health workers to be trained under this project are accomplished, estimated operating costs per person covered per year will be about the same as now - or somewhat lower (Rs. 9/20). Thus the ultimate operating costs of the improved system envisioned by the project are reasonable and affordable. Rapid extension of basic health services, however, cannot be reasonably expected to succeed without prior resolution of the interrelated difficulties now being experienced in the health sector in the process of resource allocation, plan implementation, and organization of service delivery.

(1) Provincial governments have Constitutional responsibility in health matters and bear the larger portion of operating costs in the public health sector - averaging about 6.2% of total non-development expenditure during the 4th plan (1970-75) while the Federal Health Ministry expended only .5% of total Federal non-development budget during the same period (for combined level of 1.8%). (Provincial governmnts are already hard-pressed to provide adequate operating funds for largely free public health services, and it is presently beyond the bounds of Federal authority to operate health facilities on any significant scale.)

*Rs. 9.90 to US $1.00

The Federal Planning Commission estimates private expenditures on health to total Rs. 1,530 million or about Rs. 21 per person. Add this to public expenditures and the total annual per capita spending on health equals about US $2.50. Most capital (development) spending in the health sector is in the public sector - the federal government providing the financial and the Provincial health departments the implementation capacity. During the 4th Plan period, about 4% of total development outlays (or Rs. 680 million) were in the health sector - only 20% of which was allocated to the Federal Health Ministry.

Although the Provinces hold most of the responsibility and are given the resources for carrying out health development plans (80% of total capital budget allocations on health), Provincial health departments have not utilized all funds allocated for projects: during the 4th Plan, only 59% of monies allocated to Provincial health development programs was spent, while 268% of the amount allocated to the Federal Health Ministry was expended.

The working papers for the Fifth Plan suggest a nine-fold boost in health sector development expenditures to Rs. 6,000 million over the 5-year period (from 4% of 4th Plan to 6.3% of 5th Plan development budget). Non-development implications of such a capital outlay are some Rs. 23,000 million over the same period. This plan is based on assumptions that a 24% marginal savings rate and more than $6 billion in foreign capital assistance (55% of the development budget) can be achieved during the 5 years.

Rough estimates indicate that if all these planned expenditures are successfully made, Provincial governments by 1980 will have to devote 80% of their total non-development budgets to the operating costs of the public health system, assuming that Provincial revenues rise in real terms at 10% a year.

There is evidence of a wide divergence between elaborated plans and the availability and allocation of resources to realize them. Some pertinent examples follow. **

Medical Colleges/Teaching Hospitals Expansion:

An estimated 30,000 hospital beds are planned to be added by 1980 to the existing 37,000. Some 11,500 of these beds are to be in new teaching hospitals required for the new medical colleges, which are needed ex post the increase in total first-year admission by 2,300 students (1974 over 1971). Total capital cost of medical college/ teaching hospital/tehsil hospital expansion is estimated at Rs. 3,270 million. Ultimate operating cost incurred by 1980 is not estimated.

First-year admissions to newly-commissioned and to established medical colleges has risen from 900 (1971) to 3,984 (1975), but little capital expenditures have been committed to medical college/ teaching hospital expansion. Out of an estimated Rs. 1,530 million projected capital cost for ten new institutions, only 2.1% appears to be allocated in next year's development budget. Operating costs per year are certain to be over Rs. 100 million per year (in current rupees) if presently committed plans are followed through (See Table 2).

If it is deemed desirable to continue providing in large numbers a practitioner modelled along the lines of western urban medical practices, and if large numbers of physicians continue to leave the country (whether it is desirable or not), then there should be an inquiry into the possible consequences of individual class sizes approaching 400 at the same time that professors, libraries, and laboratories remain in very short supply. A possible consequence is rapid degradation in the quality of the graduate that, if perceived

**The data here is taken from Working Papers for the Development Perspective (1975-1980): Health, Government of Pakistan National Planning Commission; from documents of the Country Health Program of the Federal Ministry of Health, and from Provincial and Federal Annual Development Program 1975-76 Publications.

by countries now importing Pakistani physicians, could lead to a rapid decline in export and consequently to a quick increase in in-country physicians, largely in urban areas. This possible scenario could lead to a growing trend for further urban facility investment and other direct or indirect subsidies for the urban medical establishment. Such a series of events could have profound consequence on the availability of resources to apply to rural health, and could also decrease the future acceptability of auxiliaries.

Evidence of this trend is beginning to materialize. In 1972, 25% of Pakistani medical graduates seeking licensure in the U.S. passed the test. In 1974, only 16% of those taking the U.S. test passed from the King Edward Medical College, the nation's oldest and among the most prestigious training institutions.

Basic Health Services Expansion:

Current plans for increasing basic health services to cover 50% of total population by 1980 require construction of 2,980 Basic Health Units (B.H.U.s) @ Rs. 300,000 a piece) and between 500 (C.H.P. estimate ) - and 745 (N.P.C. estimate) Rural Health Centers (R.H.C.s) @ Rs. 1,800,000 a piece) as well as training the staffs to operate them. Rough estimates based on these goals project a capital outlay totalling Rs. 2,700 million over the next five years to put a basic health services system in place. By 1980 such a system would cost between Rs. 300 million and Rs. 600 million per year to operate, depending upon the staffing pattern that was chosen for the units.

Up to the end of the 4th Plan, 125 R.H.C.s and 369 B.H.U.s had been built; in Annual Development Plans for 1975-76, money is allocated for ongoing or new construction of only 78 R.H.C.s and 61 B.H.C.s (not including North Western Frontier Province).

The Rural Health Program is allocated only Rs. 88 million in 1975-76 in the development budget or 13.6% of the total. This is a slight reduction from the 16.6% of total development outlays the Rural Health Program was allocated during the previous four years.

(An absolute increase from Rs. 53 million to Rs. 88 million translates into a relatitive decline since 44% of next year's development budget is allocated for malaria eradication -- up from 29% in FY 1975.)

The line item "Rural Health Centers" in government non-development budgets totalled Rs. 12 million in FY 1975, 4.5% of total recurring costs. (This is probably a significant underestimate since other actual incurred costs appear under other headings.)

Although present plans for rapid expansion of basic health services are optimistic and may well be difficult to realize in any event, actual expansion of medical college intake represents a potential resource commitment in conflict with the priority given to expanding basic health services. The financial resources apparently required for, and in some sense already committed to, the development of medical college/teaching hospital complexes are far greater than those needed for even a modest-cost expansion of basic health services.

The projected investment costs of building and the ultimate recurring costs of operating an expanded number of medical colleges represents an annual financial commitment which even with no expansion of any other component of the health budget, cannot easily be met without large infusions of external capital resources. Precise identification of the nature and magnitude of the near-term conflict between continued medical/teaching hospital expansion and the development of a significant rural health program must be faced by the national and provincial governments of Pakistan. (See Tables 1, 2 and 3).

The split between decision-making authority for resource allocation and responsibility for program and project implementation between Federal and Provincial authorities reflects a Constitutional provision of responsibility for health at the province level. However, virtually all funds for capital development by Provincial health departments must be approved Federally, theoretically along guidelines laid down in Annual or Five-Year Development Programs drawn up by the Federal Planning Commission. It remains to be resolved whether a central mechanism can be constructed which provides incentives or requirements for matching available resources in a balanced way to an agreed-upon health sector investment plan - and which at the same time protects Provincial political prerogatives in determining their own priorities.

Given the very great target for achieving coverage of the population by basic health services within the next five years (increasing it from 15% to 50%), the Government of Pakistan is understandably anxious to begin immediate, large-scale training of health auxiliaries and to move as quickly as possible toward providing the other tangible elements of minimum health care to the rural areas. However, the Loan Team's preliminary analaysis indicates that ultimate success in providing an expanded integrated system of basic health care delivery depends upon the building of a sound foundation of training, coordination, management, and support institutions - at the beginning. It must be resolved by the Government how much it will trade-off (over the long-term) in respect to the impact and durability of the delivery system in order to gain (over the short-term) a faster build-up of percentage of population covered.

II. Mobilizing Adequate Resources

(1) Capital financing:

While past efforts to expand basic health services into rural areas have been largely capital-intensive, this project proposes to focus on financing a service-intensive delivery system. The system aims to provide services at an operating cost affordable by the Government and rural residents. This being the case, facilities for health centers and for accommodation of health workers should be provided by the community to be served. The question of facilities may well pose no problem in the early stages, since there are a number of under-utilized buildings in rural areas (many of them under-staffed Basic Health Units, Rural Health Sub-centers, and Union Council halls). But some provision should be made early in the project for establishing a mechanism for mobilizing the interest and support of rural communities in providing facilities in return for trained personnel.

(2) Financing operating costs:

As a basic health services system develops, operating expenses, and not capital expenses afford the major financing problem. And historically, marked under-financing of operating expense has greatly decreased the effectiveness of the public health sector.

One solution would be to maintain the present official policy of providing services free of charge and greatly to increase the public fiscal effort on health-services operating expense account. This solution has much to recommend it and is among the more attractive social-planning strategies for achieving equity.

The major problem with this solution is that it may not be available. The Federal government is reluctant to get into the operating expense business, which leaves it to the Provinces. But the Provinces do not appear to have the fiscal capacity to fund health sector operating expense -- at least not the level of such expense implied by a more fully developed basic health services system (see Table 1). This raises the question whether it would be feasible and acceptable to propose funding health-sector operating expense from out-of-pocket charges to consumers, and if so, what proportion of total expense. This solution might seem, at least nominally, at variance with the goals of national health policy. However, people may be denied access to health services not only because of inability to pay but also because they are literally not available. If a free-of-charge strategy implies, because of financing problems, the literal non-availability of services to many people, it cannot be regarded as in (other than nominal) compliance with national health policy, either. It may be argued that the consumer is better off with available services for which he must pay than with nonavailable free services.

What level of consumer charges is to be regarded as consistent with national health policy? To what extent is at least partial public subsidy of such expense feasible? This is a special kind of equity problem.

There are also particularly difficult problems relating to management and administration, incentives toward providing curative or preventive care, that are raised by the preliminary proposal of this project that the community pay the salaries of the Community Health Workers, who are trained and supervised by mid-level Health Workers who are on the public sector payroll.

The ability of the Government and local communities to bear the shared operating costs of an expanded delivery system depends upon creative resolution of this issue of local-level financing of some portion of operating costs.

## III. Categories of Health Manpower

There is now a widespread proliferation of categories of health manpower in Pakistan, many of which are trained in a manner which may be inappropriate to the real needs of Pakistan's population. Health care providers can broadly be classed into types, according to the approach used in diagnoses of illness, "Western" (allopathic) and "non-Western" (homeopathic, unani, and ayurvedic). The "non-Western" indigenous practitioners, for the most part, practice on a fee-for-service basis and charge for herbal medicines in the rural areas ; however, a significant number of hakims, with degrees from government-recognized Tibia Colleges, practice what could be termed a "blend" of Western and traditional methods of diagnosis and treatment - a good many practice in urban areas.

Cutting across this particular classification of practitioners, the large number of different categories of health manpower can be grouped into three broad functional categories (see Table 3) : (a) Professional practitioners; (b) Mid-level health auxiliaries; and (c) Front-line health workers.

(a) Professional practitioners :

Some 6,000 of the estimated 42,000 registered hakims consider themselves professional, citing their degrees from four-year Tibia Colleges, many of which teach some allopathic methods of treatment. The 7-8,000 allopathic physicians estimated to be practicing in Pakistan naturally tend to challenge the hakims claim to professional equality.

These physicians with graduate and post graduate degrees in specialized fields of modern ("Western"), hospital-based, personal, curative health care delivery -- practice almost exclusively in urban areas on a higher cost, fee-for-service, private practice basis - even if they hold a government-paid administrative or health service position. The recent rapid increase in the number of students receiving training with this urban-and-hospital-orientation poses the possibility of concentrations of even higher numbers of physicians crowding into urban areas. These physicians, as a group, will be poorly equipped and inappropriately trained to provide primary care in rural areas - no matter what incentives or coercive methods the government might devise to place them there.

(b) Mid-level health auxiliaries :

Various levels of hospitals and a variety of training institutions produce a high number of categories of manpower which are intended to be assistant physicians, but in practice turn out to be principal providers of primary health care. A good portion of this category is hospital-trained and hospital-based, but many auxiliaries trained to work in MCH centers or in categorical disease control programs have the health care experience and educational background to qualify them for retraining as mid-level Health Workers for placement in a Basic Health Unit. The significance of this large group of manpower - including both allopathic and indigenous practitioners - lies in its magnitude : one for about every 1,200 people. The potential is great for devising a better system of organizing and managing their delivery of services which would make optimal use of their talents and time.

(c) Front-line workers:

While it is estimated that there exists a very large cadre of front-line health care providers, relatively few are employed in the public sector other than in categorical disease control and family planning programs.

The above broad-brush description of the wide range of health manpower resources available and/or in service gives a crude picture of the diverse and fragmented manner in which health service delivery is organized. More precise, reliable information about the qualitative and quantitative characteristics of the delivery system is now lacking.

Moreover, a good understanding of the service and financial dynamics of the present manpower system is needed for planning the implementation of an extension of improved basic health services. An integral part of financial and manpower analysis would be to complete for each district, with provision and national summaries, an inventory model such as that outlined in Table 4 . Such an inventory could be developed in a manner that would permit updating on an annual basis. Annual updating is practical management and program development imperative. Without this there will exist a situation conducive to randomly adding resources to an undefined base with the likely consequence of duplication, overlap, and waste.

A) Questions which would be answered by a manpower and financial resources inventory include the following :

(1) What types of health manpower are there? How many of each type are there? (Sketchy data on this is presented in Table 3).

(a) Working now, where, at what salary;
(b) Trained and in-country, but not working in health sector;
(c) Percentage of (b) who are reasonably available for work.

(2) For each category of health manpower, what is the current production capacity and what is the actual annual output of trained personnel per year?

(a) Type and nature of training institution .
(b) Content of training.
(c) Type of employment for which training is designed.
(d) Stipends given, fees charged, and bond required for admission.

(3) Characteristics of students :

(a) Number of applications vs. number of acceptances per year.
(b) Origin and sex of entering students.
(c) Educational levels of incoming students vs. minimum educational levels required for admission.

(4) Location and nature of post-training employment:

(a) Number of students filling jobs for which training intended:

i) Such positions open ) public and private
ii) Such positions filled ) sector

(b) Number of students filling other health sector jobs:

(i) In public sector
(ii) In private sector

(c) Number of students taking further health training;
(d) Number of students taking jobs not related to health.

(5) How closely does the training received relate to current requirements of job for which the training is intended ?

(6) Does the school and/or current and/or past trainee have the potential for supplemental training that would add skills in a manner that results in a minimally but appropriately trained worker functioning as an integral part of a rural Health Complex ?

(7) If the answer to (6) is yes, what specific steps must be taken ?

-- a) curriculum modification?
-- b) training of existing teachers?
-- c) supplementation/replacement of staff?
-- d) development of new affiliations for clinical experience?

(8) What is cost of (7) to train or retain -- what number of workers -- over what period of time ?

(9) If the answer to (6) is no, then should the training institutions continue to function? Or is continued production of the workers warranted or needed for some other reason? If not, should the institution be closed or modified? What should be the disposition of the balance of employed but perhaps irrelevantly trained workers of the specific type of persons who are in service ?

B) A separate though related set of questions need to be answered concerning the training and service dynamics of the two key classes of health manpower : (1) The large numbers of traditional practitioners (more than 40,000 ); and (2) The increasing numbers of allopathic physicians.

1. Traditional practitioners :

(a) What are the various types, how many are there of each type, and how does the content and quality of health care delivery differ among them?

(b) How much do traditional practitioners charge for their services and how much do they charge for prescribed medications, if made available ?

(c) Do people seek and pay for traditional health services because they are the only health services available or because they believe in them?

(d) To what extent can traditional practitioners be introduced to basic "Western" medicine? How?

(e) Are there certain types of traditional practitioners more suited for in-service training than others ? Do they have a potential educative and preventive role ?

(f) What will be their place in the health system over the next 5 to 10 years ?

2. Allopathic ("Western") physicians :

(a) Is the continued drain of physician manpower of the country and the corresponding rise in the number of first-year places in an expanded number of medical colleges compatible with the principle of maintaining a high level of quality in professional medical education ?

(b) What types and numbers of physicians are appropriate for serving Pakistan's health needs during the next one or two decades? How should they be trained to meet the country's needs ?

Preliminary analysis by the Loan Team indicates that a priority need is a general physician familiar with principles of public health, management, and patient care, but also trained to work with auxiliaries in a supervisorial and consultative role, Such steps as the following might be considered :

(i) Adjust medical curricula to train a general public health physician as described above.

(ii) Limit the number of specialists and carefully defining their role and function.

(iii) Make governmental and rural service mandatory after training and sufficiently attractive over the long-term, so that physicians (and other

critically needed technical and professional health manpower staff) not only are trained for rural practice, but find it professionally rewarding and financially attractive. **

(iv) Establish performance examinations relative to Pakistan's needs and license each new graduate for a period of five years - licenses renewable every 5 years contingent upon demonstrating continued acceptable performance and competence by re-examination.

(v) Exemption from (4) above all physicians currently in practice.

The Loan Team notes that the new Lahore Medical College has developed a curriculum that conceptually is a model which appears highly relevant to the country's needs).

(c) What steps can be taken to reduce the number of medical college students to that level appropriate to the needs and resources of the country? (e.g., decrease the matriculate intake into F.Sc. (Science) program; place ban on the commissioning of new medical colleges).

IV. Integration of Manpower, Management and Services :

In order to achieve the most economical and efficient system for delivering comprehensive health care, at a considerably expanded level of population coverage, the proposed project envisions that program activities, i.e. manpower training and deployment, will ultimately result in significant integration of manpower functions and of the organization and management of service delivery. This implies having a single government-operated or government-supported service structure, which at the local level provides the infrastructure within which all basic health workers would work.

The Health Loan Team suggested the creation of a central body which would hopefully serve as a catalytic agent for stimulating ultimate integration of organization and management at the National level - which is now fragmented by several independent vertical programs and by strong provincial authority. Whether or not such high-level integration occurs may well depend on the success achieved in broadening the roles of vertically-administered, categorical program workers as they are brought into the basic health infrastructure. Several important questions must be

**A similar problem must be faced and resolved in order to retain a sufficient staff of critically-needed and highly trained technical and professional workers at the National Health Laboratory in Islamabad.

answered prior to undertaking a broadening of roles within an existing vertical structure, and prior to incorporating existing workers, either as-trained or with-more-training, into an integrated structure.

1. Is it prudent to alter the program and structure of current vertical programs ? If so, when and how? For instance, malaria probably represents a situation where integration of any type should not be considered for some years since the consequences of a second failure of control efforts are potentially catastrophic. There is already evidence of P Falciparum drug resistance and although malathion resistance in mosquitoes has not yet been experienced in Pakistan, it may be expected to develop eventually. Both drug and insecticide resistance may develop rapidly if the control efforts are fragmented and incomplete. The consequence could well be chronic, widespread, highly-resistant malaria in the country.

2. How does one assess and compare the relative feasibility and desirability of :

(a) Broadening the job function of a specific vertical worker to include other responsibilities;

(b) Training a new worker (albeit, prehaps one with previous but unrelated health experience) to carry outthe specified job responsibilities.

(For example, Lady Health Visitors (LHVs) are trained in Public Health Schools for two years (of midwifery and public health training) and then usually placed in MCH Centers. LHVs can handle deliveries, but cannot diagnose or treat minor ailments. Lady Welfare Visitors (LWVs.), on the other hand, are trained by the Population Planning Council for fifteen months of family planning and basic curative care and then usually placed in Family Welfare Clinics. LWVs are trained and equipped with medicines to treat minor ailments, but could probably only handle a delivery in an emergency. What might be the ultimate benefits, and practical method, of integrating these two categories of workers? Dais already are widely used, and as "trained dais" (trained by Lady Health Visitors in a manner akin to that being proposed for mid-level Health Workers training Village Health Workers), they assist LHVs and work as their village assistants, conducting deliveries

expected to be without complication. Further strengthening the dais' in-service training by providing LHVs and LWVs with curriculum material and teaching techniques that make a dai a trained front-line maternal child health worker is particularly worthwhile. This may be important in view of the initial difficulties likely to be faced in developing a significant number of fully-trained female mid-level MCH workers.

V. Government Employment

It is possible that over the long term one of the major roadblocks standing in the way of improved and greatly expanded rural health services is government employment practices. Thus, an early issue to be faced by the Government is the development of pay scales for highly trained professionals that coupled with an attractive working environment and enforceable public sector service agreements will allow for reasonable retention in-country of critical manpower.

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PD-AAD-194

# UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
## MISSION TO PAKISTAN

Cable: USAIDPAK

HEADQUARTERS OFFICE
ISLAMABAD

December 3, 1978

Secretary to Government
Economic Affairs Division
Ministry of Finance, and
Provincial Coordination
Government of Pakistan
Islamabad.

Dear Mr. Secretary:

Subject: AID Loan and Grant No. 391-U-173
Basic Health Services
Conditions Precedent Under Section 5.3
Project Implementation Letter No. 7

We are in receipt of a letter from Dr. Mushtaq Ahmad Chaudhry dated November 20, 1978 furnishing additional information in satisfaction of the Conditions Precedent outlined under Section 5.3 of the subject loan agreement and as further elaborated upon in Project Implementation Letter No. 4 dated October 18, 1977.

We are pleased to advise you that all of the Conditions Precedent under Section 5.3, relating to additional disbursements for General Project Support, have now been met. We are therefore proceeding to issue a check in the amount of $350,000 payable to the Ministry of Finance, Government of Pakistan.

Sincerely yours,

Hasan A. Hasan
Chief, Project Development
and Monitoring Division

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
MISSION TO PAKISTAN

Cable: USAIDPAK

HEADQUARTERS OFFICE
ISLAMABAD

January 16, 1979

Secretary to Government
Economic Affairs Division
Ministry of Finance and
Provincial Coordination
Government of Pakistan
Islamabad

Dear Sir:

Subject: AID Loan/Grant No. 391-U-173
Basic Health Services Project
Project Implementation Letter No. 8

This letter is in continuation of our Project Implementation Letters No. 1 dated April 4, 1977 and No. 4 dated October 18, 1977 and elaborates the Conditions Precedent (CPs) and the interim performance targets required for the second additional disbursement for General Project Support under Section 5.3 of the Loan/Grant Agreement ("Agreement") dated April 2, 1977. Nothing in this letter and its attachment alters the scope or provisions of the Agreement.

The purpose of this Project Implementation Letter is to provide additional information and guidance relating to the second additional disbursement under Section 5.3.

1. Section 5.3 - Conditions Precedent to Additional Disbursements for General Project Support

Prior to the second additional disbursement for General Project Support the Government of Pakistan is required to fulfill the following Conditions Precedent and achieve performance targets in form and substance satisfactory to AID.

a. Section 5.3(a) - Project Implementation

It is requested that evidence be provided to AID indicating that the project is being implemented in accordance with the

approved provincial plans of action. This should be in the form of a certificate signed by the Deputy Director General, National Basic Health Services Cell, to the effect that the project is being implemented in accordance with the approved provincial plans of action supplied to and found acceptable by AID under Section 5.2. The certification should be based on the detailed information provided by the Provinces under Section 5.3(c) below.

b. Section 5.3(b) - Federal and Provincial Budget Allocations and their disbursements

Evidence is also requested to be provided to AID which indicates that adequate Federal and Provincial budget allocations have been made and that funds are being disbursed in accordance with the approved annual plans of action. This should be in the form of extracts from the Federal and each provincial budget and certificates from the Federal and Provincial Health Secretaries which 1) state that the amounts budgeted are believed adequate to achieve the staffing, training, construction and equipment objectives agreed upon by the Government and AID; 2) list disbursements made to date; and 3) certify that it is the Federal and Provincial Governments' intention to make future disbursements in accordance with the approved annual plans of action.

c. Section 5.3(c) - Achievement of Performance Targets

Prior to the 2nd additional disbursement (installment) for General Project Support, AID wishes to receive evidence indicating that performance targets have been achieved as defined below:

(1) Training Capacity

At least 90% of the mid-level health worker (MLHW) curriculum has been completed and is ready for use and that at least 75% of the first 12 training units are operational.

(2) Trained Manpower

At least 75% of the first class of 270 MLHW trainees have started their training.

(3) Management Infrastructures

(i) evidence, including specific plans, that efforts to strengthen and improve the major functional support areas are underway. This performance target will be considered to be met when studies are underway to document the existing status and problem points in the present support sub-systems outlined under Section 6.3(a) thru (e) of the Agreement.

(ii) evidence that a health education and communication strategy has been formulated. This evidence will be a strategy paper or plan which contains a statement of objectives, a time-phased action plan, and a budget. The plan should also identify the personnel and/or organizations that will be responsible for the implementation or execution of the strategy.

(4) Establishment of Physical Facilities

evidence that the construction, renovation and/or improvement of at least 75% of the first 12 Integrated Rural Health Complexes is either in progress or complete.

(5) Staffing

There are no performance targets fixed under this sub-heading relating to second additional disbursement, however, there are performance targets fixed under this subheading relating to subsequent disbursements which will be communicated to you in later implementation letters.

(6) Establishment of Integrated Rural Health Complexes (IRHCs)

The information requested under item 4 above will be considered adequate evidence that the IRHC's are in the process of being established.

2. Section 8.2 - Reimbursement for General Project Support

Upon fulfillment of the above Conditions Precedent with respect to the second additional disbursement (installment) for the performance targets outlined in this letter, the Government of Pakistan will be entitled to request reimbursement in an amount equal to $1,650,000. The request from the Government should include a complete listing of the performance targets that have been achieved, the amount of

payment requested (in US dollars) and a statement that the amount has not heretofore been requested for nor received. The request should be signed by one of the Borrower's authorized representatives, under Section 5.1(b).

AID upon verification, will issue a dollar check payable to the Ministry of Finance, Government of Pakistan.

Further project implementation letters relating to additional disbursements for general project support will be issued at a later date.

AID will be glad to discuss with you or your representatives any problems or questions you may have concerning the implementation of the project.

Sincerely yours,

Hasan A. Hasan
Chief, Project Development
and Monitoring Division