PROJECT PAPER

INTEGRATED HEALTH SERVICES - NEPAL

No. 367-227

Kathmandu, Nepal

March, 1976

TABLE OF CONTENTS

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AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER FACESHEET

TO BE COMPLETED BY ORIGINATING OFFICE

1. TRANSACTION CODE ("X" appropriate box) — [X] Original [ ] Change [ ] Add [ ] Delete — FP

DOCUMENT CODE: 3

2. COUNTRY/ENTITY: NEPAL

3. DOCUMENT REVISION NUMBER: 2 (revision of previous PROP)

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6. ESTIMATED FY OF PROJECT COMPLETION: FY 79

7. PROJECT TITLE - SHORT (may exceed 5 words): Integration of Health Services

8. ESTIMATED FY OF AUTHORIZATION/OBLIGATION — a. INITIAL: mo. 03 yr. 73 — b. FINAL FY: 79

9. ESTIMATED TOTAL COST ($000 or equivalent, $1 = 1 Rs.12.45 NC)

A. FUNDING SOURCE	FIRST YEAR FY 73 B. FX	C. L/C	D. Total	ALL YEARS E. FX	F. L/C	G. Total
AID APPROPRIATED TOTAL	265		265	2209		2,209
(Grant)	(265)	( )	(265)	(2209)	( )	(2,209)
(Loan)	( )	( )	( )	( )	( )	( )
Other 1. local currency					2,380	2,380
U.S. 2.						
HOST GOVERNMENT		385	385		17,901	17,901
OTHER DONOR(S)	296		296	5,314		5,314
TOTALS	561	385	946	7,523	20,369	27,892

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

A. Appropriation (Alpha Code)	B. Primary Purpose Code	C. Primary Tech. Code	FY 73 D. Grant	E. Loan	FY 74 F. Grant	G. Loan	FY 75 H. Grant	I. Loan	ALL YEARS # J. Grant	K. Loan
FN	B534	930	265		131		522**		2,209	
TOTALS			265		131		522		2,209	
11. ESTIMATED EXPENDITURES			230		96		111			

12. PROJECT PURPOSE(S) (may exceed 5 words) [X] Check if different from PID/PP

HMO capacity to organize and manage an effective nationwide Integrated Basic Health Service demonstrated.

13. WERE CHANGES MADE IN BLOCKS 12, 13, 14, or 15 OF THE PID FACESHEET? IF YES, ATTACH CHANGED PID FACESHEET. [ ] Yes [ ] No

14. ORIGINATING OFFICE CLEARANCE

Signature: William D. Oldham, M.D.

Title: Health Officer, USAID/Nepal

Date Signed: mo. 04 day 01 yr. 76

15. Date Received in AID/W, or For AID/W Documents, Date of Distribution: mo. ___ day ___ yr. ___

AID 1330-4 (7-76)

* FY 76 AID appropriated funds - $44,000.

** Includes estimated $202,000 MSH contract pipeline carried into FY 77.

I. B. RECOMMENDATIONS

New Authorizations Required (FY 76-79)

Grant, U. S. dollars	$ 1,247,246
Grant, U. S.-owned local currency (dollar equivalent)	$ 745,261
Total new authorizations	$ 1,992,507

C. DESCRIPTION OF THE PROJECT

1. This is a technical assistance project of approximately 15 person-years to assist His Majesty's Government of Nepal (HMG) develop the management, control and training capacities so as to organize and operate an effective Integrated Basic Health Services (IBHS) equitably distributed to the rural poor majority.

2. The project is designed to be carried out by a single USAID contractor working with counterparts in the Ministry of Health (MOH) Planning Cell, the Directorate of Health Services' Community Health and Integration Division (CH/I) and several administrative sections of the Ministry. The contractor will also work in close collaboration with other donors providing technical assistance to the MOH and to the Institute of Medicine (IOM), a division of Tribhuvan University, which trains much of the manpower required by the MOH.

3. The Project Design calls for two principal outputs (with 14 sub-outputs) which are:

A. Basic Health Services Management and Control Systems Developed, and

B. Training of Health Workers meets Integrated Basic Health System (IBHS) needs.

The sub-outputs deal with:

- Supervisory guidelines;
- Management information systems;
- Logistics and supply system;
- Planning Cell capacity to program track, plan and do research;
- Budget and personnel;
- Recruitment and training of health workers at IOM and inservice at CH/I;
- Curriculum design;
- Trainer training;
- Teaching methodologies; and
- Evaluation.

The key components of an effective IBHS are supervision, management and training. These are linked through management surveys, a supervisory technique emphasizing management control, and functional training curricula.

The inputs to achieve the outputs include technical assistance from:

- A management-systems analyst to work with the Planning Cell and CH/I in developing management tracking systems;
- A public health physician to work with CH/I in developing and testing IBHS management systems, survey designs and program evaluation,

- A management training specialist to work with CH/I in training of supervisory staff in field management systems, and to assist in their implementation and evaluation.
- A Paramedical training specialist to work with the CH/I Training Cell in curriculum design, trainer training, and teaching methodologies, and to coordinate USAID contract short-term and other donor inputs in these areas.

Commodity and other direct assistance go towards implementation of the management and training programs with funds for printing of forms and manuals, training, surveys, and research. Participant training emphasizes regional short-term, practical experience. All assistance has been closely tailored to complement that of other donors. The project emphasizes intputs to mid-level and lower-level workers, and peripherally-oriented systems.

These outputs and inputs are designed to achieve the Project Purpose "HMG capacity to organize and manage an effective nationwide IBHS demonstrated.

4. Achievement of the Project Purpose will be marked by the following indicators of management capacity:

- Problems identified, reported, and solved at an increasing rate as the program develops;
- The gap between planned and achieved targets lessens progressively;
- The IBHS is sufficiently well organized that vertical projects integrate their staff and activities according to set guidelines;
- Villagers use the IBHS services at an increasing rate.

D. SUMMARY FINDINGS

The people of Nepal need, and HMG is committed to provide at least a minimum of basic health services equitably distributed to the rural poor majority. Integrated Basic Health Services are intended to be mobile and on a predominantly domiciliary basis, offer FP/MCH services and communicable disease surveillance, carrying at the same time the messages of family health and National Development. No structure or alternative delivery system other than an HMG institution has the potential for coordinating the technical, managerial planning and political objectives of an IBHS. Before a nationwide IBHS has any chance of success considerable managerial capability must become institutionalized. Enough simple managerial tools - affecting supervision, training, planning, and implementation - exist to provide this capability and can be absorbed by the Ministry.

A calculation was made of the expected value of the project. First, an estimate of the probability of achieving output A (Management and Control Systems Developed) was computed by multiplying the probability of achieving inputs for A (estimated at 0.98) times the weighted cumulative probability of 0.71 for the assumptions critical to output A (primarily cultural acceptance and adaptation of management by objectives, and a personnel selection process that ensures adequate leadership characteristics). Thus, output A was assigned a probability of 0.70. A similar procedure led to the estimate of a 0.90

probability for achieving output B (health workers trained and integrated within IBHS). The higher probability of achieving output B resulted from the fact project managers control most of the important factors necessary for output B success.

Two assumptions are critical for the achievement of the Project Purpose. First, a sufficient number of staffed health facilities to demonstrate MOH management and organizational capabilities. Second, that the management objectives of IBHS are congruent with communities' perceived needs. From the evidence available, we can assign reasonable probabilities to these two assumptions of about 0.95 and 0.90 respectively, for an overall probability index of 0.86. When weighted for their relative importance and combined with the cumulative probability of 0.63 from outputs A (0.70) and B (0.90), we find that the probability of achieving project success is approximately 0.53. The payoff of a successful project in terms of establishing an IBHS which contributes to the sector goal (see Part II B) is so high that a probability of project success of 0.53 is very acceptable.

The expected net benefits of an effective low-cost IBHS formed the first part of the economic analysis. "Profitability" of the investment in the health sector were measured essentially at the goal level by looking at benefits from improved health. A maximum set of benefits that reasonably can be expected from a nationwide IBHS throughout the investment period include the following:

- 30-41,000 infant death prevented.
- 20-25,000 child death prevented.
- 30-35,000 "high risk" births prevented.
- $ 1 million in increased productivity.
- Decrease in physical and psychic costs of adults caused by illness.

These benefits derive from a system operating at the phased targeted levels of effectiveness during the investment period. However, many of the benefits from the investment in an effective IBHS have benefits accruing over a post-investment period. For example, the benefits in later years from an expanded goal of a healthier and more productive population should be measured as a payoff of the present investment. Measurement difficulties do not permit calculations of post-investment benefits such as the net increment of earnings attributed to better health.

The investment scheduled during the period 30 June 1976 to 31 December 1979 (for a fully operational and effective low-cost health delivery system, IBHS) totals up to $ 23 million. Donor agencies account for approximately $ 8 million of this total, mostly in technical assistance. The projected $2.57 million yearly average spent by IMG for the IBHS represents approximately 54% of all public sector expenditures in health.

The second part of the economic analysis examined the "Health Production Function," or the expected effectiveness of the project designs compared to existing programs. This cost-effectiveness analysis focused on both the purpose

to sub-sector goal link as well as the appropriateness of the sub-sector goal to sector goal link. In the case of the former, we found that the highest probability of sub-sector goal success was attributed to a project whose purpose is a demonstrated management and supervisory capacity. It is this component that has been identified throughout the last twenty years as the most important missing link. Such capability not only has highest immediate value, it also carries high future value for three reasons: one, it facilitates efficient of expansion of services; two, it permits development of more flexible services to cover a wider range of health problems; and three, it permits greater adaptation to the heterogenous environment of Nepal.

Evaluation of the sub-sector goal to sector goal link had been attempted in 1975 with the HMG tripartite evaluation. Investment in an effective IBHS was viewed as the most appropriate or most cost-effective alternative to achieving improved health. The number and quality of services rendered under an integrated health system can be given at lower per unit costs than via a series of vertical programs.

All the components necessary for initiation of this project are in place: national commitment; villagers' expectations and need; key personnel in place; experience with a pilot project; training institutions turning out enough (or nearly enough) health workers; a project designed to integrate the components of management, control and training; and excellent coordination between HMG, USAID, its contractor for Integration of Health Services, WHO, and other donor agencies. This is a propitious time for beginning the project.

The project meets all applicable statutory criteria (see completed criteria checklist attached).

E. PROJECT ISSUES

All issues raised and requests for information in prior reviews are contained in cables 16872 dated April 1975, and 073929 dated January 1976. The following summarizes the questions, and the location of the response in this Project Paper. (Cables in Annex 1).

073929 (Health Planning PRP):

Issue	Response
1. Describe linkages between health planning and other health projects.	Part II A, B logical framework and planned performance tracking network (Part IV B).
2. Describe scope of task and collaboration with WHO.	Part II B, logical framework (Part III D).
3. Assess training needs in cooperation with WHO.	Part II B, logical framework; statistician returning CY 1977, after two years training; bulk of activities can be taught inservice.
4. Planning capability decentralized.	Part II B, logical framework - suggested capability discussed.

16872 (Paramedical Manpower Training PRP):

Issue	Response
1. Current status manpower training, categories, curriculum utilization, educational levels, shortfalls.	Part II A, logical framework, appendix 3a-d.
2. MOH, IOM structure, fit of health workers into system, supervision, referral, IOM/MOH coordination, effects of project on latter.	Part II A, B, logical framework, Part IV A.
3. Question of concentrating resources on AHW rather than JAHW.	Part II A, B, logical framework, Part III C; analysis and design of Project acknowledges critical requirement of IBHS for JAHWs and CH/I training capacity.
4. Recruitment and retention of paramedical graduates in rural areas by what sort of incentives.	Part II A, Part III C. Beyond usual promotion and salary advantages critical element in retention in rural areas is adequate support (supervision, management, training).
5. Relationships to traditional sector.	Part II A, B, logical framework, Part III C.
6. Career ladder.	Part II-A, Part III C.
7. Women as auxiliaries other than ANMs.	Part II A, Part III C.
8. Role of rural community in selecting paramedical worker.	Part II A, Part III C. Will have indirect role in panchayat in selecting bulk of JAHWs.
9. Relationship of training to other health sector projects, including FP.	Entire Project Paper deals with inextricable linkage.
10. Donor input coordination to assure responsiveness to HMG; mechanism of coordination.	Part II B, logical framework, Part III B, D; suggests coordination routes. HMG Ministry of Finance is final coordinator of proposed inputs.

PART II - PROJECT BACKGROUND AND DETAILED DESCRIPTION

A. BACKGROUND

"Now understand me well - it is provided in the essence of things, that from any fruition of success, no matter what, shall come forth something to make a greater struggle necessary."

Walt Whitman

1. History and Concepts

Twentyfour years ago, shortly after Nepal's King Tribhuvan returned to power, only a handful of government and mission hospitals existed with 12 physicians, and 451 compounders and dressers. Indigenous practitioners, family members and spiritualists provided most of the health care. Even by 1968 only 9 health centers and 100 health posts were open: understaffed, undersupplied and barely used; but a malaria eradication program was scoring an astonishing technical and logistical triumph by providing an effective, modern health service to nearly half the population.

In the past five years the new Institute of Medicine and four categorical disease programs have turned out over 3,000 health workers; and 14 experimental health posts provided integrated basic health services (IBHS), including house-to-house visits to nearly 300,000 people. Table 1 shows the rush of events in the development and support of modern health services in Nepal.

A critical take-off point in the development of health services has been reached: experienced senior officials and trained health workers are taking their places in growing programs; the expectations of the rural people are high. If their expectations are unmet soon and substantially, disenchantment with present policies will follow.

The 5th Five-Year Plan expresses HMG's intent to redress regional imbalances in development in all sectors. The zonal level of administration will be replaced by four North-South development regions (East, Central, West, Far West), each linking the mountains and hills to the more prosperous Terai; village (panchayat) development workers are being trained by HMG in a variety of disciplines, including health; the new National Development Service, a Nepali equivalent of the U.S. VISTA Program, is sending college youth to serve rural areas; the New Education Plan stresses vocationally and socially oriented education and is intended to be distributed equitably throughout all regions. Similarly, the 5th Five-Year Plan commits HMG to provide a minimum of health services to the maximum number of people.

Congress has also mandated U.S. foreign assistance for low-cost public health programs that reach the majority of rural poor. Several compelling reasons justify this mandate:

a. Health programs are to be brought to the poor rural people, the majority, as a matter of simple, overdue social justice.

b. Health programs are thought to assist long-term development by improving worker productivity; by reducing the wasted resource of stunted, dulled children; by freeing up land for agriculture. (With malaria control.)

c. Health programs are expected to motivate villagers to seek family planning, and to act as one vehicle of delivery.

d. Widespread government-run health programs, especially if effective, serve the political purpose of national unity. and therefore development.

e. Health programs can be one more focus for local, village-community development.

f. In a labor-intensive society, health programs provide jobs (though without revenues).

Different, though collaborating, parties give different emphasis to these reasons. From the technical, humane, developmental, and political points of view, however, the issue of a growing population that remains poor and diseased is becoming overriding. The Government of Nepal must find ways to attack this problem.

It is tempting to be pessimistic: even after some initial success most health-related projects in Nepal have failed to achieve their desired objectives; -- particularly the objective of establishing effective basic health services in rural Nepal. The reasons are generic and include Nepal's (a) exceptional geography; (b) a strong feeling for ethnic, caste and status differences; (c) extreme poverty; (d) devout adherence to tradition and traditional healers; (e) poor health, and a growing population exceeding the capacity of the land to support it; and (f) underdeveloped managerial and administrative capacity. These features make planning and implementation in any sector a humbling and frustrating experience. Nonetheless, they provide guides for innovation:

a. In most of the country when a health post worker requires new supplies, or supervision from his district officer, someone has to walk, up and down hill, on a trek lasting days to weeks. For several months in the year the streams become too turbulent, or the snows too deep, and whole regions are cut off. Nepali porters can do wonders: last year, for example, in East Nepal, 48 porters carried in 177 crates of medicines in six weeks. But, as elsewhere, inflation has hit the portering trade.

b. Extreme sensitivity to ethnic, caste, regional, salary, and educational differences can foil any training and supervisory program; but a well trained health worker who serves the felt needs of his own community enjoys greatly enhanced status and becomes a "change agent", a diffuser of new ideas, such as family planning and health education.

c. For centuries traditional Nepali healers have provided spiritual, psychiatric and herbal balms and probably with as great or little success as medicine in the West about one lifetime ago (in 1900 the infant mortality in New York city was 160/1,000, protein-calorie malnutrition and most major communicable diseases were rampant). Some of the healers are adopting western medicines, and it is likely that aryuvedic medicines will provide a cheap, acceptable substitute for imported western medicines that treat self-limited illness. The distinction must be made, however, between acceptance of a method (such as injections) and acceptance of an institution (such as a health post). The two need not coincide, unless the health post worker has something visibly effective to offer.

d. The public sector investment in health, excluding donated goods, is about five rupees per capita per year ($0.40), of which less than one-third is for direct services. (Families spend considerably more in the private, traditional sector, but usually in goods rather than cash.) This amount is not likely to increase greatly in the next five years. How much health can five rupees buy? Precious little. Therefore, HMG expenditures on health and all donations must go toward the most cost-effective technology (contraceptive supplies, oral rehydration fluids, health education, immunizations) directed at high-risk groups and the proportion of the total per capita cost for direct service should increase. Inefficient management, however, can waste 100% of resources. If no one comes to the health post because it has no supplies, then even Rs.5/person becomes meaningless.

e. All ages, all classes of Nepalis suffer poor health: infant mortality rate 200/1,000, and up to half of all children dead by age five; a growing population (about 2% per year) on a land on its way to ecological disaster; productivity-sapping diseases such as tuberculosis (in 1-2% of adults) and dysentery; resurgent malaria; mind-damaging malnutrition. Yet most of these conditions can be prevented by simple remedies delivered at home by paramedical or village health workers.

f. In a short time Nepal became skilled in long-range health planning. But the gap between planning and implementation remains as wide as an Himalayan ice field. Still, the spirit is willing and simple managerial and supervisory techniques exist that make it possible to implement even a large-scale health program.

2. Integrated Basic Health Services (IBHS)

2.1. History

A low-cost nationwide integrated basic health system is such a large-scale undertaking. Public health services may be delivered in several ways:

TABLE 1

A CHRONOLOGY OF HEALTH SECTOR EVENTS IN NEPAL

Year	Population x 10^6	Physicians	Paramedical Training	Planning	Services Development: Categorical Programs	Hospitals	Health Posts
1925	5.5				Malaria Survey		
1934		1	Civil Medical School (CMS)				
1952	8.7	12	WHO, USAID Participant Training			33	0
1954					Rapti Valley Multi-sector Development		
1956			Health Asst. Training School (HATS)	1st Plan: Hospitals upgraded; Ministry of Health organized	Malaria Pilot Project 2,000,000 cases		
1958			NMEO begins to train 100s of workers		NMEO formed		
1962	9.8		HATS and CMS merge. 450 auxiliaries since 1934	2nd Plan: Hospitals upgraded, Manpower Planning	Smallpox		
1964					MCH		9
1965				National Health Survey	TB/Leprosy FP added to MCH	36	
1971	11.4	311	900 nurses and auxiliaries		UNICEF Community Water Supply Project		153
1972			Ministry of Education Institute of Medicine takes over training most auxiliaries	Kaski-Bara Pilot IBHS	2,500 cases malaria		
1974		288		Planning Cell in MOH	Last case of smallpox; malaria resurges	58	251
1975	12.9	348	Over 1,000 health workers trained by ICM. DHS trains JAHWs FP/MCH trains 500 panchayat based workers	5th Plan: Formulation for nationwide integrated health services. National Nutrition Survey.	FP/MCH expands to all districts. Malaria Program revitalized.		301

a. With considerable guidance from the Center (as in China) the village-based, and village-responsible primary health worker, as developed in China, becomes a small component of local community political and economic development. Some experiments are underway in Nepal with this model, but they will be difficult to institutionalize (see Part III C, Social Analysis for a more detailed discussion).

b. Vertical or categorical programs are an organized scheme for the control or eradication of a particular health problem; supervised and executed by special, semi-autonomous structures within government (see Table 2), dependent on development budget and external funds, they train workers for a single purpose. Their strengths are flexibility, innovation, some organizational and management capacity, and demonstrated success (smallpox certainly, malaria to a great degree). Their weaknesses are an excessive cost to benefit ratio when success is met, or when not met (as in malaria resurgence, or a static FP program); and dependence on external funds which dry up at the stroke of a pen (as occurred to the Nepal Malaria Eradication Organization in 1972), and the staff begins to look for regular-budgeted, pensionable jobs with the government. Because of the duplicated (thus, wasted) administrative and training costs of several co-existing vertical programs (especially in a resource-restrained economy) it has long been assumed that vertical programs would accomplish their job, supply their manpower and expertise to the staff of a growing (regular-budgeted) basic, integrated health service, and gracefully wither away. It seldom happens gracefully.

c. The move to develop an integrated basic health service (IBHS) in Nepal, offering an institutionally-based multipurpose health program, began in the late 1960s; it originated from WHO's philosophic bias, from HMG's explicit desire to spread social benefits to all parts of the nation, and from USAID termination of support to NMEO. Because no established public health scheme existed, with its own traditions, the IBHS could be innovated right from the start and test different methods of health delivery.

NMEO is a reasonably well-run organization with a large cadre of well-trained unipurpose field workers and supervisors. It was largely with a portion of this cadre (and also some from the other vertical programs) that in mid-1973, on the back of a three-week retraining program, a pilot project in integrated basic health services was launched in two districts, with 13 health posts, covering a population of about 300,000. One district, Bara - with 11 health posts - was operated by the Department of Health Services' section of Community Health and Integration (CH/I, current organogram Table 3) and offered full, integrated services: FP/MCH, malaria, nutrition and health-education, communicable disease surveillance, and primary care. The second district, Kaski - with three health posts - was operated by NMEO with malaria field workers taking on a few surveillance and FP motivation chores. A working Group on

TABLE 2

ORGANOGRAM OF DIRECTORATE OF HEALTH SERVICES

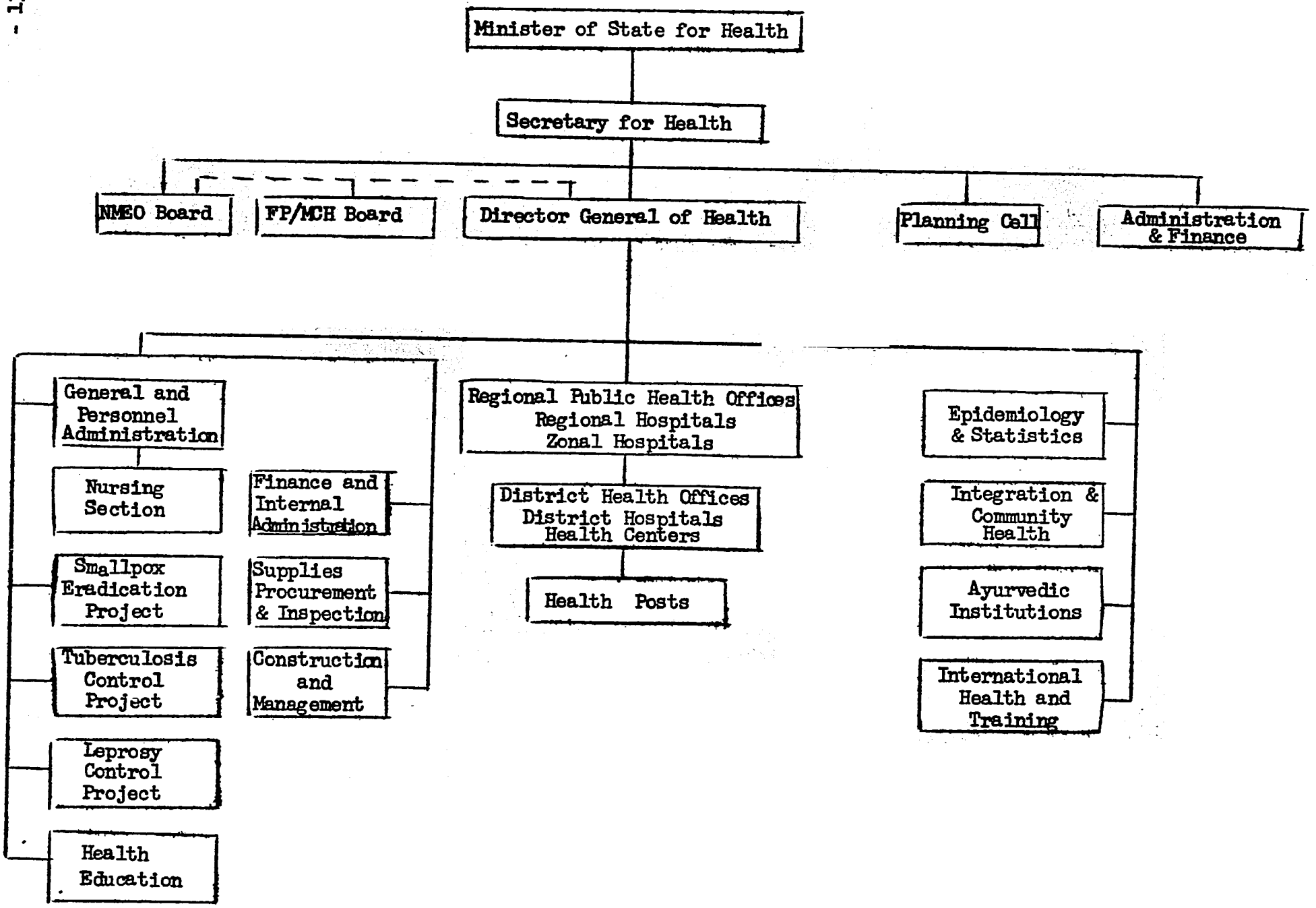
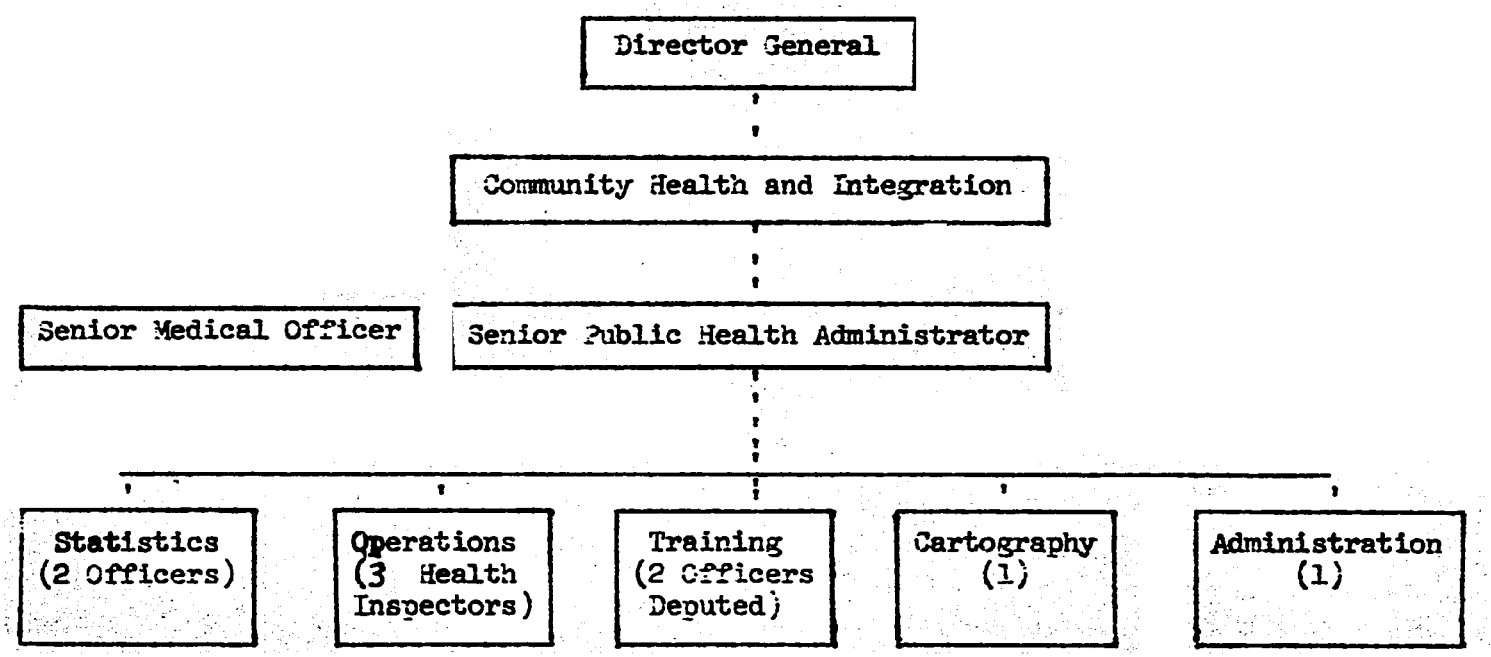


Table 3

COMMUNITY HEALTH AND INTEGRATION (CH/I)
CURRENT STRUCTURE



Integration whose members represented the groups involved in the pilot, met several times yearly. Eighteen months later a tripartite team (HMG/USAID/WHO) evaluated the project.

a. In Bara, while 1974 expenditures per capita on health care services at the average health post was 65% greater than at a non-integrated health post, it is significant that the integrated services were more efficiently provided. Of total per capita expenditure in Bara (Rs.5.17) 34% went to direct services, while in the non-integrated comparative district 27% of 3.99 rupees per capita went to direct services. Bara health posts offered severalfold more FP/MCH services than did non-integrated health posts. Economies in administration allowed an increase in expenditures for supervision and training.

b. FP/MCH activities accounted for 28% of all salary expenditures although the FP/MCH vertical program contributed only 10% of expended salaries in Bara. Conversely, NMEO put in 38% of salaries but malaria activities accounted for 24% of salary expenditures. These figures show the shift of emphasis from malaria activities to FP/MCH in an integrated program.

c. When malaria resurged in 1973-74, the Kaski Project functioned better than NMEO districts in the same zone; but the Bara Project did worse than comparable NMEO districts. Operational failure was to blame, with commodity shortages contributing.

d. FP acceptance promoted in integrated posts by male junior auxiliary health workers (JAHWs), was 2-5 times as high as the FP program in non-integrated areas as measured by "couples of reproductive age". The result was due to the more vigorous outreach by JAHWs. Within Bara, however, FP workers outperformed JAHWs by 118% ("couple month protection") but at a disproportionately higher cost.

e. Almost 100% of homes were visited monthly. Each health post was responsible for about 25-30,000 people in Bara; about half that number in Kaski. TB and leprosy surveillance increased in Bara district but defaulter tracing failed; also demographic data (birth rate, death rate) seemed seriously underenumerated in Kaski.

f. One year after inception of the pilot the major problem was, "widespread demoralization of personnel, with decrease in supervisory activity and house visiting..." The causes identified in the tripartite evaluation were delayed payment of travel allowances and per diems, and differential pay scales between malaria and FP workers, personnel transfers, and scant supervision by the curative-oriented physicians.

A review, however, of internal memos reveals more widespread and fatal managerial shortcomings in supply, logistics, finance and budget, information, supervision, and in the non-integration of vertical program workers fiscally and socially. FP/MCH workers were officially withdrawn from the pilots as early as 1972.

In 1974, four more districts (52 new health posts) began the transition to integration, all in Terai areas (Parsa, Rautahat, Saptari, Siraha) and the Kaski pilot came under CH/I. A three-month training program by CH/I prepared the health workers for this transition. At the end of 1975, a multi-party team (including the new USAID contractor on Integrated Health Services) reviewed the situation from a managerial perspective. Their report (attached as Appendix 2) identified the critical problems that had seriously impaired integrated activities. Nonetheless, the unique and continuing achievement of the pilot projects was to provide simple, preventive services on an outreach basis to nearly all the households in the health post catchment area.

2.2. The New Concept of Integration

In mid-1975, several events took place that changed the entire conception of "integration". The initial conception was that a national malaria organization formed the backbone of a multipurpose cadre, providing IBHS to each district as malaria came under control, and that the other vertical programs would also shift to the Directorate of Health Services, CH/I. But malaria resurged and the prospects of any malaria controlled district receded for at least five years (the most recent evaluation, February 1976, is somewnat more optimistic). Then the 5th Five-Year Plan was issued with a strong political mandate that within the next five years steps had to be taken to assure that the maximum number of people receive a minimal number of health services. The message is clear: it is politically untenable and socially unjust to proceed slowly to full-service integration, district by district;* rather some form of phasing to provide minimal integrated services all over the country has to be found. From a strategic point of view a cogent argument can be made and was well demonstrated by the pilot project: an infrastructure and managerial capacity must be created before any integrated health system can operate, and it may as well be applied to a minimal, phased system reaching the majority of rural poor as soon as possible.

In response to the strategic plan of the 5th Five-Year Plan, HMG, along with WHO, USAID, and other donors, held an operational planning exercise that lasted three months, in session six full days a week. Their report is called, Project Formulation. Basic Health Service (sent separately by pouch).

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* The USAID Project Paper for Integration of Health Services written in 1973, anticipated full integration for six districts taking place over a three-five year period.

The Project Formulation was a remarkable exercise in two respects. First, it brought together all interested parties in an intense workshop. The document truly belongs to all the participants. Second, it is the first time that detailed operational planning has taken place in the basic health sector to try to narrow the gap between planning and implementation.

The formulation describes in exquisite detail an operational plan to phase in health services into 810 equitably distributed health posts; it covers every aspect from health post selection, to staff recruiting, training, supervision, logistics, supply, information system, technical inputs, management and health output evaluation, budget considerations, relationship to traditional healers, inter- and intra-Ministry relationships.

The broad concepts developed by the Project Formulation may be summarized as: Phased integration of vertical project activities (FP/MCH, malaria, TB/leprosy, smallpox) and some vertical project staff (both at field and district supervisory levels), emphasizing high-payoff interventions for high-risk groups on a predominantly outreach basis, and with community support. Concordant with increments in other sectors, planning and implementation are to be somewhat decentralized to the region and district.

a. Each health post will perform some range of what are considered vertical project activities plus some primary health care at a level defined by the stage of health post development. Each health post will pass through all the stages of complexity of service delivery and staffing. After five years only 10% of the posts will be fully integrated. (See Table 4 for staffing and activity level.) In the early stages only rented space will be needed. Local communities will be expected to support health posts with land, labor, some materials for construction and formation of community health committees.

b. The performance of vertical project activities will be by vertical program personnel assigned to integrated health posts, and by multipurpose workers recruited directly to the IBHS. The details of task assignment and of vertical staff integration into the regular system vary depending on the vertical program (see Table 5).

c. The level of minimal health care, given the lack of money, is strongly preventive, and at its most basic, emphasizes family planning/MCH, rehydration of diarrhea, health education, surveillance, recording of vital events, TB/leprosy treatment and followup, and only minor first-aid. Inexpensive aryuvedic drugs will be used in place of costlier western medicines for self-limited illnesses.

d. The level of maximum coverage is determined by outreach, by field workers who visit each household 2-12 times a year with enough time at each house to make an impact. Outreach activity and personal contact is the heart of the IBHS.

TABLE 4

HEALTH POST
STAFFING PATTERN AND FUNCTION BY DEVELOPMENT STAGE
(x%) = By 1980, % of Total Posts

	STAGE E (26%)	STAGE D (24%)	STAGE C&B (37%)	STAGE A (3%)	STAGE I (10%)
1. HA/Sr. AHW	1	1	1	1	1
2. AHW	-	1	1	2	2
3. ANM	-	-	1	1	2
4. *Jr. AHW (M)	2	2	2	2	2
Jr. AHW (H)	4	4	4	4	4
Jr. AHW (T)	4	4	4	4	6-8
5. Clerk	-	-	1	1	1
6. Peon	1	2	3	3	3
* M = Mountains H = Hills T = Terai	- FP motivation, Contraceptive Distribution - Health Nutrition Education - Oral Rehydration Education and Treatment - PCM Surveillance and Advice - Smallpox Surveillance and Vaccination - Malaria Passive Case Detection and Remedial Measures with NMEO - Tuberculosis and Leprosy Control and Treatment of Diagnosed Cases if TB/Leprosy worker Available - Recording of Vital Events - Community Involvement and Environmental Sanitation - Contact with Traditional Healers - Treatment of Minor Ailments - Full coverage of HP population	Same as Stage E additional - Children's clinic with BCG, DPT if available	Same as Stage D additional - Maternal services - ANM Field visits - Work with traditional midwives - School Health Services - Environmental Sanitation	Same as Stage C&B additional - Malaria active case surveillance	Same as detailed in Stage C&B - Full District Office Staff - Increased frequency of surveillance visits in malarious areas

TABLE 5

CURRENT RELATIONSHIP OF VERTICAL PROGRAMS TO IBHS

FP/MCH	- In already integrated and integrating districts, to supply commodities. Staff no longer participate in integrated districts.
	- FP/MCH and IBHS to run parallel programs until some agreement on practical steps to integration can be worked out. (Acceptance, in principle, of integration concept exists)
	- USAID has separate project officer for FP/MCH project.
Malaria	- In already integrated districts with malaria out of control (API over 0.5), NMEO will spray, evaluate, plan, run labs, supply drugs and commodities. IBHS will do surveillance.
	- When malaria is under control (API less than 0.5 in the district) NMEO and IBHS evaluate readiness of NMEO structure to be absorbed into IBHS. Malaria fire-fighting mechanisms must be in place to meet local outbreaks.
	- In newly (Stage "E") integrating health posts, IBHS will do PCD only. JAHWs will be transferred from NMEO only after defined targets met and consultations made. Local recruitment for JAHWs required otherwise.
	- Health inspectors for districts with integrating health posts to be recruited from NMEO.
	- One USAID health officer is project officer for both malaria and IBHS projects. USAID support guaranteed for five years.
TB/Leprosy	- Surveillance and BCG sweeps to be conducted in five districts/ year after which TB/Leprosy assistant remains behind as supervisory AHW at district level.
Smallpox	- Partially integrated into IBHS (staff plus surveillance); full integration anticipated in 1977, after external review of smallpox situation.

e. District level supervision and control of health posts will also begin at its most elemental level - a single health inspector - and increase in complexity as health posts do. Similarly, management control systems are to increase in phase.

f. Significantly no mention was made of the HMG secondary and tertiary referral scheme (one where a health post sends a sicker patient to a district hospital, and it in turns refers the sickest to the zonal or central referral hospitals). Transportation is so difficult that virtually no one referred can go unless the hospital is close by (no more than 1-2 days walk). Where a hospital does exist, it tends to become a high-cost health post for the vicinity (2-5 mile radius, generally) and overshadows the local, low-cost health post. These statements are true of many developing countries.

The projected organograms at each level are attached as Appendix 2.B. The description of staff and their interactions will be discussed below under manpower training.

2.3. Planning and Management Control

Even detailed operational planning is insufficient without a complete knowledge of the systems which impinge upon or interact with the IBHS, and which will determine the spread and acceptance of basic health services. These are: management, vertical projects, donors, other ministries and agencies, culture and community, the outside world. It is useful to list them and to indicate their tractability or susceptibility to control by IBHS managers, and the benefits of control (Table 6).

The Planning Cell in the Ministry of Health should be a major help to IBHS managers in dealing with systems 1-4. This Cell, reporting directly to the State Secretary of Health, was established in 1974 to help formulate the health sector of the 5th Five-Year Plan and to represent the MOH in discussions with the National Planning Commission. USAID PRP dated January 27, 1975 ("Health Planning, Research, and Evaluation") suggested that budget provisions were already made for 14 full time persons (including four senior officers) plus temporary field staff. The projection was premature as the Cell has only eight staff with one full time senior planner and one senior planner on deputation. In the course of several discussions with the senior members of the Planning Cell and with the WHO Representative the following three functions were agreed to be most useful and appropriate for the Planning Cell to execute (the discussants considered that approximately 75% of Planning Cell time in the next five years would be spent on Integrated Basic Health Services).

a. Health Planning

The Planning Cell must contribute to the long-term, Five-Year, and annual planning cycles. The Planning Cell members require an intimate knowledge of MOH programs, must analyze available health services and operational data, and become involved in the budgetary processes of the various sections.

TABLE 6

SYSTEMS IMPACTING ON IBHS

System	Description	Tractability by IBHS	Payoff
a. Management	Supply logistics, information system, supervision, in-service training, technical performance, planning/implementation/monitoring/evaluation/replanning.	High: requires technical assistance, budgetary assistance.	Maximal utilization of scarce capital resources and of plentiful labor.
b. Vertical Projects (Malaria, FP/MCH, TB/Leprosy, Smallpox)	See Table 4; projects heavily influence program and in-service training content, supply commodities and staff for integration.	Medium: requires close intra-Ministry coordination, political positioning, favorable externalities (e.g. malaria control).	Availability of large cadre of experienced field workers and subject expertise.
c. Donors	Principal effect on budget, (supplies, grants-in-aid, capital assistance) and technical assistance (which informally includes staff work). Strong influence on programs and content.	Medium: if groundwork carefully laid with other responsible ministries; coordination of donor activities by Ministry of Finance necessary.	Program planning takes donor outputs into account, and good coordination increases complementarity.
d. Other Ministries and Agencies	Principal effect on manpower and programming: National Planning Commission (reviews all plans that expend money); Ministry of Finance passes on budgets and releases funds; Foreign Aid Division coordinates donor inputs; Department of Administration (sanctions or disapproves all new positions); Public Service Commission (recruits, screens, examines candidates for Government posts); Ministry of Education, Institute of Medicine (develops curricula for and trains University Certificate in Medical Science plus Auxiliary Certificate level workers); Sajha Swastha Sewa (medicine cooperative, purchase, supply network for drugs); Cabinet and Rastriya Panchayat (passes on Ministry policies); Janch Bhooj Kendra (Palace investigation center); Palace (ultimate constitutional authority).	Low to medium: requires excellent knowledge of system, close adherence to objectives of Five-Year Plan; knowledge of financial conditions and close coordination with other Ministry Officials for annual planning; also requires knowledge and use of allowable temporary measures of recruiting and staffing, requires ability to adjust to revised targets if budget support falls short.	Expectations of outputs come close to what is possible and replanning is timely.

System	Description	Tractability by IBHS	Payoff
e. Culture and Community	Final arbiter of acceptance of health system in part or total.	Low, but potential for improvement; requires visible, high-payoff technology; specific training for health workers; close contact with villagers and assistance with felt needs.	Immense impact possible, especially on FP and health education side; involvement of people with Government and nation.
f. The Outside World	Political considerations in and out of Nepal; world prices, stability.	None.	-

TABLE 7

HEALTH WORKERS IN NEPAL

	Trained	Known in HMG Service	Known in Mission or Prvt. Practice	Attrition Rate	1975 - in Training
MO (Specialist Technical)	516 (181 Specialists)	343	21	29%	
Nurse	361	211	42	30%	100
HI	14	14			
HA	159	86		31%	88
SAHW	242				55
AHW	692	475		31%	232
ANM	529	337	81	21%	300
JAHW	336				
FP/MCH Aides	About 500	About 500			About 500 (Panchayat Based)
Malaria Field Worker (FW)	1699	1699			
TB/Leprosy	7				
SP/FW	268	377			
SP Supervisor	115 (383)				
Senior Malaria Inspector Asst.	774	774			
Ayurvedic	221	102		54%	28

Data Source: CH/T figures, 1975
FP/MCH Unofficial figures, 1975

b. Program Tracking and Operations Guidance

The Cell ought to perform a staff function for the various sections of the MOH: assisting in budget preparation; evaluating program performance; guidance in developing a management information system; acting as traffic controller and mediator between projects in a non-censorious way; acting as DHS ombudsman in interactions with other ministries that pass on manpower and programming; and providing guidance to the newly forming Regional and District level offices in operational planning and control.

c. Special Surveys

Management and health status surveys on a sample basis will assist the Planning Cell greatly in performance of the first two functions as well as in its dealings with the National Planning Commission.

The staff requirements and donor inputs for these functions are detailed in the Project Design (Part B).

3. Manpower Training for IBHS

3.1. Categories of Workers and Sources

The following is a scorecard of health worker categories and their current and/or projected relationships: (see also Table 9):

a. M.O. - Medical Officer. Most work for Government since a legal limit on consultation fees (seven rupees per visit) makes full-time private practice less or a lure. Medical Officers will play a curative and administrative role at District and Regional offices and hospitals, curative at Zonal or Central hospitals, and administrative roles at the Central DHS office.

b. H. I. - Health Inspector. Recruited from the district supervisory staff of vertical projects; this person plays the key role in supervising and assisting health posts' staff from their inception. Some Health Assistants may become HIs.

c. H. A. - Health Assistant. A tenth grade finisher, certificate-level graduate of a two and a half year course from the Institute of Medicine. This person will be in charge of the health post providing curative and preventive services and supervision of the field workers. A dozen women are in the first IOM class of 108.

d. A.N.M. - Assistant Nurse Midwife. All are women, and eighth grade graduates. They are trained in one of several IOM ANM campuses. Currently most are serving in hospitals, and their curriculum reflects this. When ready to move to health post work (stage C and B), chaperoning during field work will be needed according to local cultural rules. Cultural resistances to women becoming ANMs is lessening but slowly in the more conservative rural areas. The ANM will provide a large portion of FP/MCH activities, and supervises JAHWs in this aspect.

e. A.H.W. - Auxiliary Health Worker. An eighth-tenth grade finisher, an auxiliary certificate-level graduate of the Institute of Medicine. Currently trained by a two-year curriculum which is being reduced to 18 and possibly 12 months. In the design of integrated health posts the AHW is a swing worker, putting in curative work at the health post and field work in communicable diseases. This person supervises the JAHW in the field. In a few areas, AHWs are distinguished with a parenthetical (C) for curative and are IOM trained, or parenthetical (P) for preventive and are experienced former malaria field workers with a higher salary. They argue about seniority.

f. S.A.H.W. - Senior Auxiliary Health Worker. An AHW or experienced compounder/dresser who has received a few months upgrading training in public health at IOM and is capable of acting as health post in charge.

g. J.A.H.W. - Junior Auxiliary Health Worker. In the initial development of integration, this worker was recruited wholesale, on a temporary basis at first, from the field level health workers of the vertical programs; but for a regular government position at lowest rank (non-gazetted officer, Class III) the Public Service Commission rules require an eighth grade education; many of the vertical program recruits have had only third to fourth grade training. Also, recruitment from NMEO and FP/MCH is blocked until at least the late 1970s, or 1980 as these programs expand. Hence, direct recruitment from local panchayats will be necessary. This may be an advantage as recruits will serve their home areas. The JAHW is to be the backbone of the outreach, contact philosophy of IBHS (successfully demonstrated by the NMEO workers who reached nearly 100% of their clients on a monthly or bimonthly basis). Training is provided by CH/I exclusively.

In the past decade about 6,000 paramedical health workers have been trained, (Table 7). But, disturbingly, a high attrition rate exists at all levels of training. The principal causes appear to be: insufficient salary, posting and transfer difficulties, and lack of opportunity for advancement. Many of the attrited end up in private clinics.

Based on the phased integration of health posts as planned in the Project Formulation, the staff requirements and their sources are listed in Table 8. If the same attrition rates hold, a shortfall in Health Assistants will occur especially since this class of workers is also drawn into vertical programs and hospital work; however, improved attrition rates, upgrading of some of the excess number of AHWs to SAHWs, or scaled down targets in the number of health posts integrated provide opportunities to overcome this shortage. The extra number of AHWs and ANMs are to be absorbed by Central, Zonal, Regional and District hospitals and vertical programs. After 1980, even greater numbers of AHWs will be turned out as three more CIDA and USAID capital-assisted schools go into operation. A major recruiting drive for JAHWs will be required. Clearly, close coordination between the DHS and the IOM is necessary (more on this later).

3.2. Paramedical Education in Nepal - Recent Events

The National Educational Plan, promulgated in 1971, seeks, "to produce citizens who, with full faith in the country and the crown, will conduct themselves in accordance with the Panchayat System and meet the manpower requirements of the development through the spread of scientific and technical education". (National Education System Plan for 1971-1976, Ministry of Education, HMG of Nepal 1971.) Primary schooling, grades 1-3 is designed to teach literacy; lower secondary, grades 4-7 is for language and arithmetic, character and national awareness; secondary schooling, grades 8-10, imports vocational training (which includes, among 34 subjects, health work and nursing). Tuition is free up to fourth grade, but not support. A school-leaving certificate (SLC) is awarded on successful completion of grade 10. (Only 30% of students pass the exams at the first sitting.) Experimentation with teaching methods is encouraged. National direction of the educational system (through the District Office) is emphasized as is the righting of regional imbalances. Currently about 40% of the student-age population is enrolled in 5,000 primary schools, 5% go on to secondary school. Many who obtain the SLC go on for higher learning. (A charge of Rs.1-15/month plus living expenses and only a few available scholarships acts as a bar.)

In 1971, 16 Institutes were incorporated into Tribhuvan University whose Chancellor is the King. The Institute of Medicine is "responsible for education, training and research in Jana Swasthya" (translated as Public Health) and currently offers the level after SLC, the Certificate level. The ANM receives a Nursing Auxiliary Certificate, the AHW - the Health Auxiliary Certificate, etc. Also trained at IOM are the Health Assistants, Nurses, Health Laboratory Technicians, Radiography Technicians, Dispensing Pharmacists, and Aryuvedic Practitioners. It is likely, and WHO has committed support, that a Diploma level will be offered by 1977-1980 in medical sciences, general medicine: intended to produce physicians trained to serve and lead Basic Public Health in Nepal, but with a lower academic level than candidates going off to India or U.K. for a medical degree. An organogram of the IOM, a listing of its campuses and their health worker output are given in Table 9.

Tables 7-9 show that an adequate number of health workers can be provided for expanding health services (IBHS, hospitals, vertical programs).

Table 8

STAFF REQUIREMENTS FOR PHASED INTEGRATION, 1975-1980
HEALTH POSTS/DISTRICT

	1975 Available	75-76	76-77	77-78	78-79	79-80	In Place Total
HA/SAHW	31	86/6	144	150	191/7	208/5	(810/11) 821
AHW	71/11	41	86	118	160	216	(692/11) 703
ANM	80/1	32/6	-	86	127	176/4	(501/11) 512
JAHW	307	379	440	568	708	760	3162
HI	/2	/46					/48
Central Regional Training Cell							
MO	2	2					4
HA		3					3
HI		4		2			6

At Higher than HP Level - Vertical and technical staff cmitted for clarity.

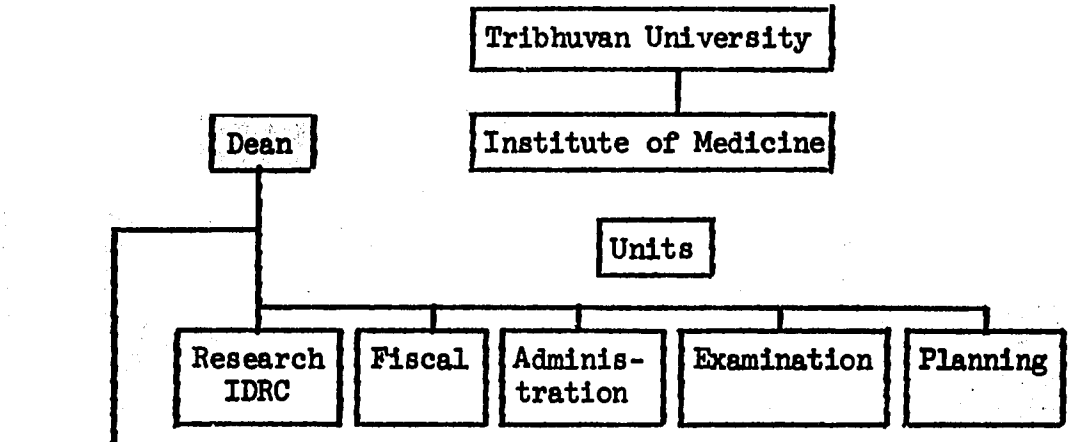
Institute of Medicine Projections:	Sources of Staff 75-76	76-77	77-78	78-79	79-80	Total
HA	88	100	100	150	166	604
	Shortfall of:					217
	31% attrition:					187
	Balance:					- 404
AHW	166	250	250	260	314	1240
	Excess of:					537
	31% attrition:					386
	Balance:					+ 151
ANM	200	250	330	340	341	1461
	Excess of:					949
	21% attrition:					317
	Balance:					+ 632
CH/I Projection:						
JAHW	340	440	568	708	760	2816
Other In-service	100	109	98	108	115	530
						3346*

Data Sources: Project Formulation for Basic Health Services, Final Draft.

* Student attrition rate not established but estimated as minimal.

TABLE 9

ORGANOGRAM OF INSTITUTE OF MEDICINE



		Proposed Total Enrollment
By 1980 :	Surkhet - AHW (CIDA Assisted)	150
	Bharatpur - AHW	150
	Pokhara - AHW (USAID Assisted)	150
Proposed:	Dhankuta - AHW (CIDA Assisted)	Unknown

	Approx. or Projected Annual Enrollment
1. Kathmandu - Nurses (Mahaboda, Shanta Bhawan	210
2. Kathmandu - HA/SAHW (Maharajgunj)	180
- Health Lab. Technicians	75
3. Kathmandu - AHW (Lazimpat and Tansen)	80
4. Birgunj - AHW	66
5. Biratnagar- ANM	80
6. Bharatpur - ANM	60
7. Tansen - ANM	60
8. Nepalgunj - ANM	60
9. Kathmandu - ANM (Chhetrapati)	80
10. Kathmandu - Ayurvedics (Naradevi)	40

	Entry Level Requirement	Course Length
HA	10th Grade SLC	30 months
ANM	8th Grade	18-24 months
AHW	8th Grade - 10th Grade SLC	18-24 months

Abbreviations:

USAID - United States Agency for International Development
CIDA - Canadian International Development Agency
IDRC - International Development Research Centre
UMN - United Missions to Nepal
HA - Health Assistants
ANM - Auxiliary Nurse Midwife
AHW - Auxiliary Health Worker
SLC - School Leaving Certificate

3.3. Recruiting, Teaching and Holding Health Workers

The important questions then about these workers are:

a. What kind of student and what kind of commitment to rural areas?

b. What kind of curriculum?

c. What kind of career ladder?

d. What kind of teaching?

As expected of human affairs the answers are a mixture (or, probably, an inextricable blend) of positive and negative.

a. A serious attempt is being made by IOM to advertise and recruit students from all over the nation. Placing campuses in all regions is a powerful social and economic incentive for local secondary school students to go on to a certificate level. But the entrance exam is touch and the final exams tougher. For a number of years to come these exams must favor Kathmandu or Central Region students who have had better quality primary and secondary schooling (2/3 of the current AHW group is from Kathmandu). In the first class of HAs 110 were accepted three years ago. 108 showed up. 88 took the finals. 48 passed. A similar failure rate is seen with AHWs. A substantial number of HAs will re-sit for the exams, but many will be absorbed into the AHW classes which may tend to upgrade the entry requirements for AHWs from 8th-10th grade.

   It will be important to continue all maneuvers for recruiting and keeping rural students from the other development regions. An increasing proportion of trained, non-gazetted health technicians come from outside Kathmandu (from Terai 36%, Hills 33%, Kathmandu Valley 31%) but the attrition rate was highest for non-Kathmandu Valley people (% in active pool: coming from Terai 22%, Hills 27%, Kathmandu Valley 51%). This can be reversed with policies that favor rural posting because 60-70% of those coming from rural areas prefer rural postings (compared to 42% coming from Kathmandu) and considerably prefer their own terrain (64% of Terai people want to return there, 81% of Hill people prefer Hill posting). Two methods for encouraging rural postings now exist. The first is a point system for promotions based on:

		Points
Seniority	-	5/year of service
Experience	-	3-5/year of rural service 1/year of Kathmandu service
Training	-	With at least one month inservice, or three months abroad: 5-20 points based on duration

	Points
Academic Level	- 20-30/each/SLC, Bachelor, Master Certificate 10-20/Diploma 20-30/Degree 35-40/Ph.D. and equivalent
Special Ability	- Medals, awards, papers (? Point Score)
Work Performances	- 0-120 points (average 50-70) based on superior reports

The weightings show that for encouraging rural work this method is weak, but coupled to salary differential (up to 50% for the remotest area) may have some effect.

A second method, potent and well used by NMEO, is to include a series of hierarchical positions with small but recognizable increments in status, reward and responsibility; the series allows concrete advancement in a relatively short span of time. Since NMEO is a development budget program it has flexibility in this regard. It is unlikely that the regular government service will turn wholesale to a new method. Thus to keep workers committed to rural work the IBHS must provide health workers sufficient status where they are by means of good support: supervision, supplies, training for tasks they can do and which will be accepted and sought after by the community.

b. The curricula are changing and undergoing experiment. The intent is for all curricula to reflect what the health worker needs to know and will do at the health post or district office. It is an ICM goal that no "re-orientation" training by DHS to health post philosophy and activities will be necessary for ICM graduates. Field work is to be provided at health posts near the campuses. The ICM curricula in current use have a curative bias (27% of an HA curriculum is in public health) because the felt needs of the people strongly favor curative medicine and "they (the HAs) are out there by themselves." (But when the medicines give out nine months away from resupply they may have nothing else to offer.)

The AHW curriculum has become increasingly practical and more field work at health posts, local hospitals, in existing community health programs is provided. The ANM curriculum is strongly hospital-oriented. (Outlines of recent or current curricula are attached as Appendix 3; the complete curricula can be obtained from the Nepal Desk Officer.) Curriculum development, both for content and teaching design is an urgently required skill. Task analyses of health post activities is an ongoing project in the ICM Research Unit (assisted by Canada's International Development Research Centre, IDRC), and the methodology of curriculum design was broached by a seminar/

workshop given in 1975 by the Harvard University Center for Educational Development in Health. The formal procedure for curriculum change involves an Instruction Committee of faculty, which prepares the material; a Subject Committee of outside consultants plus representation from DHS, which reviews the material; a Faculty Board which reviews and gives final approval, membered by the Dean, Campus Chiefs, Chairmen of Subject Committees of the IOM, Director General of Health Services and Chief Planning Officer of the MOH, the Director of Medicinal Plants of Ministry of Agriculture, and five medical specialists, mostly in government service. The whole formal procedure lasts 6-12 months.

c. The curricula are also meant to provide the basis for a career ladder. A career ladder can be of the NMEO incremental-grade variety as discussed in (a) above, or can be academically oriented. From a recent HA curriculum: "It is because of the continuous health career plan that it has been decided to include part of pre-medical basic sciences, i.e. physics, chemistry and biology, in the course. This is not only of good education value but also this will make it possible to have a one-year condensed course in these sciences for the pre-medical examinations."

Academically-oriented career ladders can cut both ways:

- they provide incentive to stay in the system, but they encourage movement to urban areas;
- they develop highly skilled and motivated workers, but some will seek the lures of private practice or emigration;
- they make room for new recruits, but staff stability and interactions with communities may be disrupted if ladder climbing is rapid;
- they encourage self-improvement, but sometimes work is neglected for study for the next level.

The current career ladder has the following rungs:

JAHWs, if coming in from the eighth grade level can readily move up to AHW (8th-10th grade entry requirement). It will be difficult for JAHWs coming from vertical projects to make much advance since they are largely 3rd-4th grade leavers - if, indeed, they can even be accepted into IBHS. AHWs can similarly move up to the HA or SAHW level with extra training. The HA may become a Health Inspector (promotion based on experience) or await the planned-for Diploma in District Health Services. ANMs can move up to a Certificate in Nursing. (While there is no legal ban to a woman becoming a JAHW, only a few have done so; a few are studying to become AHWs and a dozen HA students out of a class of 108 are women. Custom weighs against women doing field work, unchaperoned. Parents even expressed concern about an ANM

school being located near an AHW school; recently male AHWs from Kathmandu have done a lot of field work in Tansen, site of an ANM school. The results of this proximity are not yet known).

As one method and objective of national development, there should be constant affirmative action in the recruitment of women. As often seen in other developing countries, it is not considered unusual that the State Minister of Health, the Senior Public Health Officer and the Deputy of the Community Health and Integration Section (in charge of IBHS) are all women.

Experience in other countries with career ladders has not been encouraging. A national and political will plus specific incentives are needed to reinforce the positive aspects. What direction Nepal's system will ultimately take cannot be easily predicted, but the stated goals of the New Education Plan are absolutely in the right direction.

d. The IOM has approximately 100 teachers on the various campuses and plans to recruit 50 more by 1980. It is difficult to tell what a good teacher-pupil ratio should be since method and content are undergoing change. The teaching is largely traditional (didactic and formal) as teachers universally tend to recapitulate how they were taught. English is the medium of instruction. Three AHW instructors are themselves HAs. The rapidity of manpower development, the need for rapid re-design of curriculum based on a changing, expanded IBHS has put a great burden on IOM teachers, who may as much need trainer training in content (community health, FP, health post management, supervision, team approach are relatively new concepts) as in teaching methodology.

Technical assistance in curriculum design, training of trainers, and teaching methodology is being provided by WHO, CIDA, United Mission, and Dooley Foundation. Field work for the AHWs and ANMs is increasing with use of United Missions to Nepal facilities and personnel in Palpa and Kaski districts and are being developed also in Bara and Chitwan. Model integrated health posts for continuing field training in the vicinity of the new AHW's schools are planned as part of these projects.

3.4. In-service Training by CH/I

Over in the Directorate of Health Services an entirely different issue of training is faced. In 1972, when two districts were officially "integrated" for the original pilot-study, a two-week orientation (in smallpox and leprosy surveillance) was held for 200 workers, many former malaria hands. Lectures were the medium. In 1973, to get the pilot well underway, a two-week session for 333 workers (195 JAHWs, 44 ANMs, 40 AHWs, 44 HA/SAHWs and 10 supervisors) enlarged upon all field activities but especially FP/MCH. The better-educated HAs were unhappy about training alongside JAHWs and the training that evolved tended to reinforce curative aspects for HAs and preventive for JAHWs. Health workers' manuals were written. Their utility has not yet been measured.

In 1975, over a three-month period, 615 health workers (306 JAHWs) were trained as four more districts were integrated. Newer techniques of teaching were tried and role-playing dramatizations were exceedingly popular.

A fourth program is about to begin for 360 workers and a considerable amount of experiential and team field work is scheduled. (The 1976 curriculum is attached as part of Annex 3; the field manuals can be obtained from the Nepal Desk Officer.)

To provide knowledge to meet IBHS objectives, CH/I has three important training responsibilities. It must train a large number of new health workers (JAHWs), "orient" newly employed health workers (trained elsewhere), and develop continuing in-service training for existing personnel. At present, Training Cell staffing is short, with only two of four sanctioned positions filled. Recruitment is underway and expansion in training sites is also forthcoming - one of three full time regional training sites has been authorized and will be established this year. Present training staff for the courses is supplemented by CH/I and vertical program personnel. These positions will have permanently assigned trainers as the program develops.

The weakest link in both IOM and in-service training program is that operational and management difficulties in IBHS make it difficult for the workers to use their training. The difference in training emphasis - curative for HAs and AHWs and preventive for JAHWs make a multiplier effect - positive guidance of JAHWs from the AHW and HA - difficult to achieve.

The need for close IOM/DHS cooperation is quite apparent. Both units have expressed their desire to coordinate. IOM curricula will conform more closely to health post activities as field practice areas and task analyses become available. Then, there should be less need for "reorientation training" of higher level workers by DHS. Nonetheless, Institutional differences in style and program agendas will remain, although the existing formal and informal contacts should at least help define these differences. (The MOH and IOM are seated together in the following committees. The Tribhuvan University Senate, the Institute of Medicine Faculty Board, the IOM Research Advisory Committee, the IOM Subject Committee, the IOM Ayurved Curriculum Committee, and the Campus Coordination Committees. Also, IOM took part in the Project Formulation and other MOH planning exercises.) Also, close collaboration between the donors in technical inputs which do not conflict in objectives and style but complement each other will tend to close the gap between two organizations.

3.5. On Learning and Teaching Styles - Some Comments

In a traditional society information is passed on orally and learned by rote. This process begins in the home. It is reinforced in the school system and students can memorize whole books. Teachers teach the way they learned and there is often little translation from theoretical to practical knowledge (practical knowledge is learned of course, but, like farming, in the field, at the plough with one's father or uncle). Tradition provides built-in solutions to problems; modules, to use a modern term. But when tradition is assaulted by external events (crop failure, erosion, migration, overpopulation; societal and political change) the modules no longer fit and behavior change is needed.

Three models of training co-exist in Nepal. The first is the traditional, rote learning (although we see both IOM and CH/I curricula building more "at the plough" learning). A second is called "interactive learning" and is being tested by the Berkeley FP/MCH program. Their program is well documented in USAID reports, but in brief: Health aides (with no

more than a primary school education) and health aide trainers (diploma level) alike become anthropologists to their own culture; they look at health-related behaviors by living in a village, discuss it with villagers, learn about villagers' felt needs, and then in a trainer-trainee group, determine what intervention points are likely. In a surprisingly short time these workers experience what they will teach, control their own learning environment, and become committed to being part of a behavioral change program. The change sought most here, of course, is the desire for family planning. This method stresses the processes of learning and behavior change rather than simply content.

A third method redesigns the modules. It is called programmed learning and often takes the form of decision-trees, situation-action complexes. The underlying theory is behavioral reinforcement, that is the learning environment is created so that a correct action is taken, the correct action is reinforced either by a trainer, by the flow of the manual, or by a good response from a client, and thus is likely to be repeated; "understanding," as verbalized, occurs at a later stage. This method has been successfully applied in Nepal. The Science Teaching Enrichment Program (USAID contract 367-371, New ERA) used programming techniques successfully to train high school science teachers how to teach laboratory experiments. The Shanta Bhawan Lalitpur Community Health Program has taught six compounders, some barely literate, several clusters of signs and symptoms for which a specific remedy is to be applied (the nature of common illnesses seen in Nepal allows a high degree of accuracy in such an approach).

The unresolved questions with any "new" approach in education are how, and how long would it take to institutionalize it; and to what degree does a new approach work because of the charisma of its promoter.

4. Other Programs in Integrated Health Services

Several programs to promote village health workers and community involvement in health are functioning in Nepal. The Family Planning Association runs several outreach clinics along this style (formerly known as the Helambu Family Health Project); the International Health and Development Trust (formerly the Ross Anthony Foundation) has an MCH clinic in Dhorpatan, a week's walk to Pokhara, with community workers trained in family planning motivation and preventive medicine. The United Missions to Nepal (UMN) have established the Lalitpur (Shanta Bhawan) Community Health Program. This MCH-FP Program trains unpaid women health aides, who are selected from village panchayats, to act as social links between professionals and villagers, and as motivators. The philosophy underlying their approach is:

a. to deprofessionalize the professionals;

b. emphasis on team work;

c. interact with other government extension programs and panchayat leaders;

d. work on villagers' felt and professionally observed needs.

In five years both the UMN and the Anthony programs are scheduled to join IBHS. The critical question again will be to what extent can "deprofessionalism be institutionalized into government.

The government's vertical FP/MCH Project (USAID supported) is expanding broadly to a panchayat-based outreach system that offers family planning and some curative services (rehydration solution, health education, minor first-aid, iron for anemia). Nearly 1000 FP field workers are in 75 districts; half operate out of 265 clinics and half are panchayat-based covering 2500 village panchayats. The program looks something like an IBHS, and the question of competition naturally arises. But, like all vertical programs existing on development budgets with heavy capital infusions from donors, it is designed to meet an immediate, particular health crisis; by its flexibility, it is intended to experiment and develop alternative delivery modes; thus it is complementary, not competitive. Ultimately, the regular IBHS should incorporate the program, especially as HMG capacity to manage and operate the IBHS, and its entire range of services, is developed.

Finally, some mention is due of the majority health sector that has existed for millenia - the traditional practitioners (spiritualists, herbalists, aryuvedics, traditional midwives and others). The IBHS is neither competitive nor yet complementary to these practitioners. As a first integrative step aryuvedic drugs will be included in the health post formulary to replace more costly western drugs for self-limited illnesses. A second step is a recent study sponsored by DHS on traditional practitioners - their methods, clientele, attitudes - to determine how they may interact with IBHS. A third step is the job description calling upon health post ANMs to contact traditional midwives in their catchment area.

5. Other Health-Related Programs

5.1. Vertical Projects

Malaria (NMEO) and FP/MCH project activities are well documented in USAID documents; their relationship to IBHS has been covered in this section.

5.2. Water Supply Project

A joint UNICEF/World Bank/USAID/UNDP Project to establish panchayat-based water program was reviewed recently by WHO Report on Rural Water Supply, Nepal (EH/SEARO 74.8). The program launched in 1958, had produced by 1973, 16 urban systems serving 500,000 people and 82 rural systems serving 160,000 people. As the program is planned in the 5th Five-Year Plan, only 10% of the rural population will have access to safe water by 1980. Between 1975-1980 water supplies will be provided to an additional 700,000 persons, half the value of the expected population increase in that time.

Although village panchayats are encouraged to contribute 20-40% of capital costs, many cultural and topographic constraints exist.

5.3. Nutrition

The first thorough nutrition survey of Nepal was completed in 1975, and demonstrated widespread stunting and severe malnutrition in children. No national nutrition policy exists as yet, but the findings are taken into account in the IBHS and FP/MCH programs; the former has introduced the measurement of arm circumference as a surveillance tool in some health posts.

6. The Rationale for an Integrated USAID Project on the Integration of Health Services

An effective low-cost, integrated basic health program serving the majority of Nepalese describes a system with several components, among others: management, control, planning, training and supervision, politics, interactions with other programs and other donors, and community response. Each component interacts with, depends upon and influences the others, and all will determine the success or failure of the IBHS. It is thus important to understand each component and their inter-relationships, and to know when and where USAID technical and other assistance can be useful. This approach is only possible with a unified project that focusses on the most immediately manageable of the components. These are: management (management information system, logistics, supply, budget, personnel), control (supervision, program tracking, planning, data gathering), and training (curriculum design, trainer training, health worker task analyses, teaching methodologies). The design of the Project (see Part II B, the logical framework and the program performance tracking network, Part IV B) reveals the interactions of these components; and the necessity of dealing with them in a conceptually rigorous and integrated framework.

B. DETAILED DESCRIPTION

"The essence of knowledge is, once having it, to apply it."

Confucius

This section amplifies the Project Design Summary Logical Framework which is attached.

1. Sector Goal

Improved health, with gains realized equitably throughout Nepal.

Sector Sub-Goal

An effective, low-cost Integrated Basic Health Service (IBHS) equitably distributed in predominantly rural Nepal.

A low-cost IBHS in Nepal is part of a program intended fairly and finally to distribute social services to the majority poor of the nation; it is also intended as an outreach vehicle to provide Family Planning and MCH services; and finally, it is part of the Government Development Program that seeks to move communities, districts and regions toward the single purpose of socio-economic development (super goal). The 5th Five-Year Plan and the Project Formulation, which based itself on the Plan, have listed specific HMG targets whose attainment will be a measure of sub-goal achievement.

2. Project Purpose

HMG capacity to organize and manage an effective nationwide Integrated Basic Health Service demonstrated.

The targets of HMG are ambitious; the majority can be realized only with an institutionalized management capacity. The ability to manage a system means being able to identify problems and to solve them. Most

problems lie in those managerial, supervisory and personnel areas that, if unresolved, can nullify the program goal, and cause a great waste of resources as well. As a system becomes more organized and complex then, paradoxically, the number of identified and reported problems should increase, initially at a greater rate than program development. But the rate of problem-solving should also increase. The ability to manage also includes a capacity to design and use an information system for monitoring, evaluation and replanning. The gap between planning and implementation should narrow progressively (due, one hopes, to both improved implementation and realistic planning).

At the end of the Project the status of the IBHS should be such that, unlike previous years, all vertical programs find it acceptable within guidelines to integrate their expertise and staff into a regular budgeted IBHS.

3. The Planned Outputs of the Project

To fulfill the project purpose two outputs are given (with 14 sub-outputs): A. Basic Health Services Management and Control Systems Developed;

B. Training of Health Workers Meets Integrated Basic Health Services Needs.

3.1. It is said that Development is like riding a bicycle while building it. This will be the case with IBHS. IMG can readily meet physical targets (so many health posts, so many health workers); but the critical and interwoven links in the forging of an effective IBHS are supervision, management, and training.

The functions of supervision are:

a. to monitor management performance;
b. to provide inservice training;
c. to assist with community contacts and communication;
d. to monitor and consult on technical performance;
e. to provide psychological support to the worker.

The functions of management are:

a. to monitor program performance; including supervision;
b. to design the information system and other management components into training;
c. to design data collection tools and special surveys, including community-based research;
d. to organize or best utilize logistics, supply, budget and personnel systems.

The functions of training are:

a. to provide supervisory skills;
b. to provide management skills;
c. to provide communication skills;
d. to provide technical skills.

For effectiveness all three components require the classic feedback loop (planning, implementation, monitoring, evaluation, replanning); that is, a way of thinking and organization is common to them all, and a major part of technical assistance in this Project is to help IBHS managers, supervisors and health post staff to begin working this way.

To accomplish this task the Project Design includes both, (a) formal management health statistics, and research surveys done on a sample basis; and (b) training for inter-survey supervision, at all levels, using the same techniques. The formal surveys are to provide the most accurate data possible using rigorously designed tools for the purposes of Project evaluation and to provide excellent data to HMG for annual evaluation and planning while the management systems are being built in as a permanent feature. Such surveys can be carried out in areas already integrated as they represent a good cross-section of Nepal. These surveys also test the management systems as they are placed. The supervisory training is to teach central, regional district and HP supervisory staff how to measure management activities, service statistics, and technical functions, in order to institutionalize the management style in daily work and supervision. Several things are then accomplished:

a. Supervision becomes more managerial and supportive, and less perjorative or narrowly focussed on technology.
b. There is immediate feedback - reinforcement for properly performed activities.
c. Additional data obtained can be used for program tracking, evaluation and replanning purposes.

These activities are intimately linked with a simplified management information system, and to a supply, inventory and distribution system. It is anticipated, at the end of the Project, that the routine management systems, with only an occasional supplementary survey, will suffice for program tracking and planning.

3.2. The Planning Cell should play an important role in smoothing the way for program implementation (budget, planning, personnel, flagging of problems, inter-Ministerial assistance, assistance in coping with target revisions, assistance in developing planning capacity at Regional and District levels, and research; research should especially be done in the social aspects of medical care: how villagers choose medical care; what they will pay for; what felt needs are; how well the IBHS message spreads, etc.). These activities are now carried out in various parts of the DHS, usually informally, or not at all. Formalization in the Planning Cell should greatly increase IBHS efficiency.

3.3. The importance of functional, output oriented training for the IBHS has been stressed. While both the IOM and the CH/I Training Cell are striving to achieve this, considerable technical assistance is required and has been committed by a number of donors, particularly in support of the IOM program. Initially, USAID technical assistance had been planned for both the IOM and the CH/I Training Cell but it was later determined that other donor assistance already committed to the IOM (25 person years of TA by the WHO, CIDA, UMN and Dooley Foundation) would be adequate. While USAID capital assistance project to construct two AHW schools will be carried out (considerably expanding the IOM training capacity), HMG has requested USAID to focus its technical assistance on the important CH/I training program, which has not received the donor attention it deserves. However, the project design for training inputs does contain some flexibility and limited specialized TDY consultant services could be provided to IOM as well as CH/I if the need arises.

Close coordination between the IOM and the IBHS has been emphasized as an important factor for satisfactory training of IBHS personnel. This will be furthered by the close coordination and collaboration existing between USAID, the other donors, and HMG.

The large number of non-certificate level health workers to be trained by CH/I will need a high degree of motivation as well as technical skills in preventive medicine. The modern, relevant training described in this project will help insure this caliber of worker.

4. The Planned Inputs of the Project

This Project was designed in close collaboration with HMG, and with other donors. As detailed here and in the Economic Analysis (Part III D) technical, commodity, and other direct assistance are designed not only to link to outputs but also to dovetail with assistance from other donors.

4.1. Input for Output A

a. Technical assistance

- One USAID contract expert in program management and planning, budget information systems and systems analysis (proposed as Chief of Party) is to work with the Planning Cell of the Ministry of Health to provide training and assistance for output A.7b. WHO has committed to providing one health planner and a statistician who will round out the Planning Cell functions. The USAID person will also provide technical assistance to the DHS sections, particularly CH/I, involved in management (outputs A 3-6) in coordination with other team members and other donors.

- One USAID contract health physician, skilled in management and evaluation of Integrated Health Systems will work primarily with CH/I in developing and testing IBHS management systems, survey designs and program evaluation (outputs A 1-6). This person is a counterpart to Chief of CH/I and will work with senior and middle-level staff at Central, Regional, and District levels. WHO assistance to CH/I here is one senior public health administrator at central level who will be involved mainly in planning, implementation and evaluation; one medical records officer to assist in the development of health information systems and improvement of records and forms; and one stores management officer to assist in drug procurement, storage and distribution.

  One USAID contract management training specialist to work with CH/I in field testing of management systems and on-the-job management training of central, regional and district supervisors; advise in field survey implementation; and perform field evaluation of program activities and training. WHO will contribute one public health officer who will assist in the implementation and evaluation at the field level.

  USAID contract short-term assistance, to be coordinated by the Chief of Party, will be provided in specific management areas, including expert input on drug procurement, distribution and use. No other donor has specific plans for such inputs.

b. Commodity and other direct assistance costs (in rupees) cover research management and supervisory surveys designed to provide

data for Project control, planning and evaluation. Training of supervisory and field staff in the use of management techniques in daily work and supervision is designed to institutionalize a supervisory style that is management-oriented, while at the same time providing additional data for control, planning and evaluation. USAID expenditures for this output are considered to be start-up costs and will be proportionately reduced, and those of HMG increased, throughout the life of the Project (suggested USAID input year 1, 54%; year 2, 51%; year 3, 35% - see Planned Performance Tracking Network Part IV A and Financial Analysis Part III B).

Costs will cover translation and printing of forms and manuals; travel and daily allowances in training for, and during conduct of supervisory functions and surveys. Included in this category are funds for the Planning Cell ($30,000) to conduct special research in methods of health care delivery (see, for example, Appendix 5) and surveys of community attitudes and practices. An additional $44,612 will be used to conduct studies that are of particular importance to project implementation. These studies will be organized by a locally hired social scientist who will be a member of the contractor's staff. Small expenditures for health seminars are designed to stimulate exchange of information by all parties working in the IBHS sector (HMG, donors, community development programs).

Other donor inputs will complement USAID's. WHO will provide commodities to the Planning Cell for their functions (wall-charts, calculators, typewriters, etc.). UNICEF, UNFPA, Dooley Foundation and others are contributing drugs and equipment directly to health posts and district offices.

c. Participant Training

- Provision for two public health officers to get MPH training, and for three short-course trainees in health planning represents a commitment on the current Integration of Health Services contract. Additional participant training will be regional (rupee supported) and designed to provide management and field skills in public health. These programs supplement similar inputs from WHO and UNFPA. Extensive participant training offered by other donors are mostly in categorical fellowships (chemistry, tuberculosis, etc.) or observational tours. These are broken down in greater detail in Part III D.

4.2. Input for Output B

a. Technical assistance

- One USAID contract paramedical training specialist also experienced in management and evaluation of Integrated Health Systems; training of trainers; and teaching methodology; is to assist the Training Cell in development of regional training centers and to coordinate and sustain technical input of necessary TDYs in curriculum design, training of trainers, field manual preparation and methodologic research. WHO will contribute services of experienced public health nurse to assist Training Cell and to advise CH/I in MCH programs.

In support of IOM paramedical training, the other donors (in particular, WHO, CIDA, UMN and Dooley Foundation) are providing over 25 person-years of technical assistance in curriculum design, training of trainers, course content, field training and teaching methodology. Not included is 14 person-years of short and long term assistance by WHO in setting up a Diploma course in medicine at the IOM.

b. Commodity and other direct assistance costs (in rupees) for necessary teaching materials, books, journals, and seminars on training, and for small research projects in training by CH/I will be borne by this project. IOM, with IDRC, is currently doing research in health worker task-analyses, establishing the baselines of health care delivery, so as to determine the impact of health worker training on care. IDRC funds allow three districts to be covered per year. CH/I has no current research but several methods of non-formal education should be defined, field-tested and evaluated. UNICEF will support refurbishing of the in-service training center at Pathlaiya and the furniture and equipment for the IOM AHW training schools.

c. Participant training

USAID proposes six long-term (two-year Master's programs) in education and teaching of public health to establish a core of exceptional trainers, fully versed in teaching methodologies. WHO fellowships are predominantly in subject areas (pharmacy, health science, anatomy, etc.).

d. Capital assistance

Covered under this Project is the separately approved rupee capital project to build two auxiliary health worker schools. One of the conditions precedent is that HMG/N shall furnish AID in form and substance satisfactory to AID "a two year curriculum approved by Tribhuvan University". There is thus flexibility in designating the type of health worker that will be needed and can be trained at the facility by 1978, when the schools are due to open.

4.3. Mass Immunization Program

The existing Project Paper on Integration of Health Services (dated 3/11/1973) calls for a pilot mass vaccine campaign. This has not been included as an output in this revised Project Paper because of the following advice from the National Center for Disease Control (State Department Cable 011479). Summary:

a. A multiple vaccine program needs long-term support and planning and HMG commitment.
b. There is uncertainty about what vaccines are appropriate. BCG is already applied in the TB program; cholera and typhoid are ineffective; smallpox may be a moot issue; DPT, measles and polio need multiple visits.
c. A comprehensive program of public relations, transport, storage, logistics, and a cold chain are needed.
d. Vaccination alone is insufficient; disease surveillance (for evaluation of effect) and outbreak control capacities are needed, and the campaign must be institutionalized and repeated.

At this time the putative benefits seem not great enough to warrant creation of a new vertical project which would seriously dilute the scant financial and personnel resources needed to organize IBHS. The issue should, however, be reconsidered at a later date.

5. Crucial Assumptions in Project Design

Two assumptions are critical for achievement of the Project Purpose. First, a sufficient number of staffed health facilities to demonstrate MOH management and organizational capabilities. Second, that the management objectives of IBHS are congruent with communities perceived needs.

Two assumptions are crucial to output A (the critical output). First, cultural acceptance of philosophy and adaptation of management by objectives and, second, selection process for management personnel insures adequate leadership characteristics.

6. Choice of Contractor

The current contract on Integration of Health Services states in Section I.d. that AID intends a modest expansion in health sector activities in training and health planning and that "AID reserves the option to amend this contract to provide for an additional scope should these projects be fully developed and approved by both AID and the GON. The contractor will be prepared to provide the necessary technical assistance and other support if and when this contract is amended to provide for the additional work."

HMG and USAID/Nepal support the concept of a single contractor to perform this Project. Project control, conceptualization, integration and coordination of all inputs; and evaluation, and coordination with various involved sections of HMG and other donors will be greatly facilitated.

PART III - PROJECT ANALYSES

A. TECHNICAL ANALYSIS INCLUDING ENVIRONMENTAL ASSESSMENT

1. Technology

The current technical developments proposed for use in this Project may be classified under the headings: a. managerial/supervisory; b. health technology.

Managerial/Supervisory

Many of the simple management tools developed may be applied in Nepal and with great leverage:

- Classic strategic and operational planning are well in use and bore best fruit in HMG's "Project Formulation for Basic Health Services" (1975-76).
- Systems analysis, as a management tool is being introduced in several sectors.
- A simple management information system which links training, supervision, supply, budget and evaluation, is proposed as part of this Project and can be tailored to the level of need and sophistication in IBHS.
- The use of decision-tree logic for training, supervision and program planning will be newly introduced although forms of this logic have already been used in Nepal in at least two training programs (see Section II A.)
- A simplified demographic survey system has been developed, tested and found worthy in Nepal by the USAID-supported FP/MCH Project. It can be linked to the voice-telegraph radio network that is functioning in Nepal.
- Various program tracking techniques such as network analysis, the logical framework project design and program budgeting will be or have been taught in Nepal through USAID and the Nepali Center for Economic Development and Administration (CEDA, now part of Tribhuvan University). None of these need to depend on computers. Decision-tree analysis of strategy can be a low-cost, high payoff form of research (Annex 5).
- Experiments in teaching methods flourish in Nepal; various non-formal education techniques are used with illiterates as well as college graduates (well documented in "Non-Formal Education in Nepal" New Educational Reform Associates, Kathmandu, 1974, USAID/N Contract No. AID-367-378). Some of the techniques, in fact, strike responsive chords in the Nepali cultural setting (such as role-playing, decision-modules).

b. Health Technology

The IBHS, if well managed, is likely to succeed in meeting felt needs because most of the health problems afflicting Nepal are remediable by simple medicines or available resources, delivered, taught or organized by trained paramedical workers and include:

- Local foods for malnutrition.
- Homemade salt-sugar solutions for repair or prevention of diarrhea/dehydration.
- Contraceptives and field sterilizations for family planning.
- Domiciliary care of tuberculosis and leprosy, epidemic disease surveillance and immunizations.

Nepal is one of the few nations to market a government subsidized glucose-electrolyte solution ("RD-SOL") and also one of the few countries to accept the entire range of contraceptive methods. Nepal's NMEO and Smallpox Program have also been successful when other nations' programs flagged.

The health worker who can deliver these services successfully and sympathetically becomes effective as a "change agent" in helping villagers find new ways of protecting their health and family.

Both managerial/supervisory and health technologies as described above are replicable throughout Nepal. The purpose of this Project is to demonstrate, through technical and commodity assistance and participant training, that HMG has the capacity to operate and maintain both technologies. From what is already apparent in Nepal, one may be optimistic that the Project Purpose can be fulfilled.

2. Environmental Implications

A successful project is expected to have positive effects on the social and family health environments by contributing toward the sector goal of improved health (decreased fertility, decreased mortality, decreased morbidity) which contributes to the larger goal of development. Additionally, a successful project will aid in the distribution of services to the rural poor majority, and assist in community development.

3. Analysis of Technical Design and Cost Estimate

This Project is designed to help HMG develop supervisory, managerial and training capacities for the organization and operation of the IBHS. The three components - supervision, management, and training are linked together, at the central and peripheral levels. The design is intended to institutionalize these tool-linkages by developing simple, self-reinforcing systems.

For this Project Evaluation serves three masters - one, USAID's requirement to track progress of this Project; second, HMG's need for rigorous data for planning and replanning; and third, the IBHS need to establish the links between supervision, management and training through an evaluation/information system.

Therefore, the outputs of this Project dealing with evaluation are rigorously designed sample surveys; and training in these techniques to supervisory and field staff as an inter survey method of supervision.

The design also seeks to assist HMG to organize paramedical training on a functional, work-related basis, to tie-in with the supervisory and management systems. The Project is designed, through integration of three previously separate components (Integration of Health Services, Health Planning Research and Evaluation and Paramedical Manpower Training), to link the critical systems affecting the development of an IBHS. The use of a single consultant contractor is regarded as crucial to this design.

PROJECT COST ESTIMATE *

TECHNICAL ASSISTANCE

Long-Term (Salary & Differential & Assignment Costs)	Person/months		Local Currency ($ equivalent)	U. S. Dollars	Total Dollar Value
Chief of Party	36			157,608	
Public Health Officer	36			149,995	
Management Training Specialist	36			138,575	
Paramedical Training Specialist	36			146,200	
Sub-totals		144			592,378
Short-Term					
Logistics/Supply	6			27,764	
Management Information	6			27,764	
Survey Design	6			27,764	
Drug Supply	4			18,508	
Curriculum Design, Trainer Training, and Teaching Methodology	18			73,200	
Sub-totals		40			175,000
Backstopping		54		80,480	80,480
Overhead (@ 65% of Salaries)				374,445	374,445
Total, Technical Assistance		238			1,222,303
PARTICIPANT TRAINING					
2 MPHs - US	24			23,000	
3 Johns Hopkins Health Planning-US	9			23,210	
4 M.A.T. in Public Health - US	96			93,333	
Sub-totals		129			139,543
12 Diploma in Health Education - India	144		36,000		
12 Diploma in Public Health Nursing - India	144		36,000		
Sub-totals		288			72,000
Total, Participant Training		417			211,543

* 10% inflation factor built into all costs.

	Local Currency ($ equivalent)	U.S.Dollars	Total Dollar Value
OTHER DIRECT EXPENDITURES			
Invitational Travel		10,000	
In-country Travel		20,000	
Post-Project Evaluation		20,000	
Other		6,700	
Sub-total			56,700
Special Studies and Research			
1. Models for Community Participation	24,870		
2. Role and Status of Health Workers	6,826		
3. Cultural Modules for Communication	1,149		
4. Changing Traditional Authority Structures	1,149		
5. Public Administration and CH/I Requirements	1,149		
6. Staff (Social Anthropology Expertise)	4,469		
7. Contingency Fund	5,000		
Sub-total			44,612
Management/Supervisory Network Training	120,215		
Management and Information Control System Development	80,430		
Management Control System Training	71,002		
Management Information System Training	71,002		
CH/I In-service Training and Research	30,000		
Incentives for Surgical Contraception	10,000		
Contractor Support	128,000		
Sub-total			510,649
Total, Other Direct			611,961
COMMODITIES			
3 Vehicles		27,000	
Office Equipment		3,700	
Sub-total			30,700
Supplies, Manuals, and Printing for Management Information System	88,000		
H.W. Manuals, Teaching Aids	30,000		
Sub-total			118,000
Total, Commodities			148,700
CAPITAL EXPENDITURES *			
Construction of two AHW Schools	1,560,767		1,560,767
GRAND TOTAL	$2,306,028	$1,449,246	$3,755,274

* Approved separately as Capital Project.

The cost estimate is reasonably firm and is based on best analyses of the required inputs to produce the outputs. Other donor inputs were carefully analyzed to minimize overlap. The total estimated cost (excluding the capital component) is $2 million over a three-year period; that previously estimated for the three components was $1.8 million, the difference mostly made up for by local rupee expenditures.

4. Summary Conclusion

The Project Design is technically sound; a well planned response to the existing situation and potential capabilities of HMG, and one that should leave behind an HMG institutional capacity to organize and manage a low-cost Integrated Basic Health System.

B. FINANCIAL ANALYSIS

1. INTRODUCTION

The economic analysis estimates the net benefits expected from a successful IBHS (sub-sector goal objective). It also examines the cost-effectiveness of achieving a low-cost IBHS via improvement in the management and supervisory abilities (the purpose to sub-sector goal link). Certainly it is no secret (as evidenced by Ministry of Health documents, evaluations, and memoranda during the last 15 years) that the two most critical missing elements in delivering health services have been management and supervisory capabilities.

Nepal is a poor country and its needs are immense. The health sector, virtually non-existent until recently, has received $50 million in assistance during the past 15 years. This aid has contributed toward important benefits, such as the reduction of malaria and the elimination of smallpox. Despite this investment, and certain resulting programmatic successes, basic health services to the poor rural majority still remain a sincerely desired objective by HMG, not a reality.

While definitely needed, more money per se is not the answer to Nepal's health problems. The critical organizational requirements, supervision and management, are the catylizers required if increased financial (and technical) resources are to be allocated to the health sector. Without the in-house capability to accept resources which can be effectively and efficiently converted into services delivered, the resource absorptive capacity of the system is soon exceeded, no matter how overwhelming a country's health problems are. The MOH, fully aware of its problems in this area and facing the need for rapid development, has put the highest priority on improving its management and supervisory capabilities.

In short, an effective management and supervisory system are of such high value during the project life, and of even greater value in the following years, that the project is more than justified. (The opportunity cost of an alternative project purpose must include an estimate of the large wastage in HMG and donor resource/inputs as a result of poor management and supervision.)

Health professionals from HMG and donor agencies have spent several person/months in designing a project that effectively (and with a high level of confidence) leads to achievement of project purpose. These two outputs have been developed as the most <u>feasible</u> way of achieving project success. Given the efficacy of these outputs, we still may ask whether these outputs can be obtained at a lower cost. They may be the most effective, but are they the most effective per unit cost?

Undoubtedly a project price tag of $20-23 million is high. Undoubtedly, in the short run these outputs could be realized at a lower input cost, particularly the technical assistance component. After all, the Nepali government perhaps would be able to contract the same or similar set of health professionals for less than it costs the bilateral and multilateral agencies to do so. Presumably, the other net benefits and support to Nepal

from these agencies outweigh the higher costs. These technical assistance resources are not cost-free to HMG, even though salaries are paid by donor agencies. In any event, perhaps these inputs are the most effective per HMG unit cost.

This project thus appears as a turning point in the development of the health sector. For the first time HMG has been able to coordinate all the donor inputs and direct them primarily toward improving management and supervisory capabilities. Furthermore, resources are shifting away from central level outlays toward middle and lower level outlays -- an effective way to promote decentralization and increase management responsibility at the field implementation level.

2. Financial Analysis of HMG Project Contribution

The government's new Five Year Plan calls for extending a minimum level of health services to the maximum number of citizens. HMG has enlisted the cooperation of seven major donor agencies (and several other smaller ones) in the effort to mount a successful and effective Integrated Basic Health Services (IBHS) system.

The level of effort required for this task, and which must be completed within five years, is such that an efficient use of resources inputs is indispensable, particularly in view of several scarce resources. One of the first management responsibilities is to assess the quantity and quality of resources available and expected throughout the project life. In fact, HMG's response to the need for increased management and supervisory capability has led to the selection of a project design whose purpose is "to demonstrate a capacity for organizing and managing in effective nationwide IBHS."

A useful exercise is to examine the past pattern of expenditures in health in order to flag possible problem areas. Hence the following analysis derives the final real expenditures in the recent past by HMG for health-related goods and services. The significant findings are noted and are joined to a brief discussion of the more important implications that should be addressed by the IBHS.

First, not all expenditures for health were included in the analysis, notably for potable water and sewage services. These funds are administered by HMG outside the Ministry of Health. Other expenditures, such as outlays for the construction of rural feeder roads, which also probably have major health consequences (both negative health consequences such as higher transmission of TB and venereal diseases and positive benefits such as greater access for preventive and curative services) were also ignored.

Second, the pattern of public sector health expenditures indicates that the fiscal allocation for these goods and services is sometimes significantly higher than the final actual utilization of these goods and services. Final real expenditures at the health post level, for example, are usually somewhat less than those officially reported at the central level by the Ministry of Health. Sometimes this is due to payment in Kathmandu of some salaries of persons being transferred or on leave and which do not get recorded at the health post. Neither does the health post record government contributions to the Provident Fund (the government insurance fund).

TABLE 10

REGULAR AND DEVELOPMENT BUDGET TOTAL EXPENDITURES, SELECTED YEARS

(Thousands of Rupees at Current Prices)

Budget Category	1966/67	1968/69	1972/73	1973/74	Revised Estimate 1974/75	Estimate 1975/76
Constitutional	9,179	11,411	19,770	16,578	17,070	19,320
General Administration	30,922	37,511	74,920	78,475	106,060	113,766
Regular	30,922	37,511	73,746	77,163	105,660	113,020
Development	-	-	1,174	1,312	400	746
Revenue & Tax Adm.	14,848	13,972	12,764	15,268	20,168	23,636
Econ. Adm. & Planning	7,428	9,781	7,956	11,773	12,379	14,239
Regular	1,774	2,268	5,052	6,581	7,857	8,741
Development	5,654	7,513	2,904	5,192	4,522	5,498
Judicial Administration	3,782	4,161	6,104	6,814	10,824	11,451
Foreign Service	9,099	12,223	16,337	16,501	21,177	21,629
Defense	39,946	48,075	68,537	81,277	97,276	145,974
Social Service	82,229	77,082	194,853	232,666	344,128	504,442
Regular	23,330	26,213	72,803	85,760	129,179	146,755
Development	58,899	50,869	122,050	146,906	214,949	357,687
Economic Service	212,407	329,242	518,160	637,474	765,794	1,166,309
Regular	27,388	26,410	42,283	52,126	76,805	84,393
Development	185,019	302,832	475,877	585,348	688,989	1,081,916
Loans & Investment	-	-	9,719	9,580	1,680	4,050
Loan Repayment and Interest	-	-	16,473	41,298	49,138	70,882
Miscellaneous	28,995	27,048	37,203	78,601	56,515	51,235
Regular	10,327	10,737	30,649	65,880	39,515	41,235
Development	18,668	16,311	6,554	12,721	17,000	10,000
Total	438,835	570,506	982,796	1,226,305	1,502,209	2,146,933
Regular	170,595	192,981	374,237	474,826	576,349	691,086
Development	268,240	377,525	608,559	751,479	925,910	1,455,847

Reported expenditures for each of the major budgeted health activities in the sector on the average range from 60-97% of sanctioned budgeted allocations. During the last ten year period, total HMG health sector expenditures averaged 83.9% of health sector allocations (standard deviation of 9.5%). Regular Budget health programs and institutions normally expend close to the sanctioned allocations. Throughout the last decade, Regular Budget health expenditures averaged 89.5% of the allocated amount (standard deviation of 10.1%). Vacancies in posts usually account for the major portion of the unexpended funds in the Regular Budget, although in many cases re-current operational items are underspent as well.

The relatively important construction component in the Development Budget is often subjected to delay in the disbursement of funds which, in turn, leads to a more episodic type of spending and to greater underspending than in the Regular Budget. This is reflected in the 81.5% of expenditures/allocation ratio (10.4% standard deviation) for the last ten years.

Third, the time lag between investment in health programs and activities, and the resulting net benefits from this investment means that these expenditures should be viewed over a defined time horizon. The sizable lump-sum characteristic of some investments (construction of the AHW School, for example) requires some adjustment based on the expected number of investment life-years. Thus, school construction costs should be amortized over the expected 25-year life of the facility.

Table 10 is a time series showing both Regular and Development Budget expenditures. By far the largest component of expenditures is devoted to "Economic Services," of which Transportation and Agriculture consume two-thirds. Between 80-90% of these expenditures are funded from the Development Budget.

Table 11 indicates that health-related expenditures, which is the second most important item under "Social Services," have remained relatively stable in terms of overall budget activities, with the percentage share oscillating between 4.3% to 5.6% during this period. The projected estimate for 1975/76 is the same as the 5.6% for 1974/75, indicating a greater commitment to health on the part of HMG during the last two years compared to the first three years (1966/67 - 1968/69).

As a category within "Special Services," during the earlier years there appears to have been a significant shift away from Health. Part of this shift reflects the inclusion of expenditures for potable water as a sub-item under "Social Services" which led to a percentage share decline for Health.

During the first year of this period (Table 11), about three-fourths of expenditures on health had come from the Development Budget. By 1974/75 this proportion had declined to approximately 64%. There has been a clear trend during this nine-year period of greater reliance on Regular budget expenditures, a pattern no doubt stemming from the financial and administrative maturation of health care institutions.

A tripartite evaluation carried out by HMG, the World Health Organization, and USAID/Nepal in early 1975, attempted a fiscal analysis of HMG expenditures for health in two hill and five Terai (lowland) districts. The resources in health expended by HMG for the "Vertical Programs," "Health Care Services," and

TABLE 11

REGULAR AND DEVELOPMENT BUDGETS EXPENDITURES
FOR SOCIAL SERVICES, SELECTED YEARS

(in thousands of rupees at current prices)

Budget Category	1966/67	1968/69	1972/73	1973/74	Estimated 1974/75	Estimate of 1975/76
Health	20,925	24,326	47,305	58,352	83,983	120,754
Regular	5,407	6,977	16,108	21,951	30,000	35,244
Development	15,518	17,349	31,197	36,401	53,983	85,510
Drinking Water	-	-	12,029	11,600	23,369	61,211
Regular	-	-	1,232	1,663	1,069	1,026
Development	-	-	10,797	9,937	22,300	60,185
Education	33,424	37,534	89,976	113,111	149,400	243,832
Regular	13,197	13,804	33,578	37,783	63,200	77,854
Development	20,227	23,730	56,398	75,328	86,200	165,978
Panchayat	23,566	11,536	29,448	28,680	46,571	44,251
Regular	2,390	2,955	12,292	12,695	18,505	17,855
Development	21,176	8,581	17,156	15,985	28,066	26,396
Other Social Services	4,314	3,686	16,095	20,923	40,805	34,394
Regular	2,336	2,477	9,593	11,668	16,405	14,776
Development	1,978	1,209	6,502	9,255	24,400	19,618
Health as % of:						
Total Budget	4.8	4.3	4.8	4.8	5.6	5.6
Social Services	25.4	31.6	24.3	25.1	24.4	23.9

"Other" health activities are presented in Table 12. If these seven districts are in any way representative of the pattern of HMG expenditures, then it is possible to state that about half of HMG funds for health come from the "Vertical Programs" (Development Budget) and over a third from "Health Care Services" (almost all from Regular Budget). The remainder is accounted for in "Other HMG Funds" for the health sector.

The institutional sources of funds expended by HMG (at least for the seven districts) was outlined in Table 12. The effect on expenditures of extending an IBHS throughout the nation can be indicated by the comparison with the institutional disbursement of these funds. Table 13 shows the relationship between sources of funds and their disbursements as indicated by the experience of the integrated district of Bara in 1973/74. The district health services accounted for 67.8% of all final HMG expenditures in health for that district, with the remaining 22.1% of funds earmarked at the central level on behalf of Bara health activities.

The planned expenditures (from both the Regular and Development Budgets) for the IBHS is summarized in Table 14. The five-year pattern of expenditure, as presented in the Project Formulation document, has been modified to present the planned expenditures throughout the 30 June 1976 to 31 December 1979 period.

Expenditures also have been grouped into the general categories that facilitate focusing on possible financial problems of the project. Donor drug contribution and the development of health (physical) facilities are two components that are not critical to project success and have been separated out from the tabular presentation.

The lack of a full complement of drugs, some medical supplies, and adequate facilities may not be critical to project success at this time, but they are crucial for sub-sector goal success. HMG health sector management has already begun to develop plans for the improvement and upgrading of the quality of the IBHS as well as for expansion of the system in the next decade. A successful management and supervisory component of the IBHS will accelerate expansion of the system. As a consequence this underscores the need for additional resources to meet the increased demand for drugs, supplies, and improved facilities.

Under the rubric of "Salaries," past experience would indicate that getting posts or positions sanctioned is one of the principal problems. For various reasons, it is difficult for the Ministry of Health to fill these posts. Thus the administrative/political problem (getting posts sanctioned) is magnified by the personnel problem (unfilled positions) that leads to underspending.

The problems pertaining to the proper and effective utilization of Travel and Daily Allowance (TA/DA) are notorious and well documented. As new personnel are recruited, the required TA/DA is financed out of the Development Budget. When the position is regularized, this item is transferred over into the Regular Budget. It is not the most significant portion of all expenditures (about 10%) but it is clearly the most important item to guarantee adequate managerial and supervisory performance. (See subsequent financial analysis of the sub-output required to address this problem.)

TABLE 12

HEALTH RESOURCES EXPENDED BY HMG FY 1973/74
ACCORDING TO ORIGIN OF FUNDS AND BY DISTRICT

(Regular and Development Budgets)

Origin of HMG Resources	TERAI DISTRICTS					HILL DISTRICTS	
	Bara @	Rautahat	Parsa	Sarlahi	Dhanukha	Kaski @	Gorkha
Vertical Programmes							
1. Malaria	354,331	362,090	369,382	393,630	433,197	293,694	324,419
2. FP/MCH	161,751	161,239	178,598	150,000*	210,832	166,101	149,110
3. Smallpox	29,360	47,855	41,049	32,191	44,093	46,394	38,362
4. TB	4,758	6,535	4,125	3,574	6,760	3,104	3,635
5. Leprosy	4,012	5,510	3,478	3,013	5,699	2,617	3,065
Sub-Total	554,212	583,229	596,632	582,408	700,581	511,910	518,591
Per Capita[1]	2.37	1.82	2.95	3.32	2.12	3.37	2.91
Health Care Services							
1. Dist. Hospital	118,747	104,000*	-	123,927	207,794	-	139,929
2. Zonal Hospital[2]	79,121	79,121	218,001	48,086	48,086	200,753	61,876
3. Health Posts	287,616	182,657	137,838	142,066	137,980	131,805	139,265
Sub-Total	485,484	365,778	355,839	314,079	393,860	332,558	341,070
Per Capita[1]	2.08	1.14	1.76	1.79	1.19	2.19	1.91
Other HMG							
1. Administrative	118,434	156,624	104,826	92,974	161,452	82,878	94,290
2. Specialized	34,419	47,203	29,807	25,887	48,753	22,378	26,288
3. Ayurvedic	13,878	13,878	13,878	-	13,878	27,755	41,633
Sub-Total	166,731	217,705	148,511	118,861	224,083	133,011	162,211
Per Capita[1]	.71	.68	.73	.68	.68	.88	.91
Total, HMG	1,206,427	1,166,712	1,100,982	1,015,348	1,318,524	977,479	1,021,872
Per Capita[1]	5.17	3.50	5.45	4.99	3.99	6.44	5.73

* Preliminary estimate, based on incomplete data.

@ Integrated Districts.

1 Calculations employ 1971 census district populations.

2 Although resources allocated to zonal hospitals are focused in one district, such resources are expected to be utilized by the entire zone. A zonal hospital, however, precludes the investment of a district hospital (part of the opportunity cost to that district). Furthermore, in practice zonal hospitals are utilized primarily by the nearby community. Consequently, it was arbitrarily decided to assign the value of a district hospital to a district having a zonal hospital, subtract that value from the zonal hospital resources, and distribute the remainder equitably to all the districts in the zone.

TABLE 13

TOTAL HMG RESOURCES EXPENDED, ORIGIN OF FUNDS AND DISBURSEMENT OF DISTRICT LEVEL EXPENDITURES, BARA DISTRICT

FY 1973/74*

HMG Funds	Total HMG Resources Expended	Origin of Funds For District Level Expend.		Disbursement of District Level Expend.	
		Total	Salaries	Total	Salaries
Vertical Programmes					
Malaria	354,331	280,143	233,461	-	-
FP/MCH	161,751	78,171	59,569	-	-
Smallpox	29,360	23,044	19,608	-	-
TB[2]	4,758	-	-	-	-
Leprosy[2]	4,012	-	-	-	-
Sub-Total	554,212	381,358	312,638	-	-
Health Services					
District Hospital	118,747	101,270	70,881	101,270	70,881
Zonal Hospital	79,121	-	-	-	-
Health Posts	287,616	287,616	207,929	516,793	437,107
Sub-Total	485,484	388,886	278,810	618,063	507,988
Other HMG Funds[1]					
Administrative	118,434	29,280	23,424	114,168	96,771
Specialized	34,419	-	-	-	-
Ayurvedic	13,878	13,878	-	13,878	-
Sub-Total	166,731	43,158	23,424	128,046	96,771
Total	1,206,427	813,402	614,872	746,109	604,759

* See "Report of the Tripartite Evaluation" for description of "Total HMG Resources Expended." The "Origin of Funds" columns indicate the budgetary source at the district level for final expenditures in health. Where these expenditures take place is given in the columns under "Disbursement."

1 Most of these "Administrative" resources refer to Central Ministry of Health activities. The Rs.29,280 given in the "Origin of Funds - Total" column refers to Bara District Office expenditures as reported in the Regular Budget for FY 1973/74. The "Disbursement" total of Rs.114,168 corresponds, of course, to expenditures incurred in both Regular and Development budgets.

2 It was not possible to determine the district level expenditures for TB and Leprosy vertical programmes.

TABLE 14

INTEGRATED BASIC HEALTH SERVICES
REGULAR AND DEVELOPMENT BUDGET
PLANNED EXPENDITURES

	Five Year Total	6/30/76 to 12/31/79 Total	% of HMG Total	% of Grand Total
Salaries				
Health Post	56,815,782	41,909,661		
District Level	9,283,788	6,804,846		
Regional Level	495,090	346,563		
Central Level	1,782,246	1,300,368		
Anti-Malaria	1,252,020	860,142		
Sub-Total	69,628,926	51,221,580	44.6	32.6
TA/DA				
Health Post	12,846,974	9,488,967		
District Level	1,610,320	1,182,942		
Regional Level	90,955	63,684		
Central Level	160,090	117,310		
Sub-Total	14,708,339	10,852,903	9.4	6.9
Training	1,827,488	1,352,901	1.2	0.9
Recurrent and Non-Recurrent				
Health Level	10,772,537	7,960,694		
District Level	5,056,135	3,539,294		
Printing Cost	2,540,978	1,981,979		
Sub-Total	18,369,650	13,481,967	11.7	8.6
Drugs and Supplies				
Health Post	21,197,290	15,434,740		
Visiting Bag	29,208,925	21,497,180		
Additional Malaria	1,590,750	1,068,075		
Sub-Total	51,996,965	37,999,995	33.1	24.2
Total IBHS	156,531,368	114,909,346	100.0	73.0
Requested:				
Donor Drug Contribution				
UNICEF	12,514,579	9,437,962		
USAID (FP/MCH)	14,935,000	11,263,340		
Sub-Total	27,449,579	20,701,302		13.2
Health Facilities				
Land (donated by Community)				
Construction (50,000/ Health Post)	25,450,000	21,700,000		
Sub-Total	25,450,000	21,700,000		13.8
GRAND TOTAL (N.R.)	209,430,947	157,310,648		100.0
($ U. S.)	16,821,763	12,635,393		

The drug and supply system suffer from most of the problems accruing to poor management. In terms of the overall project, drugs are about a third of planned HMG expenditures. It is doubtful, however, whether the government will be able to authorize expenditures at this high level, especially in view of the 8-12% level estimated currently. Perhaps for this reason the 21 million rupees for the "Visiting Bag" planned for junior auxiliary health workers have been deleted.

A cautionary note should be introduced. The previous analysis was based on the planned financial and implementation schedule provided by HMG in the Project Formulation for Basic Health Services. There are indications that HMG may press for changes in the rate at which expansion of the IBHS takes place.* A tentative and preliminary revised budget for 1976/77 (at least for health post level expenditures) which adjusts for a more rapid expansion in the next year of two as a result of the initial delay, is summarized in Table 15.

The major change envisioned for the system is that more health posts are served by a less than proportional increase in the number of personnel -- thus the number of health workers per health post is reduced. However, there is over a two-fold increase in TA/DA requirements, and a 26% increase needed for drugs and supplies. Changes in TA/DA, of course, can significantly affect project purpose accomplishment and supplies. Building construction and facility improvement expenditures remain at about the same level.

3. Financial Analysis of Donor Contribution

A detailed breakdown of all resource inputs is given in Annex 4. A summary of these inputs may be found in Table 16. Donor direct inputs for Output A sum to $3,166,864 and for Output B sum to $3,391,245 for a total of donor assistance during the project of $6,558,109. (This total does not include overhead.)

Although fiscally reliable, the amount tends to misrepresent donor contribution for several reasons. First, expenditures for capital items occur during the project life, but should be proportionately distributed throughout the life of the asset. For example, the USAID assistance for the construction of an AHW school totals $1.56 million. If we estimate the useful life of this facility at 25 years, and include a discount rate of 8% (to account for the cost of capital, a zero salvage value, and inflation) the more reasonable estimate of annualized replacement cost is $146,211, or $511,738 for the 3½ years of the project. By the same token, the value of the project of CIDA's capital assistance declines from $650,000 to $60,891 per year, or $213,119 for the 3½ years of the project.

Second, the market value of the contributions is not necessarily reflected in donor budgets. Private voluntary organizations are able to channel highly qualified professional technical assistance (e.g., the United Mission and the Dooley Foundation) at salary levels considerably below market value. The inverse may also be true of some of the technical assistance from USAID, the UN organizations, and CIDA.

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* Fifth non-integrated health posts scheduled for incorporation into the system in 1974/75 have been added to the 1975/76 total.

TABLE 15

PRELIMINARY ESTIMATED BUDGET FOR HEALTH POSTS
UNDER ACCELERATED EXPANSION PROGRAM 1976/1977
(data in current Nepalese Rupees)

No.	Item	Budget		
		Regular	Development	Total
1.	Salary	6,878,466	1,003,350	7,881,816
2.	Allowance	1,099,800	225,000	1,324,800
3.	Daily Field Allowances	2,415,420	1,067,850	3,483,270
4.	Services	70,200	15,000	85,200
5.	Rent	211,600	-	211,600
6.	Repair and Maintenance	200,500	50,000	250,500
7.	Office Materials	280,800	60,000	340,800
7.1	Newspapers	35,100	7,500	42,600
7.3.1	Fuel for Vehicles	-	-	-
7.3.2	Fuel for Other Use	175,500	37,500	213,000
7.4	Clothing and Food	-	-	-
7.5	Other Goods	315,800	125,000	440,800
8.	Drugs, Supplies	3,369,600	720,000	4,089,600
9.	Contingencies	17,550	3,750	21,300
10.1	Furniture	426,000	250,000	676,000
10.2	Means of Transportation	-	-	-
10.3	Machinery and Spare Parts	-	190,000	190,000
11.1	Purchase of Land	-	-	-
12.2	Building Construction	-	3,250,000	3,250,000
	Total	15,496,336	7,004,950	22,501,286

TABLE 16

SUMMARY OF RESOURCE INPUTS BUDGETED FOR OUTPUTS A (MANAGEMENT CONTROL) AND B (TRAINING) 30 JUNE 1976 TO 31 DECEMBER 1979 1/
(Data in US Dollars; $US 1 = 12.45 N.R.)

	DONOR		HMG	TOTAL
	USAID	OTHER		
For OUTPUT A				
1. Technical Assistance				
Public Health Officer	99,300	80,527		
Management	105,920	-		
Management Training Specialist	89,370		3/	
Other	2/ 60,000	394,700	4,985,902	
Sub-Total	354,590	475,227	4,985,902	5,815,719
2. Participant Training	118,210	331,345		449,555
3. Commodities	108,000	891,678	4,135,097	5,134,775
4. Capital Expenditures	-	378,003	1,742,972	2,120,975
5. Other Direct Expenditures	451,461	58,350		509,811
Total	1,032,261	2,134,603	10,863,971	14,030,834
% Share of Total	7.4%	15.2%	77.4%	100.0%
6. Overhead	573,463	491,105	2,736,300	3,800,868
7. TOTAL, OUTPUT A	1,605,724	2,625,708	13,600,271	17,831,803
For OUTPUT B				
1. Technical Assistance				
Paramedical Education Specialist	96,000	81,500		
Management Training Specialist		2,100		
Other	2/ 45,000	228,618	4/ 155,488	
Sub-Total	141,000	312,218	155,488	608,706
2. Participant Training	93,333	117,148		210,481
3. Commodities	40,700	373,189		413,889
4. Capital Expenditures	1,560,767	651,400	592,964	2,805,131
5. Other Direct Expenditures	32,500	43,000	5/ 108,667	184,167
Total	1,868,300	1,496,955	857,119	4,222,374
% Share of Total	44.2%	35.5%	20.3%	100.0%
6. Overhead	281,250	283,124	79,247	643,621
7. TOTAL	2,149,550	1,780,079	936,366	4,865,995
GRAND TOTAL FOR OUTPUTS A & B	3,755,274	4,405,787	14,536,637	22,697,698
% Share of Grand Total	16.5%	19.4%	64.1%	100.0%

1/ Data refer to a summary of the budgeted and/or tentatively planned expenditures estimated for each Output. Please see Annex 11.
2/ Includes USAID short-term consultants.
3/ Refers to the Salaries and TA/DA for IBHS personnel.
4/ Refers to the Institute of Medicine's participation in training.
5/ Refers to the Department of Health Services participation in training.

Third, participant training has a level of expenditures that take place during the project life, yet the benefits from this "investment in human capital" occur largely after the end of the project. Apart from the complexities in measuring these benefits, it is difficult to compute a net present value of participant training that can be assigned to the project. One problem is the fact that the return and assignment of these higher skilled personnel is not always the most cost-effective one. Perhaps this realization contributed to the scaling down of this input by the major donor agencies.

During the project design increasing attention was focused on the problems of management of the IBHS at the district and sub-district level. One of the assumptions in the Output A to purpose link (that a management by objectives philosophy would be acceptable in Nepal's diverse socio-cultural settings) was identified as critical to project success. However, this factor is not greatly amenable to direct intervention on the part of IBHS.

In response to the concern that an efficient management and supervisory system be adapted within a culturally heterogeneous environment, a series of small studies were designed to identify problem areas, recommend adaptive functions for management and supervision, and suggest strategies to achieve successful adoption in the major socio-cultural settings. The isolation from higher management supervision levels of many health workers for protracted periods of time underscored the need for acceptable management and supervisory functions at the lowest levels of the IBHS. The participation by USAID, WHO, and the private voluntary agencies in these studies will be coordinated by HMG throughout the first stage of the project. Whether or not the relatively small resources scheduled for these studies is sufficient is difficult to determine now. (See inputs under "Other Direct Costs" planned for Output A.)

The concern with properly adapting management and supervisory functions and having these adopted throughout the IBHS led to the development of inputs for on-the-job training. Consequently a series of district and regional level seminars will be regularly scheduled to introduce the concepts of management information systems, management control systems, and the complementary supervisory functions for each category of health worker. These systems primarily tailored jointly by higher and lower levels of supervisors and managers will be designed to meet the needs of field workers in the IBHS. A trial period has been scheduled for implementation of these concepts followed by another series of work seminars in which the implementation will be evaluated, problems identified, the systems modified, and again implemented.

The level of effort represented by these activities is large. These start-up costs, when viewed as part of an investment in the improved efficiency of the IBHS, perhaps show the greatest return on investment, particularly in the shortrun. WHO and USAID share the technical assistance for these activities, whereas HMG and USAID share the "Other" direct expenditures, all of which are in local currency. Annex 4 gives a detailed breakdown of these expenditures.

C. SOCIAL ANALYSIS

"A monkey and a fish were caught in a sudden flood. The monkey scrambled up a tree to safety. Noticing the fish struggling against the current, the monkey was filled with humanitarian desire and rescued the fish from the water. To the monkey's surprise, the fish was ungrateful for this technical aid."

Oriental Fable

"You cannot do just one thing." Garrett Hardin

1. Introduction

Three questions about the Project are addressed by the social analysis:

a. Will it work? ("Socio-cultural Feasibility")

b. If it works, will it spread? (Spread Effect: The Diffusion of Innovation")

c. Should it work? ("Social Consequences and Benefit Incidence")

A corollary to all three questions is, "Do the people involved have anything to say?" (Participation").

This analysis will reflect upon these questions. Answers are difficult because, like the five wise men and the elephant, no one has an entire grasp on the social, political, cultural, environmental, geographic, historical, temperamental, biological, economic systems of Nepal that will affect the organization and acceptance of the Integrated Basic Health Services. Also, some things are so new (the very concept of a national health service, for instance) and others so changing (migration, deforestation, resources of population) that one predicts at one's own risk. The analysis must also distinguish between the persons who are to be offered the services, the villagers, and those who are to extend the services, the health workers, senior officials and donors. The interests, obligations of and benefits to these groups are sometimes incongruent; which means that some decisions will be made (and supported by this Project) that are not ideal technically or socially.

2. Socio-Cultural Feasibility

2.1. Nepal is a beehive. To an outsider, the complexities of relationships seem chaotic, yet it is ordered and purposeful: clans, castes, tribes, religions, languages, families, economic classes, political lineups, geographic differences, educational levels vie for position in society, for status, for a piece of the pie. The turmoil is no less apparent at the government level than in the village. Mobility and change are possible - the new class of educated health workers is one route - but as noted by Rosser, "Upward social mobility is a change in the distribution of power within a system rather than necessarily a challenge to the system as such." (Chapter 2 in Caste and Kin in Nepal, India and Ceylon, Edited by C.V. Furer-Haimendorf, Asia Publishing House, Bombay, 1966.) Realignments within the system occur as

new opportunities open; a striking and quite recent example is the effect of universal suffrage (promulgated by HMG) in village panchayat elections. Where once caste - or horizontal organization - dominated all, now factionalism - or vertical organization - becomes obvious as high caste candidates vie for the votes of low castes and even untouchables. The increasing involvement of local communities in Development, also mandated from the center, will produce further realignments.

Nepal's topography and geographic location have resulted in a complex of ethnic groups. With approximately 75 ethnic groups, speaking 30 languages and living in widely disparate geographic areas, one simply cannot expect the creation of a nationwide, government-run Integrated Basic Health System to go smoothly or be equally accepted everywhere; yet the apparent (read, "political") need to institutionalize a system makes flexibility to local situations less likely (or throws the burden of flexibility and adroitness on the individual health worker who receives little training for this ability).

Why institutionalize, and why through the central government? the shamans and other practitioners of traditional medicine have served the people faithfully and often well for centuries. They are informally institutionalized by their knowledge and sense of tradition, but no one proposes a management control system for them. The answer is hidden in the complexities of Development. The shaman is a medium without a message. But a central authority, HMG, holds power, and has a potent political and social message called Development, National Unity, Social Justice. In the past 20 years, government-directed development has seen a disproportionate amount of investment going to Kathmandu and the Central Region.

"This has gone so far that the gulf between Kathmandu Valley and the subsistence economies of the hill areas of Nepal is growing similar to the gulf between the developed countries and the underdeveloped 'third' world." (P.S.J.B. Rana, K.P. Malla, Nepal in Perspective, quoted in USAID DAP FY 1975, Nepal, Pg. 5.)

But now the sins of the past are visiting. The population is growing, land is eroding, forests denuding, the gross domestic product per person has fallen; but, new roads transport, new schools educate, new health programs (especially the NMEO) show the ability of government to consciously affect life outside Kathmandu, and often for the better. And so in the face of poverty there are rising expectations; with new migrations came both unrest and new hope.

The King and HMG feel the moral urgency to provide for economic development and social justice for all the people of Nepal (of which an equitable health system is an integral part); but also know the need for political stability and the political art of making things possible. Thus, while village development is encouraged through the village panchayat, what exists is controlled and guided by strong, district officers and a strong centralized Panchayat Ministry. Within societal and natural constraints, traditional peasants, worldwide, have controlled their own development, agricultural output, education and health behavior. The tragic experiences of Russia, China and North Vietnam reveal how tenacious their control can be. But now in Nepal, as elsewhere, the development process is a race between events and control. The local community can no longer alone cope with the immense ecologic changes

taking place; the government - for justice and stability - must provide co-ordinated and strong guidance, and is the only source for that guidance; local communities are then behested to surrender some of their own control. Where the community realizes its need; and the government representatives are understanding, skilled, and can educate the people in the steps for change; and the center supports their effort logistically, managerially, and otherwise, then all is congruent. Tensions arise, however, when the community cannot see the problem (or misunderstands its source); or where the local government people are unsympathetic, inept, or corrupt; or where there is no support from center forthcoming. Then the effort is wasted and the problem unabated.

The tendency has been to adulate local communities and community control and to denigrate central government. (We have been somewhat dazzled by the community-based, community-responsible "barefoot doctor" of China, forgetting the powerful control of centrally directed ideology and politicization.) In fact, many local communities are usually run by a single person, or a clique of privileged, or a few families. Their politics are every bit as tumultuous as at the center and decisions just as often made for expedience, or some less noble motive. Nonetheless, approval and active support of local people are a necessity for any social program to succeed. A number of experiences in Nepal could tempt a development or health planner. These are individual community or health development programs run by private organizations with dedicated personnel, who have recruited community people to become "change agents", diffusing ideas on health, family planning and agriculture to their fellow citizens. These village workers, not incidentally come to enjoy prestige and enhanced status. The government itself, through the development-budgeted FP/MCH program, has this year begun to recruit and pay village women to transmit family planning messages and elementary MCH care.

One wonders if a national primary health care system could be entirely based on the village panchayat, and incorporate the traditional healers, local patterns of leadership and local customs. (Doubtless easier to accomplish among Northern Tribes which already have a tradition of community and consensus; but harder in the Terai where obligations seldom go beyond the extended family, although factionalism and influx of Tribal people from the North are new and unpredictable forces.) What is especially tempting is the possibility of multi-sector development coordinated by a single agency with health as one component. The International Health and Development Trust has made a good start working this way among 40,000 people in Western Nepal. And HMG has started upon its Small Areas Development Project, training multipurpose workers in rural development.

An attractive alternative method to deliver health services might thus be for government to train village-sponsored, village-paid auxiliaries who return to work for the panchayat.* Under this voluntary scheme the government would then only have to provide supplies, possibly some intermittent supervision, and monitor the impact on health by sample surveys. (In the meanwhile,

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* Some well-to-do Thakali villages - on the Tibetan Border - have pooled resources and selected a bright young man for a scholarship to study medicine in India; who then returns to serve his Tribe. And even some poor villages, before the NESP, would hire a primary school teacher, and pay him with rice and rent.

vertical projects would press on in their battle with important single conditions; and secondary service would still be provided from district hospitals.) But since government-organized training, supplies, supervision and evaluation are still required, the principal difference between a government-run IBHS and a panchayat-based (government-supported) health program is that 'he who pays the piper calls the tune'.

The arguments against such a scheme are several: foremost, it is not going to happen, either in agriculture, or in education, or in health. The trend is completely in the opposite direction, that is, more government control. HMG "Project Formulation - Basic Health Services" clearly defines the conditions for future basic health services in Nepal. Second, it is by no means certain that, given a choice, villagers would choose to invest in health over more economically or status-related services (agriculture and education). And third, if one followed the panchayat-funded course, one then would have to accept a completely spotty and variably effective national health program. The hidden corollary to this acceptance is a belief that basic health programs are of little value to health.

Ultimately, stable, beneficient government authority* is the only realistic or potential means of organizing, and managing an effective IBHS; one that has the specific technical objectives of providing family planning, MCH, health education, and communicable disease control; the specific planning objectives of unified logistics, supply, information system, and budget; and the specific political objectives of national unification and development.

Having said that, it would be ideal if a government delivery system could incorporate the concept of local community participation (very few U.S. health systems, in private or public sector, do this). The right words are there. In Project Formulation-Basic Health Services the Health Post Incharge is required to set up a local Health Committee to provide liaison between IBHS and the villagers; the ANM is to contact local midwives and train them and also organize school programs. The JAHW is to visit each of his assigned homes 2-12 times a year (depending on terrain) and develop the reciprocal relationship required of a successful "change agent". And the village panchayat is to help support the health post with land, labor and some material (or else, no post). How much any of this will occur depends considerably on the support the health worker gets. Right from the start: is the training relevant to the tasks? do the tasks include some that will provide the worker with status if well performed? is the worker reinforced during supervision (psychologically, technically, managerially)? are the supplies and medicines going to last (at least most of the year)? will the travel and daily allowances be paid on time (or at all) so the worker can move out from the health post as required?

How well government authorities support the program transmits a true, though unspoken signal; the antennas of the health workers and their clients are quite sensitive.

Support is either motivational or administrative.

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* Government authority does not mean central authority exclusively; HMG is pressing to decentralize some planning and implementation in all sectors to Regional and District levels. Under the Chief District Officer, district administration is likely to have a lot of influence.

With lack of motivational support:

Some health workers will be uninspired by preventive medicine and community contact and will be satisfied to practice dispensary medicine, perhaps even charging illegitimate fees.

- Some district supervisors will find the walking distance to the scattered health posts too far; their guidelines either incomprehensible or irrelevant.

- Some health workers will chafe to exchange their dull, rustic post for the bright lights of the capital and the golden rungs of the career ladder.

- Some health workers will feel that their training has been too curative or too theoretic or insufficient for a managerial approach to health post activities, or for understanding the process of communication.

With lack of administrative support:

- Some health workers will not receive the supervision, logistic or supply support they need or expected.

- Some health workers will not receive either their salary or their travel and daily allowances on time.

- Some district supervisors will assiduously compile data for the vertical program needs, and for CH/I, and never hear back from them.

- Some health workers, full of good intentions, will be posted to areas where they cannot speak the local language or understand the local customs.

- The central senior officials will be frustrated by inabilities to get budgets approved, posts sanctioned, people placed (and not transferred arbitrarily through extra-administrative channels) supplies ordered, received and distributed on time.

- These officials will also fret that information for planning and evaluation is unavailable or poorly gathered.

The litany could be longer. What motivates any health worker, government or panchayat-based, is a mixture of desire for status, employment in a job-restricted economy, control of knowledge, a sense of Dharma (the Hindu-Buddhist concept of duty according to one's place in life). This motivation can be properly harnessed with good administrative support. Morale is especially elevated by a system that actually begins to work, even if not ideally.

The heart of the matter is that to expect the ideal, or to be frustrated at its non-achievement, is an exercise in defeatism. It is important simply to begin: examine the needs, the available resources, make some value judgments and policy decisions (strategic planning); develop ways of moving the resources to meet the needs (operational planning); build in and institutionalize supervision, management, and training (management control).

Planning and control require information to feedback for replanning if and when objectives are yet unachieved, or actually unachievable. Defining and distinguishing between those two outcomes is an important part of management control. When a professional defines an ideal he automatically defines failure. When a more pragmatic professional defines the achievable he automatically defines success.

So, from the deliverer side, the answer to the question, "Will this project work?" the tentative answer is, "Yes, it can."

2.2. Now to pass to the client side. The "minimum participator profile" will define 90-95% of the people of Nepal who could potentially, at some time benefit from this project. (The health workers who will be affected by this project have been well profiled in Section II A and above.) Better to talk about families: 95% rural, 90% agricultural, 14% literate, (but with increasing primary school enrollment this figure will change rapidly); 38% in the Terai, 56% in Hills and mountains; diverse languages, customs, castes and clans and a strong and abiding sense of tradition, and social structure. Poor; diseased; the total number of children ever born to women 40-45 years old averages six (and 1/3 to 1/2 die before adulthood). In the Hill areas, people are poorer (compared to Terai, they earn perhaps one-third the income), have a falling agricultural output; and suffer the vicious circle of lower achievement, fewer or less developed social services, and less chance of advancement (especially in agriculture, education and health).

The Nepalis are a mobile people:

a. Some emigrate for good or for a long time (80,000 annually with a net return of 60,000 in 1-5 years).

b. Some leave Nepal for seasonal employment for six or more months a year (300,000 - half from the western regions).

c. Each winter perhaps more than one million people (a year) come out of the mountains to the warmer, lower altitudes.

d. In the past 15 years upwards of 1.5 million people have moved from the Hills to the Terai to seek the new land made livable by the malaria control program (but due to population growth the Hill population has actually gained about one half million people in the same time).

e. An unknown number of Indians from the south and Tibetans from the north have also moved into Nepal.

f. Within the Hills and high mountains people are constantly walking to get through a day's routine: several thousand feet climbed down a hill to fetch a pot of water (and back up again); several days' walk to farm the fragments of one's landholdings; hours to days walk to get to health facilities. The health post workers, especially the JAHW, will be expected to walk out to his clients 2/3 of the working days, and the district Health Inspector will have to walk about to the scattered health posts.

Any IBHS must adjust to these facts and try to quantify them by some proxy measures:

- What percentage of families are out when the JAHW calls and why?

- Which health posts have to plan for how much extra supplies in certain seasons due to an influx of seasonal migrants?

- How many tasks should a JAHW do given the need to cover his area and to make some impact on the families (the answers will determine the frequency of contact)?

- Similarly, how much and how frequent supervision can a health post incharge or district supervisor provide?

- How far do people come for services at the health post?

The answer to these and similar questions will vary by area and the research should be part of regular management surveys.

The IBHS program seeks to provide minimum services to maximum number of the rural poor majority potentially to be affected over the next five years can be calculated from: average number of persons/health post catchment = 15,000, number of health posts planned = 810. Then 810 x 15,000 = 12,150,000 receiving minimal services. If only half the target health posts are met: 6,075,000 potentially receiving minimal services. The NMEO already covers approximately six million people with monthly (or more frequent) visits.

The purpose of the IBHS is disruptive in that it seeks to assist villagers change their behavior in response to even more disruptive changes in their environment (most apparent in the Hills, but the Terai is not far behind) which are, in large part, due to overpopulation. The changes are obvious even over a decade: wooded hill tops depleted, terraces laced to the tops of hills, cattle wandering further away to graze, the walk for wood longer and longer, fragmented landholdings, and essentially forced migration of people to a land and climate that is foreign. The behavioral change required is adoption of family planning, and acceptance of maternal-child care so as to guarantee healthy survival of a reduced number of children.

But to provide FP/MCH through a public health system is to reveal a modern bias. Child and maternal care, and sex life, are dealt with in great detail in traditional ways. It seems fantastic that these vital, private concerns can be turned over to, or negotiated with, a government corps of (usually) young, unmarried, male, health workers. Conversely, as traditional societies venerate their elders, so they rightly seek care for them first. On the other hand, villagers have no trouble accepting other aspects of modern medicine such as injections and medicines for self-limited illnesses (backache and the like) or treatment of trauma.

A western health system is but one competitor among several health systems and villagers make distinct and measurable choices about which illness to take to which system. The spiritual system is especially ubiquitous. A change in decision-making is often related to the individual character of a particular healer or health worker (sympathetic or corrupted) or to the visible effect of a particular technology. In Nepal, at Bhaktapur, when the introduction of a glucose-electrolyte oral fluid was associated with a 1% death rate from infant diarrhea, the improvement was so obvious that mothers chased health assistants to obtain more solution and the health assistants became exuberant that they actually had an impact (and enormously increased status as well).

Thus the western health system can offer effective care in some areas. But, there needs to be a clear link between meeting villagers' felt needs (with highly visible, effective, cheap curative technology) and meeting professionally seen needs (FP/MCH, nutrition, immunization). That link is the house-visiting JAHW, ANM, AHW and HA who must have the time to make some impact (hard to measure that one but, by proxy, a 30-minute visit with a chat and some action on a few priority items must have more effect than a six-minute visit covering a dozen health topics). The link, the house visit, cannot be established unless and until the health worker has proper supervision, financial support, an adequate drug supply, and the other supervisory, management and training inputs we have discussed in depth in this Project Paper. Following closely upon adequate support come the interactions with the community (even if only through the panchayat leaders) and the traditional healers. Lessening the spread of harmful rumors by the healers is just one of the payoffs for this interaction. It will be necessary to assess the outcome of all research conducted in Nepal into behavioral change, community felt needs, and medical decision-making, such as in the FP/MCH Project, various community development initiatives and research sponsored through this Project

Inherent social, religious and political obstacles do not appear to exist to implementation of an IBHS judging by the Bara/Kaski pilots and individual community health programs. In the Lalitpur community health programs, after two years, 40% of the area's newborns received care and 90% of pregnant women; 28% of children had a complete series of DPT, not much worse than among American-Indian children getting full care from the Indian Health Service. Also, most health posts do run out of their meagre supply of medicines indicating that somebody comes when the goods are there. The Bara and Kaski projects, for all their difficulties bring essential services - mostly preventive - to many times the people as do the non-integrated, static health posts. A potential obstacle exists in recruiting teenage boys as JAHWs: their ability to motivate for family planning may be compromised by their youth and either older men and women will have to be recruited, or - at a later stage of integration - the ANM or the FP/MCH panchayat-based health aide will augment the JAHW work. In Bara and Kaski, male JAHWs were relatively successful in promoting family planning, however. The obstacles to use of IBHS services would appear to relate to ineptness on the IBHS side (as seen in the pilot projects) or due to political interference (local politicians insisting on favorable HP location; local HMG employees insisting on favorable treatment, extra-administrative interference with personnel from other ministries). Regional disparity of IBHS development will be vigorously opposed by local political figures and leaders.

So, from the client side, the answer to the question, "Will this project work?" the tentative answer is, "Yes, it can."

3. Spread Effect: The Diffusion of Innovation

The IBHS differs from previous pilot area projects in that a firm decision by HMG has been made to provide a minimum number of services to the maximum number of people; that is, development of an IBHS phased nationwide. The project covered by the PP has the purpose to demonstrate HMG capacity to organize and manage an effective nationwide IBHS. No statement is made as to final coverage (that is, how well HMG targets are met) and one should assume that less than total effective national coverage will be present at the end of five years. Nonetheless, successful implementation of part or all of the IBHS program provides its own spread effect.

Strategies for spread of the IBHS messsge:

a. Get health workers to believe in it, by relevant training, keen and sympathetic supervision, and good managerial support.

b. Get the district and village panchayat leaders involved. The recruitment of JAHWs by local people is one step, and the creation of panchayat health committees is another.

c. The walk-about schedule of the JAHW, by repetition will spread the message to villagers.

d. Get school teachers and children involved through the school programs scheduled for program implementation in HP stage C-B when the ANM comes on board.

e. Use the radio; just now, nutrition education messages are being broadcast.

The spread of ideas by home-visiting health workers should not be underestimated. Laparoscopy and oral glucose-electrolyte solutions are remedies known only in the small areas where they have been successfully applied, but the malaria program is widely known and understood. The previous pilot IBHS project, limited to Kaski and Bara had very little spread effect of knowledge even into adjacent areas because the Bara pilot ran into great difficulties after 18 months and the Kaski project was really only a small increment in an ongoing malaria program. One then estimates that more than two, but probably less than ten years of an effective, nationwide program is needed to cause an effective spread of innovation. More data on this time frame will be derived from the FP/MCH project - now nationwide - and the IBHS.

4. Social Consequences and Benefit Incidence

4.1. Access and Participation

IBHS is oriented to the rural poor, in contrast to a more curative, static hospital system that favors urban residents and the better-off. The potential effects of IBHS on family health, and development have been discussed throughout the Project Paper.

Under the most successful program nearly all the rural poor will have some contact with IBHS. If IBHS is a disaster virtually no one will use it. The dangers of a partially functioning system - one with some staff, some outreach, some medicines - is that only a favored few (the rich, the influential, HMG workers in the area) will have access. And that will be noised about. In this event the IBHS could be regressive. One hopes that a completely run IBHS (again, supervision, management, training) will have fewer of these kinds of posts than in the past.

The IBHS intends to redress the regional imbalance in health services and local participation that has existed for many years. Recruitment of health workers from outside Kathmandu Valley, if they serve their own areas, provide leverage for local involvement. Village panchayat health committees are the potential for village participation by the requirement for local participation in health post location and (later) construction, and by their voice in selection of JAHWs. Also, discrete research projects will be performed in new approaches to community participation and introduced when found feasible.

4.2. Employment, Rural Displacement, Urbanization

One motive (not necessarily stated out loud) for creating a large government program is the employment it provides to health workers (even though no revenues are generated). In the next five years some 5,000 plus workers will be employed if full targets are reached. They will have an opportunity to climb the career ladder (see Section II A) and if recruitment from areas outside Kathmandu is successful, a small positive step in the development process will have been taken (provided of course, that the career ladder doesn't scale the walls of Kathmandu Valley for a permanent get-away; see Section II A).

The creation of a nationwide IBHS with priority given to Hill areas reinforces the HMG plan for reallocating resources to the Hills, (DAP Nepal FY 1975, Pg. 101) considered necessary to National Development as the Terai fills up.

D. ECONOMIC ANALYSIS

I. Introduction

Economic analysis of public sector social services are conducted usually along two dimensions. The first of these examines the net benefits expected from the social service project under consideration, in this case the net benefits from an Integrated Basic Health System (IBHS). The tools often employed to facilitate this type of analysis are a calculation of the benefit/cost ratio or the estimation of a present value of the net benefits.

The second dimension refers to the examination of the relative efficacy with which a given project achieves a specified set of objectives. Constant-cost and least-cost are the two tools most commonly used. These cost-effectiveness studies analyze the alternative mixes of project outputs that can be generated from a given resource base, or set of inputs. Alternatively, cost-effectiveness analysis can be used to determine the least expensive way to generate a particular output, or the highest output obtainable with a given budgetary limit.*

A heirarchy of objectives have been established within the HMG health sector and culminate in the improved health for the population of Nepal. The series of intermediary objectives have been postulated as necessary, and sometimes sufficient, to achieve a higher objective. This series of linked objectives has been detailed in the IBHS Project Logical Framework.

The technique most appropriate for economic analysis at the goal level ("improved health") as described in the "vertical logic" (to see USAID Logical Framework Terms) is the benefit/cost ratio. The economic determination of health benefits will be compared to the economic estimates of costs from the point of view of Nepalese society (of which HMG is the official representative).

The technique most appropriate for economic analysis at the project purpose level ("HMG health management and supervisory capability demonstrated") is the least-cost tool described as part of a cost-effectiveness approach. That is to say, how cost-effective is the project purpose in reaching the sub-sector goal objective (an operational nationwide IBHS) and low cost-effective are the two outputs in achieving the project purpose objective?

Our first task is to analyze the "profitability" of the selected health sector investment via benefit/cost calculus. The second task, to examine the efficiency of the two "production functions" selected as part of the project design, is set forth in Section B, "Financial Analysis".

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* For example, a constant cost study might indicate that, for a given expenditure outlay, considerably more immunizations may be delivered in urban health facilities than in rural health posts. A least-cost study, on the other hand, would indicate the most economical way of reaching a given immunization target whose urban/rural ratio had been predetermined.

II. "Profitability" of a health sector investment

The sector goal calls for the improved health of Nepalese citizens. HMG has identified five indicators to measure achievement of this goal. The direct measures of health improvement include:

1. A decrease in fertility (reflected by a four-point drop in the birth rate);

2. A decrease in infant mortality (reflected by a 25% drop in the infant mortality rate);

3. Malnutrition in children halved (reflected by a 50% decrease in the prevalence of severe malnutrition);

Indirect measures of health improvement refer to:

4. Increase in Tuberculosis Control (reflected by the 70% of all confirmed active TB cases held under treatment);

5. Increase in Leprosy Control (reflected by the 70% of all confirmed leprosy cases held under treatment).

Given the particular health problems, improvement in the health status of the population in Nepal is determined by a multitude of factors including water supplies, waste disposal systems, educational level, environment, economic and employment opportunities, and previous health status, as well as the availability of health care. However, the measures of goal achievement selected by HMG health professionals have been identified as those best indicating the influence of one health status determinant: an effective nation-wide basic health care delivery system (IBHS).* Investment in the IBHS, in other words, is expected to yield the set of benefits described above. Quantification of some of these net benefits from an economic view point is the focus of the following analysis. We shall, for purposes of analysis, ignore the benefits of the IBHS as measured indirectly via the increase in TB and Leprosy Control.

Benefits from Decreased Fertility

A reduction in infant deaths attributed to declining birth rates is the principal benefit. (See following section.) A total of 41,020 infant deaths are expected to be prevented. However, there are other substantial benefits accruing to effective family planning/MCH services within the basic health care system. The benefits can be measured from the perspective of a household (a micro analysis) as well as from society at large (a macro analysis). The social (or macro) benefits derived from the investment in health services, particularly those concerned with the reduction in population growth rates, remain unestimated for this analysis.

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* It should be noted that not all health professionals would agree that a health delivery system is necessarily the most important determinant of health, particularly in developing nations.

A cautionary note preceeds this analysis. The valuation of a human life in economic term is of course only one limited way of determining a person's productive value to society. Many resources are poured into an individual (the investment) and many dividends are returned (the benefits). The investment orientation that will guide the present discussion is limited to the economically quantifiable factors.

Benefits from Decreased Infant Mortality

Preliminary data indicate about 491,400 infants a year are born in Nepal. Given present infant mortality rates and a 1975 population of 11.7 million, approximately 98,280 infants die within the year. That is, during the life of the project an estimated 350,000 infants can be expected to die during the next three and a half years.* The following table dramatizes the number of infant deaths that Nepal will suffer during the next few years barring major health changes.

TABLE 17

ESTIMATED NUMBER OF INFANT DEATHS IN NEPAL, 1976-1980

Year	Total Population	Estimated Live Birth	Estimated Infant Deaths
1976	11,700,000	491,400	98,280
1977	11,969,100	502,702	100,540
1978	12,244,389	514,264	102,853
1979	12,526,010	526,092	105,218
1980	12,814,108	538,193	107,639
Total		2,572,651	514,530

Successful extension of basic health services as well as those planned by the vertical family planning program can be expected to reduce the five year total of half a million infant deaths. Fertility control officials have targeted for an estimated 60,000 - 70,000 prevented births during the five year period. Taking an average estimated birth prevented of 65,000 the reduction in infant deaths of 13,000 will decrease expected total infant deaths to 501,530.

This is a callous statement. Imagine the emotional and psychological traum associated with the death of one child, then multiply that by 350,000.

The extension of basic health services (810 health posts in 1980) presumably will contribute to a 25% decline in the infant mortality rate. That is, by 1980 the number of infant deaths can be expected to decline from 107,639 (based on 538,193 live births) to 78,479 infant deaths (based on 523,193 live births). By assuming that the 25% decline in the IMR can be linked to the extension of basic health services (and that basic health services can be measured by the number of health posts) it is possible to calculate the progressive decline of deaths. Table 18 illustrates the cumulative reduction in infant deaths as a combined result of decreasing fertility and expanded health care delivery. It may be said that the maximum effect on infant deaths from a lowered birth rate is the average reduction of 2,284 deaths yearly whereas the maximum number of infant deaths attributed yearly to expanded health care services is 11,720.

As mentioned previously, the fact that the decrease in infant deaths is associated with the increase in expanded health services does not signify a pure causal relationship. The net benefit of expended health care services on infant deaths reduction is slightly less than the total given.

TABLE 18

EFFECT ON INFANT DEATHS OF FERTILITY DECLINE AND AN INCREASED DELIVERY OF BASIC HEALTH CARE SERVICES

Year	Estimated Live Births	Births Prevented	IMR Decline*	Estimated Infant Death	Infant Death Avoided
1976	491,400	11,000	200	96,080	2,200
1977	502,702	12,000	192	94,215	6,325
1978	514,264	13,000	181	90,729	12,124
1979	526,092	14,000	166	85,007	20,211
1980	538,193	15,000	150	74,479	29,160
Total	2,572,651	65,000	176	440,510	70,020
Yearly Average	514,530	13,000	176	88,102	14,004

* Based on the reciprocal of the percentage increase in health posts times the projected 50 point drop in the IMR by 1980.

TABLE 19

AGE-SPECIFIC NET BENEFIT AND CUMULATIVE ECONOMIC VALUE OF CHILDREN IN NON-IBHS HOUSEHOLDS, HILL AND TERAI REGIONS (1976 constant rupee prices)

Age of Child	Hill Region (Non-IBHS)		Terai Region (Non-IBHS)	
	Age-Specific Net Benefit (0%)	Cumulative Economic Value (5%)*	Age-Specific Net Benefit (0%)	Cumulative Economic Value (5%)*
0-4 Years				
1 month	-144.13	-144.13	-135.66	-135.66
2-12 months	-274.73	-418.29	-267.18	-402.29
13-24 months	-480.14	-854.33	-526.77	-880.08
25-36 months	-388.05	-1,189.55	-463.66	-1,280.61
37-48 months	-403.00	-1,521.10	-547.55	-1,731.08
49-60 months	-370.37	-1,811.29	-483.27	-2,109.73
5-9 Years				
5 years	-148.20	-1,921,88	-258.53	-2,302.65
6 years	-51.65	-1,958.59	-126.40	-2,392.48
7 years	59.70	-1,918.18	26.52	-2,374.53
8 years	136.23	-1,830.36	138.92	-2,284.98
9 years	204.30	-1,704.94	230.29	-2,143.61
10-14 Years				
10 years	185.38	-1,596.55	305.29	-1,965.11
11 years	304.26	-1,427.13	453.89	-1,712.37
12 years	359.94	-1,236.25	619.52	-1,383.82
13 years	617.62	-924.31	839.96	-959.58
14 years	808.27	-535.51	1,064.91	-447.34
15-19 Years				
15 years	688.05	-220.31	908.70	-31.06
16 years	697.56	84.04	1,054.14	428.86
17 years	739.75	391.42	1,091.97	882.60
18 years	774.32	697.84	1,107.82	1,321.00
19 years	852.25	1,019.05	1,132.20	1,747.71
Total	4,166.98	1,019.05	6,712.63	1,747.71

* The age-specific net benefit is discounted at 5% for each year from birth and cumulated throughout the life of a child.

Some of the economic consequences of the declining infant mortality rates can be computed. A study completed for the HMG Family Planning/MCH organization calculated the value of a child, as an economically productive unit of a household, for each year until the age of twenty.* Because of substantially distinct household consumption and investment patterns, both Hill children and Terai children were analyzed. The study has estimated that the total principal economic value of a child from the Hill region is at most 4,167 Rs. and for a Terai child 6,713 Rs. Table 19 indicates the age-specific adjusted net economic value of a child for the two region.

Costs of a child were based on direct costs such food consumption habits, other household-incurred use of resources on behalf of the child, and indirect costs, or the real income foregone by household members as a result of attending to the child (opportunity costs). Morbidity and mortality differences, recognition of the different costs added to a household that are determined by sex and cultural differences, and the opportunity of non-household employment were some of the factors that required adjusting the estimation of both costs and benefits. The benefits of a child or adolescent were essentially his or her contributed increased productivity to the household, whether directly or via the release of other household members from non-productive tasks to productive activities. The adjusted total benefits minus the adjusted total costs for each age child is the sum indicated in the first column of Table 19 for each region. The second column details the cumulative value discounted at 5% (in order to indicate the value of a child in the future is not as great as that value in the present).

Given these basic age-specific adjusted costs and benefits it was possible to compare the differences between a typical household in the Terai that would avail itself of the full complement of basic health services (called an IBHS household) and a typical Terai family that did not benefit from these services (called a non-IBHS household). The same comparison between two hill households also can be provided. The set of health services utilized by these households was hypothesized to low primary impact on a reduced level of mortality. A reduction in mortality was pastulated to have effect only on the first five years of a child. Later age-specific mortality rates remain unchanged, although of course the cumulative probability of survival at these ages becomes higher.

The full complement of basic health services utilized by the two IBHS families (one in the Terai and one in the hills) would include:**

- family planning services (including spacing of pregnancy);
- ante and post-natal service (including hygiene and nutrition);
- immunization (for children under five);
- rehydration service;
- testing and treatment of anaemia in mothers;
- referral of difficult cases to a district hospital;
- supervised home delivery of women (with an ANM).

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* Please refer to the "Economic Analysis of Population Program in Nepal." A description of the methodology, particularly the assumptions underlying the study, is worthwhile in order to understand the results summarized in this section.

** Taken from "Plan for Services to be offered over the 5-year period 2032-2036", p. 12.

It is difficult to assess the full health impact and other benefits on a household as a result of these basic health services. The following attempt, however, at least illustrates the magnitude of the benefits derived by a household profiting from a successful health care delivery system.

Table 20 illustrates the differences in survival rates that can be expected. A child from a typical Terai household can expect a 71.8% probability of reaching the age of twenty. A child from the Hill household fares little better -- a 72.8% probability of survival. (These rates are the average of male and female age-specific mortality rates). Families benefitting from basic health services can expect to see the chances of survival for their children increased to 84.56%, due almost entirely to the dramatic drop in infant mortality rates.

We now proceed to calculate the major economic consequences to a household from a reduction in mortality rates brought about by household utilization of an effective IBHS in rural Nepal. Table 19 displayed the total cumulative economic value expected of a child from Hill or Terai households not benefitting from IBHS services. A similar value has been calculated for IBHS-serviced households, this time adjusting for the postulated improvement in infant mortality rates.* These values are given in Table 21.

The additional economic value of a child for a Hill household brought about by the IBHS services can be estimated at approximately 723 Rs. Similarly, improved health services can be expected to increase the economic productivity by about 666 Rs. of a Terai child up to the age of twenty. When appropriately discounted at 5%, the increased annual net worth of a child is, respectively, 212 Rs. and 364 Rs. The importance of adjusting for present vis-a-vis future consumption is reflected in the changed values. Different relative values of net benefits throughout the age-income profile, when discounted at the 5% rate, lead to the opposite net worth of Hill and Terai children.

Throughout the $3\frac{1}{2}$ year life of the project, the following number of estimated live birth and infant deaths will occur in Nepal (see Table 18).

Year	Estimated Live Births	Estimated Infant Deaths	Net Birth
1976($\frac{1}{2}$)	245,700	48,040	197,660
1977	502,702	94,215	408,487
1978	514,264	90,729	423,535
1979	526,092	85,007	441,085
Total	1,788,758	317,991	1,470,767

The change from about 170-180 IMR to about 90-100 IMR is achieved through simple treatment of gastro-enteric, parasitic, and upper respiratory diseases of small children. This relatively lower IMR is comparable to India.

TABLE 20

AGE-SPECIFIC HILL AND TERAI CHILDREN CUMULATIVE SURVIVAL PROBABILITIES, ACCORDING TO IBHS OR NON-IBHS HOUSEHOLDS

Age of Child	Hill Household		Terai Household	
	Non-IBHS Family	IBHS Family	Non-IBHS Family	IBHS Family
0-4 Years				
0-1 month	.8735	.9138	.8641	.9138
2-12 months	.8300	.9050	.8221	.9050
13-24 months	.7881	.8937	.7781	.8937
25-36 months	.7730	.8856	.7626	.8856
37-48 months	.7647	.8790	.7542	.8790
49-60 months	.7574	.8734	.7481	.8734
5-9 Years				
5 years	.7523	.8685	.7429	.8685
6 years	.7486	.8655	.7392	.8655
7 years	.7462	.8633	.7367	.8633
8 years	.7444	.8616	.7350	.8616
9 years	.7429	.8601	.7334	.8601
10-14 Years				
10 years	.7415	.8587	.7321	.8587
11 years	.7403	.8573	.7309	.8573
12 years	.7391	.8559	.7297	.8559
13 years	.7379	.8544	.7285	.8544
14 years	.7368	.8530	.7274	.8530
15-19 Years				
15 years	.7351	.8515	.7258	.8515
16 years	.7335	.8507	.7240	.8501
17 years	.7317	.8486	.7222	.8486
18 years	.7298	.8471	.7203	.8471
19 years	.7278	.8456	.7184	.8456

TABLE 21

AGE-SPECIFIC NET BENEFIT AND CUMULATIVE ECONOMIC VALUE OF CHILDREN IN IBHS HOUSEHOLDS, HILL AND TERAI REGIONS (1976 constant rupee prices)

Age of Child	Hill Region (IBHS)		Terai Region (IBHS)	
	Age-Specific Net Benefit (0%)	Cumulative Economic Value (5%)*	Age-Specific Net Benefit (0%)	Cumulative Economic Value (5%)*
0-4 Years				
1 month	-150.78	-150.78	-143.47	-143.47
2-12 months	-299.56	-449.69	-294.13	-436.99
13-24 months	-545.16	-944.16	-605.03	-985.77
25-36 months	-444.57	-1,328.20	-538.44	-1,450.89
37-48 months	-463.23	-1,709.30	-638.15	-1,975.90
49-60 months	-427.09	-2,043,94	-564.22	-2,417.98
5-9 Years				
5 years	-170.50	-2,171.17	-302.24	-2,643,52
6 years	-59.72	-2,213.61	-148.00	-2,748.70
7 years	69.06	-2,166.87	31.08	-2,727.66
8 years	157.67	-2,065.23	162.84	-2,622.70
9 years	236.53	-1,920,02	270.07	-2,456.90
10-14 Years				
10 years	214.68	-1,800.60	358.08	-2,247.53
11 years	352.35	-1,604.40	532.38	-1,951.08
12 years	416.82	-1,383.35	726.66	-1,565.72
13 years	715.13	-1,022.16	985.12	-1,068.17
14 years	935.74	-572.05	1,248.79	-467.48
15-19 Years				
15 years	797.00	-206.84	1,066.08	20.90
16 years	808.45	145.79	1,237.75	560.93
17 years	857.93	502.27	1,283.08	1,094.08
18 years	898.77	857.95	1,302.84	1,609.65
19 years	990.20	1,231.14	1,332.67	2,111.92
Total	4,889.72	1,231.14	7,379.09	2,111.92

* The age-specific net benefit is discounted at 5% for each year from birth and cumulated throughout the life of a child.

It is necessary to make additional assumptions in order to calculate the expected benefits of the IBHS. One, that these births are distributed 60% in the Hill regions and 40% in the Terai, according to present population pattern. Two, that the IBHS reaches 15% of these infants during 1976, 20% in 1977, 30% in 1978, 40% in 1979. The number of infants reached by the IBHS in this period sum to 414,841 (28.2 of the nation's total). Finally, that the household incurs no costs for these services (including opportunity costs).

The 248,905 infants serviced by the IBHS in the Hill regions represent an increased net worth to those households of 52.8 million Rs. Similarly, for 165,936 Terai households, the value of these services totals 60.4 million Rs. The benefit to Nepal of IBHS services in reducing infant mortality is 113.2 million Rs., or $9,090,000 (constant 1976 prices).

Benefits from Decreased Morbidity

There are two immediate economic consequences of illness and disease. The direct costs include the loss of productive activities by the sick person and any expenditures incurred for treatment. The indirect costs refer to the loss of productive activities on the part of other persons as a consequence of this illness. (The spread of an illness or disease is still another indirect cost.)

The following brief discussion looks at only the direct costs of lost adult productivity and the indirect costs of morbidity among children under five year in Nepal. It is not possible to detail the changes in the morbidity pattern as a result of IBHS. Therefore, only some of the economic effects are examined. We follow a procedure similar to the calculation of the economic impact of a decrease in infant mortality.

Time and motion studies of rural hill families in Nepal were conducted in 1972-73 by Robert C. Peet under the auspices of HMG's Center for Economic Development and Administration (CEDA) and the International Institute for the Study of Human Reproduction, Columbia University.* Out of 496 person-days observed for young people 13-19 years of age, six male and four female productive days (2.0%) were lost because of non-work related illness. Out of 236 person-days observed among the 20-29 years of age cohort, only seven female productive days (3.0%) were lost because of non-work related illness or injury. Among the 30-59 years of age group, a total of eight male and nine female work-days were lost out of the 832 person-days observed (2.0%).

Several assumptions have to be made. One, all age groups work 300 days per year. Two, adults 30-59 years of age average 500 Rs./year net benefit in the Hill villages and 660 Rs./year in the Terai; adults 20-29 years average 820 Rs./year in the Hill areas and 1,260 Rs./year in the Terai; adolescent workers 15-19 years old earn 746 Rs./year net and 1,059 Rs./year net, respectively. Three, the IBHS services, aimed primarily at children and mothers, will have only a small effect on morbidity of adults. The total

* Robert Creighton Peet. A Report on the Anthropological Study of the Lost Value of Children in a Nepalese Village. Columbia University. September 1974.

estimated is set as the equivalent of a 16.7% decrease in net loss of productive activities from both indirect losses (because of childness illness) and adult illness. Fourth, the rural working population in Nepal (over 15 years of age) affected by the IBHS is 720,000 in 1976 and increases to 980,600 in 1977, 1,336,000 in 1978, and 2,060,000 in 1979. Fifth, the estimated potential work days lost for this group is 30,580,000 during the project period. Sixth, the IBHS services are free to these workers.

Based on the weighted-for-age distribution of the population and its 40-60 ratio of Terai/Hill, we estimated the net earning of a worker at 763 Rs./year, or 2.54 Rs./working day. The total lost productivity for these populations as a result of illness is therefore 77.67 million Rs./year. Hence, the IBHS will lead to a savings of 12.97 million Rs./year, or 1,042,000 (constant 1976 prices).

The savings to the economy of Nepal attributed to a nationwide effective IBHS from its efforts to reduce infant mortality and reduce morbidity total to at least $10,132,000.

Investment Required: Costs Compared to Benefits

The investment required to bring about the benefits detailed in the preceeding section (an effective nationwide IBHS) are seen exclusively as a result of the IBHS. It is not possible at this time to specify the non-health component investment requirements, that, in complementarity with the IBHS, lead to the benefits measured. Suffice to say that much of HMG investments in such sectors as water supply systems, waste disposal, transportation and communication, education, and employment creation are highly important and complementary to the investments in health. The degree to which these investments are linked underscores the wisdom of providing additional health services within the context of regional and national development.

For purposes of this analysis, the time horizon has been specified as the June 30, 1976 to December 31, 1979 period. The estimated budgeted expenditures for this period range from a total of over $23 million (based on optimistic HMG expenditure flows) to a more modest, but significant $19 million. These figures reflect the estimated level of budgeted resources expected from USAID, other bilateral and multilateral donors, the contributions of private voluntary organizations and, of course, HMG health expenditures. The financial breakdown for both outputs is given in Table 16 and Annex 11. A summary of these outlays is provided in the Logical Framework.

The total probably underestimates (by about 14%) the real value of the goods and services contributed. For example, the private voluntary organizations are able to recruit volunteers and health professionals at rates considerably below market value. Consequently their reported contributions are undervalued. To the extent that donations, services, and payments-in-kind are underreported, the economic value of the investment is greater. Thus, the net contribution of some of the vertical health programs was difficult to measure and include.*

* It may also be argued that many donor inputs are viewed essentially as "transfer" payments since they may contribute on a financial accounting basis, although the market value of these goods and/or services is inferior to the stated amount.

To summarize, the value of the $19-23 million investment can be expected to yield the following benefits:

41,020 deaths prevented

$9.1 million of increased productivity from a decrease in infant mortality

$1.0 million increased productivity from a decrease in morbidity

As previously mentioned, these benefits are an underestimate of total benefits, perhaps less than half. From HMG's point of view, therefore, the benefit/cost ratio is greater than one, indicating the utility of the investment in IBHS. (Donor contributions and the opportunity cost to HMG of alternative public sector investments, such as water supply systems, are excluded.)

PART IV - IMPLEMENTATION ARRANGEMENTS

A. ANALYSIS OF THE RECIPIENT'S AND AID'S ADMINISTRATIVE ARRANGEMENTS

1. Recipient

1.1. Administrative Units

The project will be carried out in two Ministries. The technical assistance component is with the Ministry of Health, in its sections of the Planning Cell and the Directorate of Health Services (there, principally in the section of Community Health and Integration, and also several administrative sections). The organogram is given in Table 2, Section II A. A capital assistance program to construct two Auxiliary Health Worker Training Schools is with the Ministry of Education's Institute of Medicine, Tribhuvan University, (organogram is given in Table 9, Section II A).

The former is responsible for the development of IBHS and for training health workers for field duties, especially the JAHWs. The latter is responsible for training the AHW, ANM, HA who serve IBHS, vertical programs and hospitals. It is an acknowledged fact that the two Ministries must coordinate to design suitable functional curricula, to feedback results, and to determine the number of health workers needed during the formation of IBHS. The Project, a collaborative undertaking with USAID, the other donors, and HMG, is designed to encourage their coordination. The details of the above are given in Part II A, B.

1.2. Management Capability

a. The purpose of this Project is to assist HMG develop its capacity to manage an IBHS, supervise and train health workers, develop relevant curricula and train trainers, to track and evaluate programs. The current capacities of HMG are varied. Managerial, supervisory and evaluative abilities have been shown in vertical programs such as NMEO and Smallpox Eradication Project and in the early stages of the IBHS pilot project in Bara and Kaski. The in-service training of DHS has become more and more effective over the past four years. The ability to integrate these capacities, to make them permanent, to cope with revised targets, to carry out day-to-day management control and supervision are less developed.

b. The Ministry of Health, the Institute of Medicine, and the Foreign Aid Division of the Ministry of Finance are experienced in contractual dealings with foreign firms and donors. The necessary ability to coordinate donor inputs, both capital and technical assistance, is increasing.

c. The Project contractor staff will work alongside their respective counterparts with offices in the respective HMG buildings. The administrative relationshop of contractor to USAID will be as indicated in the current contract on Integration of Health Services.

d. The target populations - villagers, health workers, trainers, senior officials - are intimately involved in the Project at all levels, as detailed in Section II B and the Logical Framework Project Design Summary.

2. AID

No unusual role for AID is contemplated.

Obligation of funds - both dollars and rupees - for technical assistance, participant training, commodities, and other direct expenditures will be done through normal ProAg and PIO/T procedures. Contractor logistic support will be supplied to the contractor following an annual exchange of letters between HMG and USAID, establishing budget levels.

Following amendment of the contract, disbursement of funds will be done by the contractor for all technical services (including sub-contracts), commodity procurement, participant training, and other direct costs. Information - insurance PIO/P's will be executed by USAID for all participants. USAID will procure services of charter aircraft for technician use, in accordance with normal practice.

Funds to be dispursed directly by HMG for special activities will be provided to HMG through annual ProAg's. These funds will be subject to post audit procedures.

B. IMPLEMENTATION PLAN

The Implementation Plan lists most important actions at optional dates as opposed to the Program Tracking Network, which lists actions (or milestones) essential to achievement of Program Purpose with the dates given being the latest permissible.

1976 Plan

3/24/76 - Project Paper approved by HMG.

5/15/76 - Project Paper approved by AID/W.

6/1/76 - Project Agreement negotiated and signed by HMG and USAID.

6/1/76 - Documentation on HMG nominated CY 1976-1977 participants completed and candidates accepted by schools (Planned under IHS Prop).

6/15/76 - Contract amended.

6/15/76 - MOH Planning Cell has 2 additional senior posts sanctioned and filled, bringing strength up to four. Junior support posts filled.

6/15/76 - CH/I Training Cell has 4 full time training posts filled.

6/30/76 - Regular required MOH quarterly reports on all programs prepared and distributed. This is a continuing regular quarterly activity.

7/15/76 - Two USAID training advisors in place. WHO Public Health Nurse Trainer in place.

7/15/76 - USAID advisor and 2 WHO advisors to MOH Planning Cell in place.

8/15/76 - Social scientist staff member of USAID contract team hired, responsible for contractor's Special Studies and Research.

9/1/76 - Modified Health Post Drug List developed and approved for trial.

9/15/76 - USAID contractor work plan completed and approved by HMG and USAID.

9/31/76 - Supervisory system for all levels in CH/I developed and approved for trial.

10/5/76 - Participant training program for CY 77-78 and 78-79 developed between HMG and donors. CY 77-78 candidates nominated by HMG.

11/30/76 - Documentation for CY 77-78 participant training program completed.

12/31/76 - Comprehensive evaluation of IBHS Program completed according to criteria developed and approved by HMG. Program content and management changes recommended for MOH approved.

1977 Plan

2/15/77 - MOH 1977 Programs reviewed by HMG at semi-annual evaluation chaired by Prime Minister. Annual USAID Project Evaluation concurrent.

3/30/77 - Modified information system with links to planning, supervision, supply, and evaluation developed and approved for trial.

3/30/77 - Management teaching system, including plans for management and other surveys developed by Planning Cell and approved for trial.

4/1/77 - CY 77-78 participants accepted by schools.

4/30/77 - Modified logistics, inventory and supply system developed and approved by HMG and Sajha Swastha Sewa for trial.

5/15/77 - Annual plan approved by HMG.

6/1/77 - Training of trainers curricula developed for curriculum design and for teaching methods; implemented for first group of CH/I training staff.

6/1/77 - Modified Health Post drug list evaluated and revised. Revised list approved by general implementation.

6/1/77 - Project Agreement between USAID and HMG amended as needed.

6/30/77 - IOM commenses district surveys on health practices and status.

8/15/77 - Semi Annual Planning Commission Review of MOH Programs completed.

10/15/77 - HMG nominations for CY 78-79 participant training program received.

10/31/77 - Supervisory system evaluated and revised. Revised system approved for general implementation.

10/31/77 - Modified information system evaluated and revised. Revised system approved for general implementation.

11/30/77 - Annual Plan prepared and revision of targets incorporating information from management tracking system completed.

11/30/77 - Documentation for CY 78-79 participant training program completed.

12/15/77 - JAHW curriculum reviewed and modified in accordance with modification in program. Revised manuals prepared, approved and available for use in next training program.

1978 Plan

2/15/78 - MOH 1978 Program approval by HMG at annual evaluation chaired by Prime Minister. Annual USAID Project Evaluation concurrent.

2/28/78 - Modified logistics system evaluated and revised. Revised system approved for general implementation.

2/28/78 - USAID contractor's work plan revised according to HMG and USAID Project Evaluations.

4/15/78 - CY 78-79 participants accepted by schools.

5/15/78 - Annual plan approved by HMG.

6/1/78 - Second group of CH/I teaching staff attending training of trainers program.

6/1/78 - Project Agreement between HMG and USAID amended as needed.

6/15/78 - Linked management information, supervision and supply systems approved and time-table for implementation in all integrated units developed.

8/15/78 - Semi Annual Planning Commission Review of MOH and IOM Programs completed.

8/30/78 - Revised manuals for HA, AHW and ANM developed to reflect program changes. Manuals available for use in training, and for curriculum revision.

10/1/78 - Majority of international participant training completed and trainees on the job.

11/30/78 - Annual plan preparation and revision of targets incorporates information from improved management tracking system and from linked IBHS information system.

1979 Plan

1/31/79 - Capability for periodic curriculum revision established in CH/I, with responsiveness to changing program requirements developed.

2/15/79 - MOH 1979 Programs approved by HMG at annual evaluation chaired by Prime Minister. Annual USAID Project Evaluation concurrent.

3/15/79 - Linked management information, supervision and supply systems operating in majority of integrated units.

5/15/79 - Annual plan approved by HMG.

5/31/79 - Program evaluated to determine if annual plan achievements are within 20% of targets set.

6/30/79 - Vertical program activities taken over by IBHS in majority of integrated units where established criteria for integration are met.

8/15/79 - Semi Annual Planning Commission Review of MOH Programs completed.

10/1/79 - Post Project Evaluation carried out by USAID, WHO, and HMG and report submitted.

Monitoring Plan

Monitoring requires a baseline and a plan of action, i.e. something to measure against. The contractor's annual work plan will be used as the basis for project monitoring. With this basis, monitoring will go on at three district levels. A large portion goes on at an informal level. It consists of the personal interplay between contract technicians, USAID and other donor personnel, and HMG counterparts. In many cases, by virtue of its informality, it can be the most effective form of monitoring. There are, however, some aspects of project implementation that require more careful monitoring. Consequently two other levels of monitoring are envisioned.

A more formal level of monitoring will involve monthly meetings between USAID staff, contractor personnel, and when appropriate, representatives of HMG and other participating donors. The purpose of these meetings is to review progress towards targets set in the work plan, upcoming actions, potential problems and strategies for their solution. A third level of monitoring involves actual approvals required before certain actions are undertaken. The following draft chart describes this level of moniroting:

Category	Activity	Timing	HMG	Contractor	AID/W	USAID
Technical:	Work Plan	annual	A	X	I	A
	Review	annual (Jan.)	X	X	I	X
	Status Report	semi-annual	I	X	I	I
	Activities summary	monthly		X		
	Consultant reports	for each consultation	I	X	I	I
Administrative:						
Personnel:	TDY	as needed	A	X	A	A
	Consultants	as needed	A	X	A	A
	New field staff	as scheduled	A	X	A	A
Travel:	Local (contractor)	as needed	A	X		
	Local air charter (contractor)	as needed	I	X		A
	R&R	as scheduled	I	X		A
	Invitational travel	as needed	A	I	A	X
Commodities:	Vehicles	as scheduled	A	X	A	A
	Office equipment-supplies (over Rs.2500)	as needed		X		A
	Books, vaccines, teaching aids, etc.	as needed	A	X		A
Financial:	Local budget	annual	A	X		A
	Local currency vouchers	monthly		X		A
	Dollar vouchers	monthly		X	A	I
	Accounting	monthly		X		
	HMG disbursement of rupee-support funds	annual	X	I		I
Training:	Authorization of program/ positions	annual	X	X		I
	Selection of candidates	annual	X	A		I
	Placement, travel, support	as needed	I	X	I	I
	Issue non-funded PIO/P's	as needed	A	A	I	X

Key: X - Action
I - Information
A - Approval

C. Evaluation Arrangements

An evaluative framework that will enable USAID to measure progress towards project objectives is contained in the Logical Framework. Following this outline the contractor's workplan will provide more detail to quantifiable and qualitative targets against which accomplishments can be measured. Given USAID's evaluation framework plus evaluation cycles that other institutions will be following, the problem becomes not one of conducting evaluations. Rather, it is a problem of coordinating the evaluative work going on so that duplication of effort can be avoided and more time be spent on project implementation.

1. Parties Involved in Evaluation

a. HMG has its own review cycle that every project must follow. In this case the MOH is required to present to the National Planning Commission:

- Monthly status reports
- Semi-annual reviews
- Annual detailed evaluations that are reviewed by the Prime Minister in his capacity as head of the National Planning Commission.

The MOH will also be conducting internal reviews or project elements (see P.P.T., Annex 8) as they are completed.

b. Other donors will be meeting their own elevation criteria.

c. The contractor (detail in Monitoring Plan) will be expected to conduct internal reviews and consequent revisions of the workplan.

d. USAID will conduct an annual project review leading to the submission of a Project Appraisal Report. An independent evaluation will be conducted following completion of the project.

2. Evaluation Coordination

HMG's objectives and targets in health, as described in the 5th Five-Year Plan, are somewhat different than USAID's project objectives. Thus the two major evaluation cycles cannot be brought into exact congruence. HMG's annual project reviews are held in February of each year. This date will be used as a focal point around which USAID project evaluations will be conducted. In January, HMG project personnel will be collecting and analysing evaluative data in preparation for the upcoming review. USAID's annual reviews will be conducted in January so that HMG can help USAID compile needed data and vice versa. Other donors will have to follow their own evaluative cycles but will be included/invited, along with HMG, to USAID's reviews and will be encouraged to coordinate with HMG and USAID reviews.

3. Information Requirements for USAID Evaluations

The Logical Framework has been designed so that almost all baseline data against which progress towards objectives can be measured is available in standard HMG reports. In those instances when the required baseline is not available the first management surveys or special surveys will compile the needed data.

Data for evaluative efforts will be compiled regularly. The majority will be available in HMG reports. Recurrent management surveys will collect additional data. For specific areas of inquiry of importance to project implementation, and consequently to project evaluation, special surveys will be designed, either through the MOH Planning Cell, the CH/I Training Cell, or directly by the contractor.

D. Conditions, Covenants and Negotiating Status

1. Warrants and Conditions

No host country actions will be required prior to the execution of the ProAg for dollar funding.

The following warrants and conditions precedent will be contained in the ProAg for local currency:

HMG warrants that:

- adequate fiscal support for the project will be supplied.

Conditions precedent include:

- sanctioned posts in the MOH Training Cell have been filled or active recruitment is underway
- sanctioned posts for District Health Inspectors have been filled or active recruitment is underway
- MOH Planning Cell posts have been sanctioned and filled by permanent appointees
- HMG must present, and USAID must approve, annual proposals outlining how HMG plans to utilize US owned local currency
- there will be HMG/WHO/USAID approval of annual plans of action.

2. Release mechanisms - local currency

a. Funds for the following categories of local currency support:

Management & Information Control System Development
Management Control System Training
Management Information System Training
Management/Supervisory Network Training
Incentives for Surgical Contraception
CH/I In-service Training and Research
Teaching Materials
Commodities

will be advanced quarterly to HMG by USAID. The release of funds will be contingent upon the submission of a detailed quarterly budget and description of activities to be undertaken in the upcoming quarter. Following the first (and subsequent) releases in each category, a detailed expenditure report will be required before the next release is made.

b. USAID Contractor local support funds will be obligated annually through an exchange of letters between HMG and USAID that agree on the level of support for the upcoming year.

c. Funds for Special Studies and Research will be placed in the contract as a local currency element.

d. Upon receipt of nominations for training in third countries (for which USAID has local currency available) USAID will release funds for this training through PIO/P's.

e. The funding procedure and conditions precedent for construction of two schools have already been described in the Grant Agreement for AHW Schools.

3. Release mechanisms - dollars

The initial FY 76 ProAg will provide additional funds for the contract amendment. Additional funds will be supplied, as needed, through subsequent ProAgs.

4. Negotiating Status

This is an ongoing project which has been negotiated with HMG. The revisions contained in this document have been discussed with and approved by the Ministry of Health. It will be reviewed and approved by the Ministry of Finance prior to formal submission to AID/W for approval.

The Grant Agreement for the capital construction of two AHW Schools has been negotiated and signed by HMG.

ANNEXES

Annex 1A

His Majesty's Government

MINISTRY OF FINANCE

KATHMANDU

NEPAL

10 May 1976

Dear Mr. Grader:

This is with reference to Mr. J. L. Crane's letter dated March 31, 1976 and our recent discussions regarding the final draft of the Project Paper for Integrated Health Services.

I have the pleasure to request you on behalf of His Majesty's Government of Nepal to make available necessary U. S. funding for the Project Proposal on Integrated Health Services dated March 1976. Specific project implementation will be the subject of separate project agreements signed by our two governments.

Sincerely yours,

/Sd/ Devendra Raj Pandey

Devendra Raj Pandey
Additional Secretary

Mr. Charles Grader
Director
USAID/Nepal
Rabi Bhawan/Kathmandu

Annex 1A

W O R L D H E A L T H
ORGANIZATION
SOUTH EAST ASIA REGION

ORGANISATION MONDIALE
DE LA SANTE
REGION DE L'ASIE DU SUD-EST

OFFICE OF THE WHO REPRESENTATIVE FOR NEPAL
Tel.: 13582 - 15232

Telegr.:

P. O. BOX 108

WORLDHELTH KATHMANDU

KATHMANDU

10 May 1976

In reply please refer to: NEP SHS 001/1/00844

Priere de rappeler la reference

Dear Mr. Grader,

I have studied the revised Project Paper on Integrated Health Services - Nepal No. 367-227 and should like to congratulate you on this important and far-reaching programme.

I should also like to assure you of our continued close and friendly collaboration in the development of this programme which I am confident will be of great benefit to Nepal. We are pleased to be able to dovetail our programmes in association with yours under the aegis of His Majesty's Government. The staff of both our agencies have been fully collaborating in an effective joint effort and I am sure that this will continue to our mutual benefit and to the country we serve.

With warmest personal regards,

Yours sincerely,

/Sd/ Ray Mills

A. R. Mills
WHO Representative to Nepal

Mr. C. R. Grader
Director
USAID-Nepal
Kathmandu

Annex 1

TELEGRAM

XMTRSX
TRV 7-2 John Welty

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AIDAC

E.O. 11652: N/A

TAGS:

SUBJECT: HEALTH SECTOR PROJECTS

REF: KATHMANDU 0377

1. ALTHOUGH AID/W HAS SHOWN INTEGRATED HEALTH SERVICES, PARAMEDICAL MANPOWER TRAINING AND HEALTH PLANNING PROJECTS AS SEPARATE PROJECTS IN FY 76 AND FY 77 CONGRESSIONAL PRESENTATION, WE ARE AGREEABLE TO USAID REDESIGNING THESE PROJECTS INTO SINGLE INTEGRATED HEALTH SERVICES PROJECTS BASED ON USAID VIEWS CONTAINED IN REFTEL. REDESIGNED INTEGRATED HEALTH SERVICES PROJECT WITH PARAMEDICAL MANPOWER AND HEALTH PLANNING ELEMENTS WILL OF COURSE HAVE TO BE APPROVED ON ITS OWN MERITS AND WILL HAVE TO UNDERGO SAME APPROVAL PROCESS AS ANY OTHER PROJECT PAPER.

2. PPC REGRETS THAT IT UNABLE TO RELEASE JOHN WELTY FOR VISIT TO NEPAL TO REVIEW DRAFT PP PRIOR TO SUBMISSION AID/W. KISSINGER
ET

ACTION
H - 2

INFO
AMB - 1
D - 1
FM - 1
HRD - 1
EMB - 1
RF - 2
AD - 2

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E.O. 11652: N/A

TAGS:

SUBJECT: SUMMARY OF PRP REVIEW ON PARAMEDICAL MANPOWER TRAINING PROJECT

1. ASIA PROJECT ADVISORY COMMITTEE HELD REVIEW OF SUBJECT PRP ON JANUARY 21. IN GENERAL, COMMITTEE CONCLUDED THAT WHILE PROJECT HAS CONSIDERABLE MERIT, INFORMATION CONTAINED IN PRP SUBMITTED TO AID/W PROVIDES INSUFFICIENT DESCRIPTIVE MATERIAL AND INADEQUATE ANALYSES OF ISSUES TO PROVIDE ADEQUATE BASIS FOR PRP APPROVAL AT THIS TIME. THEREFORE, USAID/NEPAL IS REQUESTED TO REDRAFT PRP ADDRESSING ISSUES AND GAPS IN INFORMATION IDENTIFIED BELOW. AID/W BELIEVES REDRAFT OF PRP SHOULD PROVIDE SUFFICIENT DETAILS TO ENABLE USAID/NEPAL LATER TO DRAFT PP WITHOUT MUCH ADDITIONAL WORK IN VIEW OF USAID DESIRE TO RECEIVE APPROVAL FOR PROJECT IN FY 76.

ACTION
R - 2

INFO
PRG -
RSD -
FM -
D -
AM -
EMB -
RF - 2

2. ISSUES AND GAPS IN INFORMATION IDENTIFIED BY ADVISORY COMMITTEE AS RESULT OF PRP REVIEW INCLUDE FOLLOWING:

A. DESCRIPTIVE MATERIAL IS NEEDED ON CURRENT STATUS OF PARAMEDICAL TRAINING, CATEGORIES OF PARAMEDICAL MANPOWER REQUIRING TRAINING, HOW TRAINING IS BEING PROVIDED AND NATURE OF PRESENT CURRICULUM, UTILIZATION OF AVAILABLE

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95

PARAMEDICAL MANPOWER RESOURCES, EDUCATIONAL LEVELS OF VARIOUS PARAMEDICAL PERSONNEL, SHORTFALLS IN TYPES OF PARAMEDICAL MANPOWER REQUIRED FOR HEALTH SYSTEM.

B. PEP SHOULD ALSO DEFINE LOW AND [illegible] ORGANIZATIONAL STRUCTURE AND MOST RATIONAL METHOD TO FIT INTO HEALTH SYSTEM. WHAT IS STRUCTURE OF CURRENT [illegible] AT THE VARIOUS LEVELS OF HEALTH SYSTEM AND WHO [illegible] REFERRAL CHAIN WORK WITHIN HEALTH SYSTEM? [illegible] DESCRIPTION AND ANALYSIS IS ALSO [illegible] OF COORDINATION PROBLEMS AT POINTS [illegible] AND HOW AND WHO THESE PROBLEMS ARE BEING RESOLVED, ETC. THAT MAY INTERFERE WITH OF COORDINATING ACTIVITIES. WHAT EFFECTS WILL [illegible] PROJECT HAVE ON COORDINATION PROBLEMS?

C. [illegible] RATIONALE IS TO BE USED FOR DETERMINATION OF RESOURCES OF TRAINING OF AUXILLARY HEALTH [illegible] RATHER THAN BASICS AUXILLARY HEALTH [illegible]. THERE IS STRONG FEELING THAT [illegible] OF PERSONNEL COST [illegible] AND THAT [illegible] OF ALL LEVELS FOR MAXIMUM [illegible] FACT THAT DIFFERENT [illegible] MAY BE A HANDICAP, BUT MUST NOT [illegible] OF FUTURE FIELD STAFF STATUS. [illegible] CATEGORIES OF PARAMEDICAL PERSONNEL DO [illegible] FOCUS ITS ATTENTION? WILL THERE [illegible] FROM OCCUPATION TRAINING OF ANY, SUCH AS THE UTILIZATION OF TRAINEES? IF SO, WILL SUCH TRAINING BE ACCOMPLISHED? SHOULD [illegible] OF FACTORS FOCUSED ON TRAINING OF [illegible] IMPORTANCE IN PROVIDING HEALTH [illegible] RURAL POPULATION?

D. ISSUE OF ATTRACTING AND RETAINING PARAMEDICAL GRADUATES TO WORK IN RURAL AREAS SHOULD BE [illegible] MOST THOROUGHLY. ARE INCENTIVES PRESENTLY [illegible] ADEQUATE TO RETAIN TRAINED PARAMEDICAL [illegible] AREAS? WHAT ADDITIONAL INCENTIVES COULD BE [illegible] MIGHT BE UTILIZED BY GOV TO RETAIN TRAINED PARAMEDICAL PERSONNEL?

E. WHAT WILL BE RELATIONSHIPS OF PARAMEDICAL MANPOWER TRAINED UNDER PROJECT AND TRADITIONAL PRACTITIONERS (AYURVEDIC AND VAIDYAS)? [illegible] MANPOWER GROUPS COMPETITIVE OR COMPLEMENTARY?

F. WHAT PROVISION IS BEING MADE TO RETAIN [illegible]

PARAMEDICAL MANPOWER PERSONNEL, OUTSIDE OF [illegible] AREAS SUCH AS MALARIA [illegible]

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TUJT THERE BE CAREER LADDER SYSTEM FOR UP-GRADING JAWS TO DLCOH AWS CAN PROPOSED PROJECT ASSIST IN DEVELOPING SUCH SYSTEM IF IT DOES NOT ALREADY EXIST?

G. WHAT ARE CONSTRAINTS IN ASSIGNING NURSES AS JAWS AND AHFS. PRP ONLY DEALS WITH ASSIGNMENT OF NURSES AS AUXILLARY NURSE MIDWIVES (ANM) TO PROVIDE FP AND MCH SERVICES. WHAT OTHER ASSIGNMENTS ARE POSSIBLE WITHIN CURRENT HEALTH SYSTEM? WILL NURSES BE ENCOURAGED TO RECEIVE TRAINING AND ASSIGNMENTS IN OTHER PARAMEDICAL FIELDS? DO NOT RESEARCH RESULTS FROM RURAL AREAS SHOW RELATIVELY BETTER PERFORMANCE BY FEMALE FAMILY PLANNING WORKERS AND ASSURE SAME RESULTS COULD BE SECURED IN AT LEAST CERTAIN ASPECTS OF GOI RURAL HEALTH SERVICE DELIVERY

H. WHAT ROLE DOES RURAL COMMUNITY PLAY IN SELECTION OF LOCAL PEOPLE FOR TRAINING AS PARAMEDICAL WORKERS AND IN THEIR SUBSEQUENT ASSIGNMENT? IS THERE CREATIVE ROLE TO BE PLAYED BY RURAL COMMUNITY AND HOW MIGHT THIS BE ENCOURAGED?

I. PRP NEEDS TO PROVIDE SOME INDICATION OF AREAS AND LEVEL OF PROPOSED PARTICIPANT TRAINING IN US. SHOULD THIRD COUNTRY TRAINING ALSO BE CONSIDERED?

J. BETTER DESCRIPTION IS NEEDED OF RELATIONSHIP OF THIS PROJECT TO OTHER PROJECTS PROPOSED FOR HEALTH SECTOR, INCLUDING FAMILY PLANNING PROJECTS.

K. HOW WILL COORDINATION BETWEEN DONORS BE EFFECTIVELY CARRIED OUT TO INSURE THAT FACILITIES CONSTRUCTED AND TRAINING PROGRAMS PROPOSED ARE RESPONSIVE TO GOI NEEDS. WHAT MECHANISM EXISTS FOR COORDINATION OF ALL DONOR INPUTS?

3. COMMITTEE FIRMLY BELIEVES ALL INFORMATION REQUESTED CURRENTLY AVAILABLE AND SHOULD NOT PRESENT SUBSTANTIVE PROBLEM IN REDRAFTING PRP ADVISE APPROXIMATE TIMING OF SUBMISSION OF REDRAFT TO AID/W. SISCO

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E.O. 11652: N/A

TAGS:

SUBJECT: HEALTH PLANNING PRP

HEALTH PLANNING PRP APPROVED MARCH 17 REQUEST USAID PROCEED WITH PP. IN PRP REVIEW, IT WAS SUGGESTED USAID ADDRESS FOLLOWING SPECIFIC POINTS IN PP.

A. PP SHOULD MORE CLEARLY DESCRIBE LINKAGES BETWEEN PROPOSED HEALTH PLANNING ACTIVITY AND OTHER HEALTH PROJECTS AS WELL AS WITH HMG PRIORITIES IN HEALTH SECTOR.

B. SUGGEST PP BETTER DESCRIBE PLANNED SCOPE AND TASKS MOH HEALTH PLANNING CELL IN RELATION APPROVED STAFFING PATTERN AND HEALTH SECTOR ANALYSIS/RESEARCH NEEDS AND PRIORITIES AS WELL AS PLANNED COLLABORATION WITH/ASSISTANCE FROM WHO/AID. IT WOULD APPEAR FROM DISCUSSIONS WITH PERSONNEL RETURNING FROM NEPAL THAT GON MAY BE MORE INTERESTED IN COLLECTION SIMPLE SERVICE STATISTICS AND SPECIAL STUDIES OF HEALTH SECTOR THAN IS APPARENT IN PRP; PLEASE CLARIFY.

C. AID/W FEELS PRP UNDERESTIMATES NEED FOR SPECIALIZED TRAINING; SUGGEST USAID REASSESS TRAINING NEEDS IN COOPERATION WITH WHO.

D. PRP REVIEW COMMITTEE DISCUSSED POSSIBLE NEED DEVELOP DECENTRALIZED PLANNING CAPABILITY AT A ZONAL OR REGIONAL LEVEL. THIS POSSIBILITY SHOULD BE FURTHER EXPLORED WITH GON AND SHOULD BE DISCUSSED AS OPTION IN PP.

E. REVISED LOGICAL FRAMEWORK OF PP SHOULD ENCOMPASS ABOVE SUGGESTIONS AND SHOULD ASSIST IN DESIGN OF PLAN FOR EVALUATING PROJECT PROGRESS. KISSINGER
BT
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ACTION
PRT - 2

INFO
P-H -1
FM - 1
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EXB -5
RF -1

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ANNEX 2A

MINISTRY OF HEALTH

DEPARTMENT OF HEALTH SERVICES

REPORT OF FIELD INSPECTION OF BASIC HEALTH SERVICES IN BARA, PARSA, RAUTAHAT, SAPTARI AND SIRAHA DISTRICTS

9-13 and 21-24 December 1975
(23-27 Marga and 6-9 Paush 2032)

Participants (Bara, Parsa and Rautahat):

Dr. R. Thapa, Comm. Health and Integration
Dr. K. Dixit, Malaria
Mr. Chamlin, CH/I
Dr. P.G. Kesavalu, WHO
Mr. J. Lamstein, MSH
Dr. D.L. Smith, MSH

Participants (Siraha, Saptari):

Dr. R. Thapa, CH/I
Dr. Pahari, CH/I
Dr. Sharma, Malaria
Dr. P.N. Shrestha, Smallpox
Dr. Manandar, FP/MCH
Dr. Rahman, WHO
Dr. P.G. Kesavalu, WHO
Dr. H. Gustafson, Berkeley
Dr. D.L. Smith, MSH

I. Objectives:

1. To examine the structure and functions of the integrated health services in Bara, Parsa, Rautahat, Siraha and Saptari in order to identify problem areas requiring further attention (see Appendix 1 for details of information collected).
2. To provide central support and supervision to the present district health staff.
3. To assess the problems of malaria in these districts and plan a coordinated Malaria/IBS approach to their solution.
4. To assess the problems of FP/MCH in Siraha and Saptari and facilitate coordination with FP/MCH project.
5. To assess the status of smallpox-related activities and facilitate coordination with smallpox project.
6. To conduct a one-day inservice training program for ANMs and Health Post In-charges from Bara, Parsa and Rautahat Districts.
7. To orient new divisional advisors to field operations.

II. Summary:

The functioning of the five districts visited is severely restricted by:

1. Inadequate staffing and excessive losses of trained staff.
2. Inadequate budget, particularly for field travel and record forms.

Recommendations to improve these two areas as well as other problems noted later in this report are:

A. Matters requiring HMG approval:

1. Sanction of District Health Offices for Parsa, Rautahat and Saptari.
2. Increase budget for TA/DA, petrol, vehicle maintenance and provision of record forms in 1976/77 budget, and request additional funds for remainder of this year.

B. Matters requiring Department of Health policy decision:

1. Eliminate AHW(P) post and plan absorption of malaria field workers in other positions.
2. Review leadership of District Health Offices -
   a. Alternative to SMO as Director of District Health Office.
   b. Non-practising allowance for medical officers involved full time in management of District Health Office.
3. Review staffing pattern and workload of JAHW -
   a. Functions of reserve and female JAHWs.
   b. Increase in number of JAHWs per health post, or
   c. Decrease in daily home visiting lead of JAHW.

C. Matters requiring Department of Health administrative decision or action:

1. Personnel.
   a. Fill vacant posts by new recruitment or transfer.
   b. Clarify and enforce appointment, transfer and leave policies in integrated districts.
2. Supplies.
   a. Develop and implement coordinated supply program.
   b. Develop and implement inventory control system.

3. Develop and implement information and record system.
4. Vehicles.
   a. Provide vehicles to Siraha and Saptari.
   b. Develop and enforce vehicle control system.

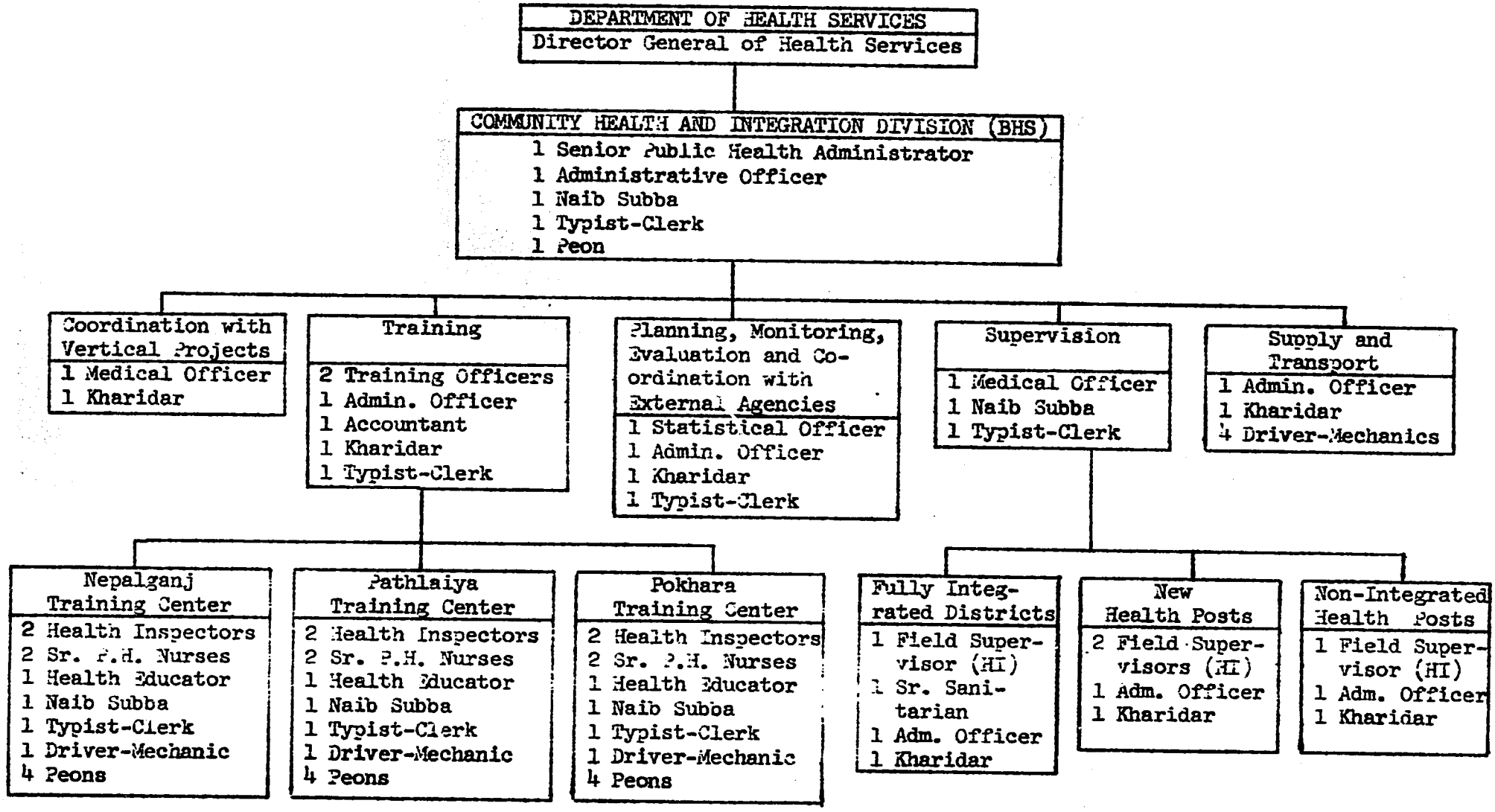
D. Matters requiring Department of Health technical decision or action:
1. Training.
   a. Public Health training for district medical officers.
   b. Train new district health staff.
   c. Orientation for new ANMs.
   d. Refresher training in village health register use if necessary.
2. Develop standardized arm circumference measuring device and establish program of use for nutritional assessment.
3. Develop standardized immunization program for integrated districts.

E. Matters requiring coordination with other programs or projects:
1. Personnel transfers from vertical projects to fill District Health Office vacancies.
2. Develop and implement protocol for transfer of supplies from vertical projects to Community Health and Integration Division (CH/I).
3. Define service needs to assist Institute of Medicine in improving program for ANM Training.
4. Malaria Project.
   a. Assistance in clearing backlog of microscopy for malaria surveillance.
   b. Assistance in training reserve district staff in microscopy.
   c. Assistance in spraying operations.
   d. Assistance in supervising district malaria operations from zonal supervisor.
   e. Review of possible ways to decrease number of slides collected for malaria surveillance.
   f. Review of malaria status in integrated districts, malaria program requirements and CH/I capabilities, and revision of program interfaces as necessary.
5. Family Planning/Maternal Child Health Project:
   a. Request support for transport and assistance in organizing sterilization camps.
   b. Request assistance in obtaining vasectomy and mini-lap instruments.
   c. Request assistance in training ANMs in IUD insertion.

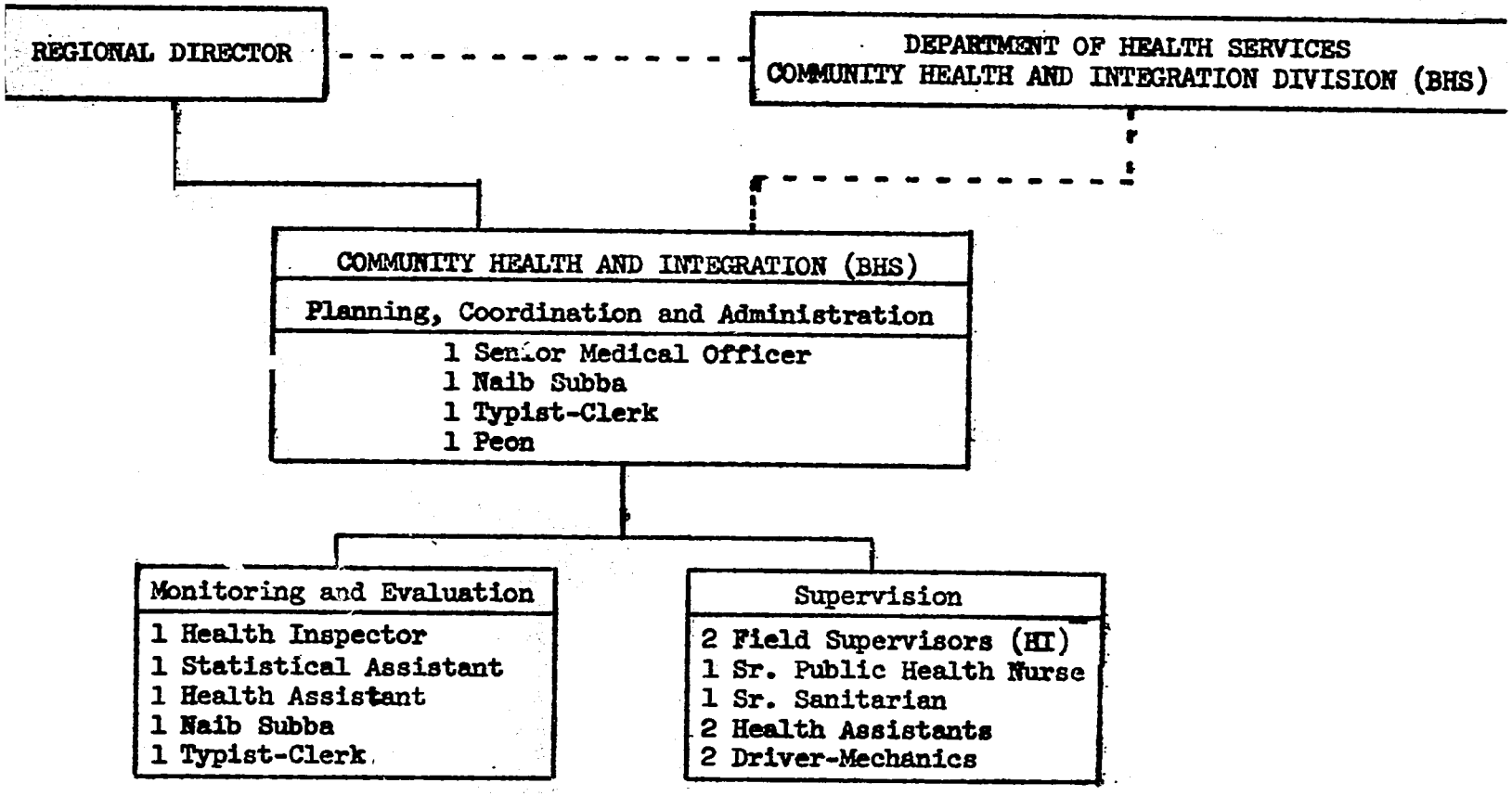
III. Detailed Report of Field Observations (Available From Nepal Desk Officer).

Annex 2B

ORGANOGRAM OF BASIC HEALTH SERVICES IN THE DEPARTMENT OF HEALTH SERVICES
COMMUNITY HEALTH AND INTEGRATION DIVISION (BHS)



REGIONAL HEALTH OFFICE - BASIC HEALTH SERVICES COMPONENT
(Future Plan)



DISTRICT HEALTH OFFICE (FULLY INTEGRATED)

REGIONAL HEALTH OFFICE
COMMUNITY HEALTH AND INTEGRATION (BHS)

DEPARTMENT OF HEALTH SERVICES
COMMUNITY HEALTH AND INTEGRATION DIVISION (BHS)

→ (Future Plan) ←

DISTRICT HEALTH OFFICE
1 Senior Medical Officer

Planning, Supervision, Administration and Coordination
1 Medical Officer (Community Health)
1 Health Inspector
1 Health Assistant/Sr. AHW
1 Auxiliary Health Worker
1 Assistant Nurse Midwife
1 Naib Subba
1 Peon-Courier

Stores and Supply	Family Planning	Monitoring and Evaluation	Health Education	TB/ Leprosy	Smallpox	Maternal and Child Health	Malaria (NMEO Area)
1 Kharidar 1 Peon-Courier	1 FP Assistant	1 Statistical Assistant 1 Mukhiya	1 H.Ed. Technician	1 TB/L Asst.	1 Smallpox Supervisor	1 P.H. Nurse	1 Sr. Malaria Assistant

Laboratory (Non-NMEO Area)	Laboratory (NMEO Area)
1 Lab. Technician 1 Microscopist	1 Lab. Technician 3 Microscopists

Annex 3A

INSTITUTE OF MEDICINE

OUTLINE OF CURRICULUM FOR HEALTH ASSISTANTS
LENGTH OF COURSE - 30 MONTHS

Subject Area	Subject	Credits
	First Semester	
Medical Care	First Aid	4
Supporting Subjects	Botany I	3
	Zoology I	3
	Physics I	3
	Chemistry I	3
Compulsory Subjects	English I	3
	Nepali I	2
	Introduction to Nepal II	3
	Sub-total	24
	Second Semester	
Preventive Health	Public Health I	2
Supporting Subjects	Botany II	2
	Zoology II	2
	Physics II	2
	Chemistry II	2
	Anatomy and Physiology I	3
Compulsory Subjects	English II	3
	Nepal II	3
	Introduction to Nepal II	3
	Sub-total	22
	Third Semester	
Preventive Health	Public Health II	6
	Environmental Health I	3
Medical Care	Pharmacology and Pharmacy I	4
	Medicine I	3
	Surgery I	2
Supporting Subjects	App. Math I	2
	Physics III	2
	Chemistry III	2
	Bio Chemistry, Anatomy and Physiology II	2
	Bacteria Parasite and Clin. Path. II	3
	Sub-total	29

Fourth Semester

Subject Area	Subject	Credits
Preventive Health	Environmental Health II	3
	Health Education I	2
	Community Field Practice	5
Medical Care	Pharmacology and Pharmacy II	1
	Medicine II	4
	Surgery II	2
	Midwifery Gynae.	2
	Nursing Fundamentals	3
Supporting Subjects	App. Math II	2
	Bacteria Parasite and Clin. Path II	2
	Sub-total	26

Fifth Semester

Preventive Health	Public Health III (Community Health)	6
	Environmental Health III	2
	Health Education II	3
Medical Care	Medicine III	4
	Surgery III	2
	Clinical	5
	Sub-total	22
	Total	123

Annex 3B

INSTITUTE OF MEDICINE

OUTLINE OF CURRICULUM FOR THE AUXILIARY HEALTH WORKERS
LENGTH OF COURSE - TWO YEARS

First Semester

Subject	Hours
English Comprehension	65
Nepali	48
Panchayat	48
Environmental Health I	65
Elementary Mathematics	64
Human Anatomy	64
Human Physiology	64
Microbiology	33
Library	80
	531

Second Semester

Subject	Hours
English Composition	48
Nepal Studies	64
Environmental Health II	65
Pharmacology	64
Human Anatomy Demonstration	32
Clinical Pathology	33
Parasitology	33
First-Aid	32
Health Education I	48
Public Health I	48
Library	80
	547

Third Semester

Subject	Hours
English Expression	48
Environmental Health III	33
Pharmacy Demonstration	32
Nursing Art	64
Elementary Medicine	64
Communicable Diseases	64
Five Pilot Projects	33
Surgery I	64
Surgery II	64
Health Education II	33
Public Health II	33
Library	91
	623

Fourth Semester (Field Experience)

Subject	Hours
Health Post Administration	3 days
Field-Practice I	2 months
Field-Practice II	4 months

Summary

Semesters	Hours
First	531 Hours
Second	547 Hours
Third	623 Hours
Fourth	6 Academic Months
Four	2 Academic Years

Annex 3C

INSTITUTE OF MEDICINE
ASSISTANT NURSE MIDWIFE CURRICULUM (OUTLINE)

1. Anatomy and Physiology - 50 hours 1st Semester

2. Fundamentals of Nursing - 130 hours

   a. Orientation to Nursing - nursing, nursing school, hospital, ANM in community, ANM duties.

   b. The Patient - as individual, effect of illness, admission of patients, care of clothes, comfort and cleanliness.

   c. Economy of Hospital and School Equipment - care of furniture and materials, needles, removal of stains etc.

   d. Observation Measures - thermometer, pulse and respiration, observation of urine, stool, sputum, vomit.

   e. Positions in Nursing Procedures - supine, prone, etc.

   f. Local Applications - hot, cold, poultice, plaster, ointment.

   g. Administration of Medicine - weight and measures, dilution, oral, injection.

   h. Special Procedures - enemas, douche, irrigation, garage feeding, catheter.

   i. Examination of Patient - positions and draping.

   j. Special Care of Patient - unconscious, incontinent, helpless, accident.

   k. First-Aid and Bandaging - moving ill patient, first-aid, artificial respiration, bandages.

   l. Microbiology - character of microorganisms, prevention of spread, aseptic technique, sterilization, immunity-vaccination, sources and spread of infection and causative organisms of common disease: Tb., pneumonia, influenza, diptheria, cold, amebiasis, bacillary dysentery, typhoid, measles, mumps, fungus, furunculosis, carbuncles.

3. Personal/Common Hygiene - 50 hours 1st Semester

   Visits to water, sewage, refuse disposal for town, milk dairy, public eating place, healthy living, safe water, water-borne disease, excreta disposal, refuse and drainage, food and milk protection, parasites, rodents, vermin.

4. Midwifery - 100 hours 2nd Semester

   Clinical - Minimal Requirements:

Examination	-	50 + expectant mothers
Witness	-	10 + deliveries, then
Deliver	-	20 + mothers, of which 5 + are domiciliary
Nurse	-	20 + mothers post-natally, of which 5 + are domiciliary
Attend	-	5 + MCH/FP clinics
Give	-	6 + Health classes (1 lecture, 2 group discussions, 3 demonstrations)

5. Health Education - 12 hours

Defined, principles, opportunities, methods, public speaking, group discussions, leadership, visual aid preparation, program planning for ante-natal care, under-five's clinic, community health.

6. Medical Surgery Nursing - 60 hours 3rd Semester

7. Nursing the Child - 30 hours 3rd Semester

Well child, growth and development, nutrition, child care, sick child care and diseases.

8. Communicable Disease Nursing - 25 hours 3rd Semester

Measles, mumps, varicella, pertussis, influenza, Tb., leprosy, cholera, typhoid, diptheria, meningitis, dysenteries, malaria, filariasis, smallpox, tetanus, rabies, plague, gonorhea.

9. Community Nursing 3rd Semester

Family as Social Unit - 5 hours

Social changes, Family Pattern, Community

Organization of Health Service - 2 hours

Position of Public Health Nursing - 22 hours

Nursing care in home - carrying out standing orders

MCH service

Infant and Child Health Service

Clinic management - finding and filing records, clinic attendance register, etc.

School Health Service

Care of aged in community, special reference to diet, etc.

Community Disease control - VD program, etc.

Leprosy/Tb./smallpox/malaria/cholera

Program planning and work reports.

Annex 3d

Department of Health Services
1976 Orientation Training Curriculum
for Health Posts In-charge
Pathlaiya Training Center

Total Hours 156 Training Days 26

	Topic Areas	Hours of Instruction
1.	General Introduction a. Introduction to B.H.S. Objectives b. Presentation of the Training Plan c. Your Role in the Health Program d. Job Descriptions e. Health Knowledge Test	4
2.	Epidemiology - Communicable Diseases & Immunizations	3
3.	Malaria	6
4.	Smallpox	3
5.	Tuberculosis	4
6.	Hansen's Disease	18
7.	Family Planning	18
8.	Nutrition	9
9.	Environmental Sanitation	2
10.	Maternal and Child Health Services	2
11.	Rehydration Therapy for Diarrhea	3
12.	Health Post Operating Guidelines	1
13.	Concepts of Supervision	3
14.	Health Education	9
15.	Recording and Reporting	12
16.	Integrated Activities	18
17.	Field Training	36
18.	Conclusion of the Training Program	6

Detailed descriptions of 1976 Training Plans available from Nepal Desk Officer.

Department of Health Services
1976 Orientation Training Curriculum
for Auxiliary Nurse Midwives
Pathlaiya Training Center

Total Hours 126 Training Days 21

	Topic Areas	Hours of Instruction
1.	General Introduction	4
	a. Introduction to B.H.S. Objectives	
	b. Presentation of the Training Plan	
	c. Your Role in the Health Program	
	d. Health Knowledge Test	
2.	Orientation to Clinic & Community Responsibilities	1
3.	Communicable Diseases	10
	a. Epidemiology	
	b. Malaria	
	c. Smallpox	
	d. T. B.	
	e. Hansen's Disease	
4.	Environmental Sanitation	1
5.	Health Post Responsibilities	
	a. Health Post Operating Guidelines	1
	b. Management of Outreach Clinics	1
	c. MCH Services at the Health Post	3
	d. Recording and Reporting	3
	e. First Aid	18
6.	Community	
	a. Health Education	8
	b. Home Visiting	2
	c. Nutrition	9
	d. Rehydration Therapy	2
	e. Family Planning	10
	f. I Domiciliary Midwifery	2
	II Midwifery Emergencies	2
	g. The ANM and the local Birth Attendant	3
7.	Supervision	2
8.	Recording and Reporting	6
9.	Integrated Activities	12
10.	Field Training	20
11.	Conclusion	6

Department of Health Services
1976 Training Curriculum
for Junior Auxiliary Health Workers
Pathlaiya Training Center

Total Hours 156 Training Days 26

	Topic Areas	Hours of Instruction
1.	General Introduction	3
	a. Your Role in the Health Program	
	b. Job Description	
2.	Malaria	4
3.	Smallpox	4
4.	T. B.	4
5.	Hansen's Disease	5
6.	a. Maternal Care	2
	Antenatal	
	Delivery	
	Postnatal	
	b. Child Care	1
	Well Baby	
	Sick Children	
	c. Nutrition	12
	d. Treatment for Diarrhea	4
	e. Family Planning	13
7.	First Aid	18
8.	Health Education	12
9.	Recording and Reporting	12
10.	Integrated Activities	21
11.	Field Training	36
12.	Conclusion of Training and Post Knowledge Test	5

Annex 4

A NOTE ON USAID DONOR CONTRIBUTIONS

Excluding overhead items, USAID contributions to the project sum to about $1.0 million (7.4%) for output A and $1.9 million (44.2%) for output B, for a total of $2.9 million (16.5%). Reference has already been made that this overstates the USAID contribution by about $1 million because capital expenditures should be discounted properly for expected years of life. Furthermore, participant training inputs may be viewed essentially as inputs to sub-sector goal objectives. Nevertheless, they are assigned to project purpose objectives, partly out of financial necessity, and partly to compensate for previous participant training that is just now being incorporated for this project.

From the USAID point of view, this project represents a redesign of its ongoing contributions to HMG health sector activities. It should be pointed out that certain economies of scale are now achievable because of the refocus. The support, coordination, and adjustment of trained workers to IBHS needs is greatly enhanced by the development of a functioning low-level management information control system. Feedback of problems on the field to both formal and on-the-job training programs is more rapid and the training programs are designed with greater flexibility in responding, thus reducing the time lag for improving the efficacy of IBHS personnel.

Perhaps the most important contribution USAID may claim, if "importance" may be defined in terms of the marginal utility concept, is its assistance at the middle and low levels of the IBHS management sub-systems. Much of donor assistance, including that of USAID, is directed at the central level. There are legal and political reasons for this emphasis, as well as some technical justification.

These "lower management level" inputs are summarized as part of "Other Direct Expenditures" and sum to $387,261 out of the $451,461 total for that category. Consequently "investment" in these activities comes to about $110,646 yearly for the duration of the project.* Because of the difficulty in distinguishing HMG and other donor contributions for this category, it appears USAID is almost the only contributor. Much of all agencies' long-term technical assistance is oriented toward this level of activity. USAID just happens to enjoy the flexibility of contributing a large portion of the "Other Direct Expenditure" items to these activities.

These expenditures are directed to the study, adaptation, planning, trial implementation, evaluation, refinement, and final implementation of simplified, health-post relevant managerial functions. These activities are geared for health post, district office, and regional office personnel. Central level personnel will of course direct the development and implementation of the management/supervisory training and ensure its compatibility and complementarity with central level requirements. But the emphasis is on field operational problems and their solutions, with field operational staff heavily involved in the development, testing, and implementation.

These efforts represent the first time an extensive and intensive management/supervision component have been related to operational experiences. A series of Tables have been developed to indicate the detail of expected USAID contributions to this "start-up" investment. All of these USAID contributions are in local rupees (although final totals are designated in equivalent dollar value terms).

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* Other assistance complements these activities, such as some of the participant training as well as some of the output B activities.

TABLE A-1

MANAGEMENT INFORMATION SYSTEM AND MANAGEMENT/SUPERVISORY CONTROL SYSTEM DEVELOPMENT

The development of a management information and a management control system are concurrent activities. Hence these expenditures are simultaneous. The estimated budget items include staff travel and per diem required for the design, introduction, on-site training, trial implementation, evaluation, redesign, and final implementation of the new information system and the new management/ supervisory control system.

Daily Allowance		
Central and Regional Staff: 6 visits/year, 6 days/visit, 3 persons/visit to 48 district health offices @ 14 Rs. average per diem	72,576	
District Health Office Staff: 12 visits/year/person to 125 E Stage health posts @ 12 Rs./daily	36,000	
12 visits/year, 3 persons/visit, to 65 I Stage health posts for 2 days @ 12 Rs./daily	56,160	
Sub-total, daily allowance	164,736	
Travel Allowance		
Central and regional staff: 6 visits/year, to 48 DHO @ 400 Rs./round trip	115,200	
Sub-total, travel allowance		115,200
Petrol, Regional Health Office		86,400
Petrol, District Health Office		34,200
TOTAL, per year		400,536
TOTAL, Project		1,001,340
		80,430)

TABLE A-2

MANAGEMENT INFORMATION SYSTEM WORKSHOPS

Trial Methodology (TM) Workshop (including travel time)	5 days	
Evaluation and Redesign (ER) Workshop (including travel time)	4 days	
Total, 2 workshop sessions	9 days	
For each "I - Stage" District:		
Daily allowance:		
Students: 13 from health posts @ 12 Rs./day	1,404	
10 from district office @ 12 Rs./day	1,080	
Staff: 2 DHS persons @ 18 Rs./day	324	
1 Central professional @ 18 Rs./day	162	
Sub-total, daily allowance		2,970
Travel allowance:		
Students: 23 @ 50 Rs./round trip	2,300	
Staff: 3 @ 300 Rs./round trip	1,800	
Sub-total, travel allowance		4,100
Honorarium (outside staff) 200 Rs./day		1,800
Printing Costs		290
Building rental		150
Petrol costs		450
Total, I-Stage Districts		9,760
For each "E - Stage" District:		
Daily allowance:		
Students: 13 from health posts @ 12 Rs./day	1,404	
5 from district offices @ 12 Rs./day	540	
Staff: 2 from DHS @ 18 Rs./day	324	
Sub-total, daily allowance		2,268
Travel allowance:		
Students: 18 @ 75 Rs./round trip	2,700	
Staff: 2 @ 300 Rs./round trip	1,200	
Sub-total, travel allowance		3,900
Printing		225
Building rental		150
Petrol costs		225
Total, E-Stage Districts		6,768
For Project Period:		
Year 1 - TM Workshop (6 I and 6 E districts)		99,168
Year 2 - ER Workshop (6 I and 18 E districts)		180,384
Year 3 - ER Workshop (24 E districts)		162,432
TOTAL, Project		441,984 Rs.
		($35,501)

TABLE A-3

MANAGEMENT/SUPERVISORY CONTROL SYSTEM WORKSHOPS

Trial Methodology (TM) Workshop (including travel time)	5 days	
Evaluation and Redesign (ER) Workshop (including travel time)	4 days	
Total, 2 workshop sessions	9 days	
For each "I - Stage" District:		
Daily allowance:		
Students: 13 from health posts @ 12 Rs./day	1,404	
10 from district office @ 12 Rs./day	1,080	
Staff: 2 DHS persons @ 18 Rs./day	324	
1 Central professional @ 18 Rs./day	162	
Sub-total, daily allowance		2,970
Travel allowance:		
Students: 23 @ 50 Rs./round trip	2,300	
Staff: 3 @ 300 Rs./round trip	1,800	
Sub-total, travel allowance		4,100
Honorarium (outside staff) 200 Rs./day		1,800
Printing Costs		290
Building rental		150
Petrol costs		450
Total, I-Stage Districts		9,760
For each "E - Stage" District:		
Daily allowance:		
Students: 13 from health posts @ 12 Rs./day	1,404	
5 from district offices @ 12 Rs./day	540	
Staff: 2 from DHS @ 18 Rs./day	324	
Sub-total, daily allowance		2,268
Travel allowance:		
Students: 18 @ 75 Rs./round trip	2,700	
Staff: 2 @ 300 Rs./round trip	1,200	
Sub-total, travel allowance		3,900
Printing		225
Building rental		150
Petrol costs		225
Total, E-Stage Districts		6,768
For Project Period:		
Year 1 - TM Workshop (6 I and 6 E districts)		79,168
Year 2 - ER Workshop (6 I and 18 E districts)		180,384
Year 3 - ER Workshop (24 E districts)		162,432
TOTAL, Project		441,984 Rs.
		($35,501)

TABLE A-4

MANAGEMENT/SUPERVISORY NETWORK TRAINING

The tripartite evaluation pointed out the heavy dependence on TA/DA for adequate supervision. A large portion of the success of the integrated districts resulted from improved supervision. Together with management functions, it is essential that sufficient TA/DA is budgeted for the development and implementation of management and supervisory functions. On-the-job training is required for an adequate management/supervisory network, which dictates the guarantee of sufficient operational expenditures (TA and DA).

District Office Requirements	1975/76	1976/77	1977/78	1978/79	1979/80
Regular Budget (Rs)	529,572	710,392	873,042	1,012,472	1,210,106
Development Budget (Rs)	315,834	180,820	162,650	139,430	197,634
Total, Planned (Rs)	845,406	891,212	1,035,692	1,151,902	1,407,740
(US dollar equivalent)	67,904	71,583	83,188	92,522	113,072
HMG contribution	67,904	25,913	41,095	60,047	113,072
USAID contribution		45,670	42,093	32,475	-
USAID % Share	0.0%	63.8%	50.6%	35.1%	0.0%

Total HMG Contribution is $308,031 (71.9%) and the USAID total is $120,215 (28.1%).

Table A-5 reveals the extent to which the USAID commitment takes the form of US dollar assistance from regular AID funds and the equivalent dollar value in rupee assistance from PL 480 Indian rupee funds. Approximately 63.2% of total USAID contributions are in rupees, mostly for construction of the AHW schools. "Direct Expenditures" are the next most important source of rupee disbursements. An explanation of these items has been elaborated previously. Nearly all US dollar expenditures (35.9% of the grand total, or 84.3% of US dollar expenditures) are scheduled for technical assistance and overhead items. Participant training in the USA is a significant, but relatively minor, input requiring US dollars.

TABLE A-5

USAID CONTRIBUTION IN DOLLAR AND RUPEES
(1976 prices; $1US = 12.45 N. Rupees)

Type of Assistance	Output A	Output B	Total
1. Technical Assistance			
US dollar	354,590	141,000	495,590
In rupees	-	-	-
Sub-total	354,590	141,000	495,590
2. Participant Training			
US dollar	46,210	93,333	139,543
In rupees	72,000	-	72,000
Sub-total	118,210	93,333	211,543
3. Commodities			
US dollar	20,000	10,700	30,700
In rupees	88,000	30,000	128,000
Sub-total	108,000	40,700	148,700
4. Capital Expenditures			
US dollar	-	-	-
In rupees	-	1,560,767	1,560,767
Sub-total	-	1,560,767	1,560,767
5. Other Direct Expenditures			
US dollar	54,200	2,500	56,700
In rupees	397,261	30,000	427,261
Sub-total	451,461	32,500	483,961
6. Overhead			
US dollar	485,463	241,250	726,713
In rupees	88,000	40,000	128,000
Sub-total	573,463	281,250	854,713
7. GRAND TOTAL			
US dollar	960,463	488,783	1,449,246
In rupees	645,261	1,660,767	2,306,028
TOTAL	1,605,724	2,149,550	3,755,274

Annex 5

DECISION-TREE STRATEGIC ANALYSIS

This is an example of a low-cost research which can be done by the Planning Cell to help choose effective or efficient operational strategies.

Problem: Diagnosis of TB patients requires a microscope, slides, light source, flame, and a trained microscopist. Would simply treating all patients with a productive cough lasting more than a month be as effective or efficient

Facts: The slide positivity rate on the first sample (most patients only have one sample tested) of patients with actual TB is about 67%. The error rate in calling a slide positive in a patient without TB is about 5%.

If we assume that 25% of patients coming to clinic with a productive cough have TB (the figure is 50% in Dhorpatan clinic) attable can be made for 100 patients:

	TB +	TB -	
slide +	a 17	b 4	+ = positive
slide -	c 8	d 71	- = negative
	25	75	= 100 patients

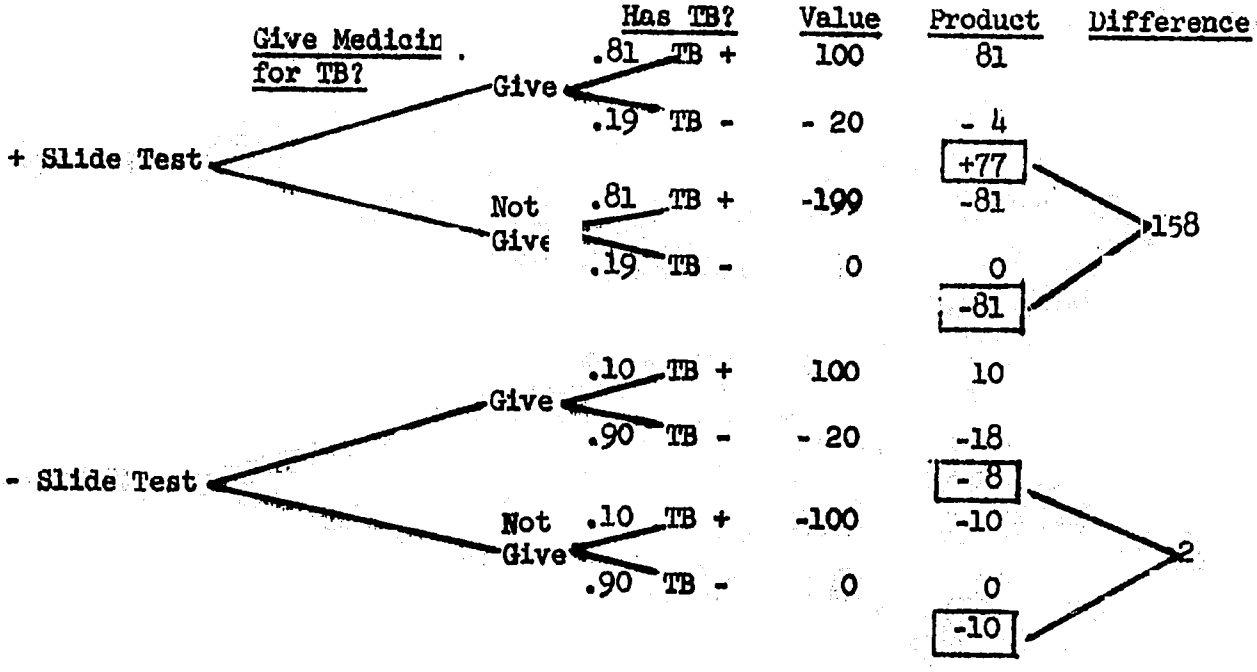
+ accuracy rate = $\frac{a}{a+b}$ = 0.81 False (inaccurate) + rate = 0.19

- accuracy rate = $\frac{d}{c+d}$ = 0.90 False (inaccurate) - rate = 0.10

By manipulating prevalence of positive TB cases one can show that these rates are related to the prevalence of positives. With fewer positive cases than + accuracy rate decreases and - accuracy increases.

Then the following decision-tree is created and the accuracy and inaccuracy rates written in on the limbs.

Patients with productive cough one month or more:



The values given to a course of action are on a scale of -100 to + 100

Treating a person with TB	=	+ 100 (good)
Not treating a person with TB	=	- 100 (bad)
Treating a person with no TB	=	- 20 (costly)
Not treating a person with no TB	=	0 (neutral)

(The value of -20 for treating a person without TB was derived by estimating costs per one year of that treatment compared to costs to system per one year of not treating a person with TB; the former was about 1/5th the latter.)

The value times accuracy or inaccuracy rate = product.

The above analysis shows the clear advantage of treating any patient with a + slide test (product difference 158). There is no difference (or there is indifference) in treating any patient with a - slide test; that is, we could or we couldn't. That means that if the prevalence of TB among patients with a productive cough of one month or more is over 25% we ought to treat everyone like that regardless of slide test outcome, which further means that the slide test (and microscopist) are unnecessary.

The research questions generated by this analysis are:

a. What is the prevalence of TB among patients with productive cough one month or more? and are there regional differences?

b. How accurate are our value weightings and estimate of slide accuracy rates?

c. What happens to + cases who default?

Decision-tree analyses can be applied to a wide variety of strategic decisions; they can be done with even crude data available, and they indicate the important directions for further data gathering.

CHECKLIST OF STATUTORY CRITERIA

I. COUNTRY PERFORMANCE

A. Progress Towards Country Goals

1. FAA $^{SS}_{SS}$ 201 (b)(5), 201 (b)(7), 201 (b)(8), 208. _____ to which the country is:

(a) Making appropriate efforts to increase food production and improve means for food storage and distribution.
Ans. The Fifth Development Plan (1976-1980) puts major stress on increased food production and improved marketing of agricultural products.

(b) Creating a favorable climate for foreign and domestic private enterprise and investment.
Ans. Nepal provides tax benefits to foreigners investing in needed development projects.

(c) Increasing the people's role in the developmental process.
Ans. Villagers in parts of Nepal are building schools, water systems and farm-to-market roads. This is on a modest scale so far but is an appreciable start.

(d) Allocating expenditures to development rather than to unnecessary military purposes or intervention in other free countries' affairs.
Ans. Yes.

(e) Willing to contribute funds to the project or program.
Ans. The HMG will contribute $14,536,637 to this Project.

(f) Making economic, social, and political reforms such as tax collection improvements and changes in land tenure arrangements; and making progress toward respect for the rule of law, freedom of expression and of the press, and recognizing the importance of individual freedom, initiative, and private enterprise.
Ans. The monarchial system in Nepal is gradually broadening. The HMG is allowing greater freedom of expression, although the press is still largely government-controlled. There is a Parliament with some, if limited, effective powers. Entrepreneurs operate fairly freely. The government is seeking Western advice in legal matters, taxation, finance, private enterprise, and information services.

(g) Responding to the vital economic, political, and social concerns of its people, and demonstrating a clear determination to take effective self-help measures.
Ans. The HMG has strengthened its commitment to development in recent years, and has shown a new willingness to take meaningful self-help measures in order to carry out the Fifth Five Year Plan.

B. Relations with the United States

1. FAA $^{SS}_{SS}$ 620 (c). Is the government indebted to any U.S. citizen for goods or services furnished or ordered where:
(a) such citizen has exhausted available legal remedies, including arbitration, or
(b) the debt is not denied or contested by the government, or
(c) the indebtedness arises under such government's, or a predecessor's unconditional guarantee?
Ans. No such indebtedness is known to exist.

2. FAA §§ 620 (e)(1). Has the country's government, or any agency or subdivision thereof:
   (a) nationalized or expropriated property owned by U.S. citizens or by any business entity not less than 50% beneficially owned by U.S. citizens,
   (b) taken steps to repudiate or nullify existing contracts or agreements with such citizens or entity, or
   (c) imposes or enforced discriminatory taxes or other exactions, or restrictive maintenance or operation conditions? If so, and more than six months has elapsed since such occurrence, identify the document indicating that the government, or appropriate agency or sub-division thereof, has taken appropriate steps to discharge its obligations under international law toward such citizen or entity? If less than six months has elapsed, what steps if any has it taken to discharge its obligations?
   Ans. No to first question. Second question not applicable.
3. FAA §§ 620 (j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction by mob action of U.S. property, and failed to take appropriate measures to prevent a recurrence and to provide adequate compensation for such damage or destruction?
   Ans. No.
4. FAA §§ 620 (l). Has the government instituted an investment guaranty program under FAA 211 (b)(1) for the specific risks or inconvertibility and expropriation or confiscation?
   Ans. No.
5. FAA §§ 620 (o): Fisherman's Protective Act of 1954, as amended, Section 5. Has the country seized, or imposed any penalty or sanction against, any U.S. fishing vessel on account of its fishing activities in international waters? If, as a result of a seizure, the USG has made reimbursement under the provisions of the Fisherman's Protective Act and such amount has not been paid in full by the seizing country, identify the documentation which describes how the withholding of assistance under the FAA has been or will be accomplished.
   Ans. No.
6. FAA §§ 620 (q). Has the country been in default, during a period in excess of six months, in payment to the U.S. on any FAA loan?
   Ans. No.
7. FAA §§ 620 (t). Have diplomatic relations between the country and the U.S. been severed? If so, have they been renewed?
   Ans. No to first question. Second question not applicable.
8. App. §§ 106. Describe any attempt made by the country to create distinction because of race or religion in granting personal or commercial access or other rights otherwise available to U.S. citizens generally.
   Ans. None.

C. Relations with Other Nations and the U.N.

1. FAA §§ 620 (i). Has the country been officially represented at any international conference when that representation included planning activities involving insurrection or subversion directed against the U.S. or countries receiving U.S. assistance?
   Ans. No, as far as known.

2. FAA xx 620 (a), 620 (n); App. ss 107 (a), 107 (b), 116. Has the country sold, furnished, or permitted ships or aircraft under its registry to carry to Cuba or North Viet-Nam items of economic, military, or other assistance?
   Ans. No, as far as known.
3. FAA s 620 (u); App. s 114. What is the status of the country's U.N. dues, assessments, or other obligations?
   Ans. Nepal is not in arrears in its obligations to the U.N.

D. Military Situation

1. FAA s 620 (i). Has the country engaged in or prepared for aggressive military efforts directed against the U.S. or countries receiving U.S. assistance?
   Ans. No, as far as known.
2. FAA s 620 (s). What is (a) the percentage of the country's budget devoted to military purposes, and (b) the amount of the country's foreign exchange resources used to acquire military equipment? Is the country diverting U.S. development assistance or P.L. 480 sales to military expenditures? Is the country diverting its military expenditures?
   Ans. Less than 9% of the country's budget is devoted to external defense and security purposes. Little foreign exchange is used to acquire military equipment.

Annex 7

SPECIAL STUDIES AND RESEARCH

I. MODELS FOR COMMUNITY PARTICIPATION

OBJECTIVE: HMG clearly realizes that vast resources are required for health related activities at the community level. It is seeking to enlarge the community contribution. This study will develop, test, and implement various models designed to maximize community inputs into HMG-sponsored health services. These alternatives will be specifically tailored to each of Nepal's three cultural-ecological zones.

Budget

	Rupees	Dollar Equivalent
Phase I - Research and Design		
4 People for 4 months @ Rs.1000/month	16,000	
Office space	1,470	
Secretarial services	2,000	
Consultants	1,000	
Overhead (30%)	6,180	
Printing	1,000	
	27,650	= 2,221
Phase II - Field Pre-testing (two sites in each ecological zone for each of three alternatives = 3 x 3 x 2 = 18 sites)		
9 People for 6 months @ Rs.1000/month	54,000	
Secretarial services	4,000	
Office space	3,000	
Consultants	2,000	
Per diem	48,600	
Overhead (30%)	33,480	
Travel (36 round trips @ Rs.300)	10,800	
Printing	3,000	
Post evaluation	3,000	
	161,880	= 13,002
Phase III - Implementation (one year)		
Three districts (one in each ecological zone)		
4 Field workers in each district @ Rs.500/month	72,000	
TA/DA	48,000	
	120,000	= 9,639
		$ 24,862

II. A STUDY OF STATUS AND ROLES OF HEALTH WORKERS IN SELECTED AREAS OF NEPAL

OBJECTIVE: Investigate the roles and status of health workers in a community setting with the purpose of suggesting ways to maximize the effectiveness of these workers. The basic premise of this investigation is that community perceptions of health workers can be quite different than the perceptions that

the workers and central administrators hold, particularly in Nepal with its cultural and social heterogeneity. The first phase of investigation will incorporate the social structural analyses (in terms of 3 zones) completed in the Community Participation Study. It will postulate potential roles and status of health workers within different social structures, and design interviewing criteria to test these postulates. Phase II will encompass field investigations (using structured interviews), data analysis, establish a definition of health workers' status and roles, and recommend personnel policies that maximize the effectiveness of health workers within these structures. It will also identify potential interventions in communities that might make health workers more effective.

Budget

	Rupees	Dollar Equivalent
Phase I - Research and Design		
2 People x 4 months @ Rs.1000/month	8,000	
Secretarial services	1,000	
Office space	1,000	
Consultants	1,000	
Overhead (30%)	3,300	
	14,300	= 1,149
Phase II - Field Work		
6 People x 4 months @ Rs.1000/month	24,000	
Per diem	21,600	
Secretarial services	2,000	
Office space	2,000	
Overhead (30%)	14,880	
Travel (14 round trips @ Rs.300)	4,200	
Printing	2,000	
	70,680	= 5,677
		$ 6,826

III. STUDY OF CHANGING TRADITIONAL AUTHORITY STRUCTURES

OBJECTIVE: A major component in developing effective outreach health services will be to establish a functioning supervisory network. This study will analyze traditional forms and patterns of authority and how they are used. The objective will be to see if traditional patterns of supervision may be incorporated into the IBHS's supervisory network as well as to point out forms of supervision that may be unacceptable from a cultural standpoint. It will examine the feasibility of adapting IBHS's philosophy of "management by objectives" within the cultural and social parameters of Nepal.

Budget

	Rupees	Dollar Equivalent
2 People x 4 months @ Rs.1000/month	8,000	
Secretarial services	1,000	
Consultants	1,000	
Office space	1,000	
Overhead (30%)	3,300	
	14,300	= $ 1,149

IV. STUDY OF CULTURAL COMMUNICATION MODULES

OBJECTIVE: To determine if there are traditional patterns and/or forms of communication that can be utilized both to help train low level health workers and for health workers to use in getting across health education content. This study focuses on folk tales, parables, religious texts and other forms of communication medium that may be adapted to carry a health message.

Budget

	Rupees	Dollar Equivalent
2 People x 4 months @ Rs.1000/month	8,000	
Secretarial services	1,000	
Consultants	1,000	
Office space	1,000	
Overhead (30%)	3,300	
	14,300	= $ 1,149

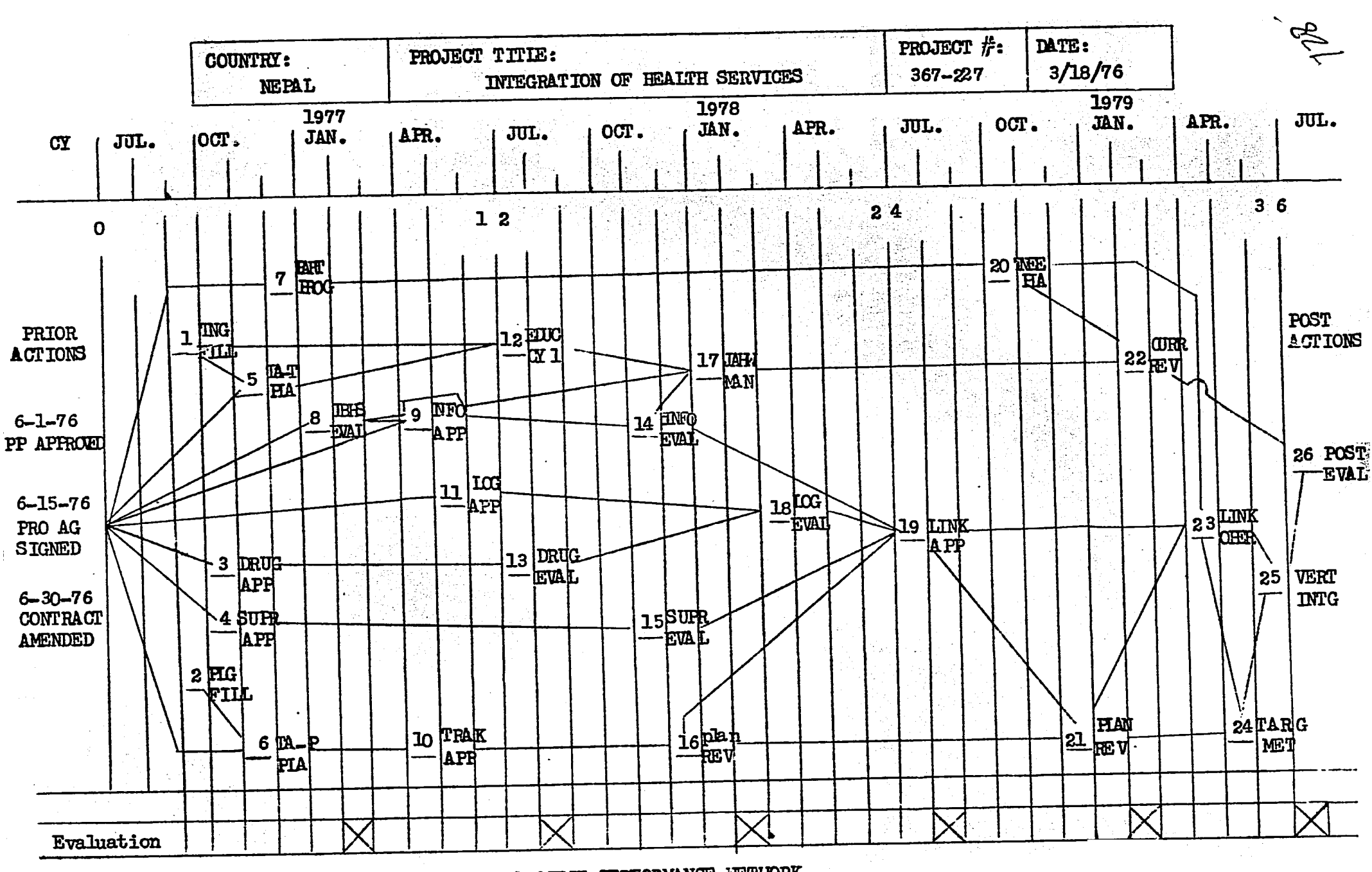
V. STUDY OF PUBLIC ADMINISTRATION AS RELATED TO PROJECT IMPLEMENTATION

OBJECTIVE: This project is aimed at facilitating progressive changes within the bureaucratic structure. A functional analysis of the existing structure will lead to a set of recommendations for changing those structures most amenable and critical for IBHS success. Because of the importance of this information in achieving project purpose, the social scientist staff member will be conducting this study throughout the length of the project and will have available funds for four months of contract services.

Budget

	Rupees	Dollar Equivalent
2 People x 4 months @ Rs.1000/month	8,000	
Secretarial services	1,000	
Consultants	1,000	
Office space	1,000	
Overhead (30%)	3,300	
	14,300	= $ 1,149

COUNTRY: NEPAL	PROJECT TITLE: INTEGRATION OF HEALTH SERVICES	PROJECT #: 367-227	DATE: 3/18/76



PROJECT PERFORMANCE NETWORK

ANNEX 8

PPT FORM

Country: Nepal	Project No: 367-227	Project Title: Integration of Health Services	Date: 2/23/76	/X/ Original // Revision #	Apprvd:

CPI DESCRIPTION

1. 6/30/76 TNG FILL CH/I Training Cell has two full-time training posts filled.
2. 6/30/76 PLG FILL MOH Planning Cell has at least one additional post filled.
3. 10/1/76 DRUG APP Modified health post drug list developed and approved for trial.
4. 10/31/76 SUPR APP Supervisory system for all levels developed and approved for trial.
5. 11/15/76 TA-T PLA Two technical assistance staff for training in place.
6. 11/15/76 TA-P PLA 3 technical assistance staff for planning in place (1 USAID + 2 WHO)
7. 12/31/76 PART PROG Participant training program developed and positions approved by HMG.
8. 1/31/77 IBHS EVAL Comprehensive evaluation of IBHS program completed according to criteria developed and approved by HMG. Program content and management changes recommended and approved by HMG.
9. 4/30/77 INFO APP Modified information system with links to planning, supervision, supply and evaluation developed and approved for trial.
10. 4/30/77 TRAK APP Management tracking system including plans for management surveys developed by Planning Cell and approved for trial.
11. 5/31/77 LOG APP Modified logistics, inventory and supply system developed and approved by HMG and Sajha Swastha Sewa for trial.
12. 7/1/77 EDUC CY 1 Training of trainers curricula developed for curriculum design and for teaching methods and implemented for first group of CH/I teaching staff.
13. 7/1/77 DRUG EVAL Modified health post drug list evaluated and revised. Revised list approved for general implementation.
14. 11/30/77 INFO EVAL Modified information system evaluated and revised. Revised system approved for general implementation.
15. 11/30/77 SUPR EVAL Supervisory system evaluated and revised. Revised system approved for general implementation.
16. 12/31/77 PLAN REV Annual Plan preparation and revision of targets incorporates information from management tracking system.
17. 1/15/78 JAHW MAN JAHW curriculum reviewed and modified in accordance with modifications in program. Revised manuals prepared, approved and available for use in next training program.
18. 3/31/78 LOG EVAL Modified logistics system evaluated and revised. Revised system approved for general implementation
19. 7/15/78 LINK APP Linked management information, supervision and supply systems approved and timetable for implementation in all integrated units developed.

PPT FORM

Country: Nepal	Project No: 367-227	Project Title: Integration of Health Services	Date: 2/23/76	// Original /X/ Revised #	Apprvd:

CPI DESCRIPTION

20. 10/1/78 TNEE PLA Majority of international participant training completed and trainees on the job.

21. 12/31/78 PLAN REV Annual plan preparation and revision of targets incorporates information from improved management tracking system and from linked IBHS information system.

22. 2/28/79 CURR REV Capability for periodic curriculum revision established in CH/I with responsiveness to changing program requirements.

23. 4/15/79 LINK OPER Linked management information, supervision and supply systems operating in majority of integrated units.

24. 5/31/79 TARG MET Annual plan achievements within 20% of targets set.

25. 6/30/79 VERT INTG Vertical program activities taken over by IBHS in majority of integrated units where established criteria for integration are met.

26. 9/1/79 POST EVAL Post Project evaluation completed and report submitted.

Annex 9

DRAFT PROAG

I. Project Description

A. Background

USAID/N has been involved in the support of HMG's health programs since 1958. Most recently this assistance has been in testing the methodology of an integrated health services delivery system in two pilot districts. In 1974 HMG undertook the transition to integration in four more districts. In 1975 HMG's 5th Five Year Plan accepted the integration model as the most feasible way to deliver health services in Nepal and committed HMG, through an integrated system, to provide a minimum of health services to the maximum number of people.

The development of a Integrated Health Services delivery system on a national scale implies the development and strengthening of an efficient and adaptable administrative organization. In order to move towards the goals set forth in the 5th Five Year Plan efforts must go beyond improved management of the Community Health and Integration Section of the Department of Health Services. An effective low-cost integrated basic health program serving the majority of Nepal implies a system with several components, among others; management, control, planning, training, supervision, politics, inter-actions with other programs and other donors, and community response. Each component interacts with, depends upon, and influences the others, and all will determine the success or failure of the integrated basic health services.

It is thus important to understand each component and their inter-relationships. This approach is best met with a unified project that focusses on the most immediately manageable of the components. These are: management (management information system, logistics, supply, budget, personnel), control (supervision, program tracking, planning, data gathering), and training (curriculum design, trainer training, health worker task analyses, teaching methodologies).

Over the next three years (subject to the availability of funds) USAID/N proposes to make available technical assistance, as requested, in each of the above mentioned key areas. This technical assistance will be supplemented by limited support of training costs and the provision of certain commodities important to successful program initiation. The specifics of this support will be described in annual agreements.

B. Statement of Purpose

The project is designed to assist HMG to develop a capacity to organize and manage an effective nationwide Integrated Basic Health Service.

II. Project Administration

Beginning in August 1976, USAID will provide technical services, participant training, demonstration commodities, and research - survey funds through a contract with a qualified U. S. institution. The incountry technicians (4 are anticipated) will work in the critical areas outlined above: management, control and training. Two (a public health physician and a management training specialist) will work directly with counterparts in the Directorate of Health Services. A third team member will work primarily with counterparts in the Health Planning Cell of the Ministry of Health. The fourth team member, a specialist in paramedical education, will work with counterparts in the Training Cell, Department of Community Health and Integration, Department of Health Services.

Annex 10

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 6/30/76 to FY 12/31/79
Total U.S. Funding
Date Prepared:

Project Title and Number : Integration of Health Services (His Majesty's Government of Nepal (HMG)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes:	Measures of Goal Achievement: In Five Years (From HMG 5th Five-Year Plan):		Assumptions for achieving goal targets:
1. Sector Goal: Improved health, with gains realized equitably throughout Nepal.	1. Decreased Fertility (4 point drop in crude birth rate), Decreased Mortality (infant and overall mortality decreased by 25% and 10% respectively), Decreased Morbidity (50% reduction in prevalence of severe malnutrition, 70% of identified active TB and leprosy held under treatment).	1. World fertility survey baseline data (due in 1976); FP/MCH Project data collection system; village health registers; Reports of Community Health and Integration Section (CH/I), Directorate of Health Services (DHS), Ministry of Health (MOH).	1. - Government motivation, political stability and resources available (current per capita investment in Public Health Sector is Rs.5). - Data base and HMG targets verified for appropriateness. - Migration patterns not disruptive. - Household real income levels permit reaching nutrition standards.
2. Sector Sub-Goal: An effective, low-cost, integrated Basic Health Service (IBHS) equitably distributed in predominantly rural Nepal.	2a. Manned Health Posts (HPs) with outreach capacity rationally distributed throughout development regions (HMG target: increase HPs from 351 to 810; 23% Eastern Region, 29% Central Region, 23% Western Region, 25% Far Western Region).	2a. DHS reports.	2. - Health Delivery System is but one facet of a multi-sector program affecting Health and other parts of this program will not be reduced. - Integrated Health System meets significant number of communities' felt health needs. - HMG formalizes approval of Basic Health System formulation; and provides budget support; targets revised as appropriate. - Good programmatic and support coordination between vertical programs and CH/I exists. - Village Panchayats supply rented buildings (HP stages E-C-B); land, labor plus donor/HMG materials for later construction (HP stages A-I).

LOGICAL FRAMEWORK

Project Title and Number : Integration of Health Services (His Majesty's Government of Nepal (HMG)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	2b. At the end of five years, majority of stated HMG targets are met: - New health posts established according to priorities: In malaria districts likely to reach API 0.5 by 1980; hill-mountain areas favored; annual regional balance: 75-76: 50; 76-77: 25; 77-78: 100; 78-79: 134; 79-80: 150; Total: 459 - Existing non-integrated health posts integrated: Total: 236 - Plus 115 existing integrated HPs. Grand Total: 810 - After five years percentage of HP at various stages: "E" 26 "D" 24 "C-B" 37 "A" 3 "I" 10 = 100% (See Output A.1 for definitions) - Health Worker requirement targets: HA/SAHW: Existing 31, Target 821 ANM: Existing 81, Target 512 AHW: Existing 82, Target 703 JAHW: Existing 307, Target 3152 Can GoN afford?	2b. DHS and IOM reports.	- Technical assistance by donors (WHO, CIDA, UMN, IDRC) meets institutional needs of IOM. - Graduation targets of IOM met. - Training of health workers by IOM. - Coordinated with MOH and relate to IBHS needs.

LOGICAL FRAMEWORK

Project Title and Number : Integration of Health Services (His Majesty's Government of Nepal (HMG)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	2c. An effectively operating system, where fully integrated and staffed, meets following program targets: - Outreach services provided to over 75% of catchment area. (Monthly in Terai, bimonthly in Hills, semi-annually in mountains.) - 10% of target couples practice effective contraception. - Oral rehydration solution in 30% cases pediatric diarrhea. - Nutrition measurements performed routinely in children (weight or arm circumference). - 70% of active TB and confirmed leprosy held on treatment; BCG to 75% 0-15 year olds. - 80% of newborns immunized against smallpox (or surveillance maintained to "zeropox"). - API maintained in integrated areas at 0.5 or less. - Total HMG expenditures for health exceed five rupees per capita (at constant prices) in integrated districts.	2c. DHS and Vertical Program reports.	

LOGICAL FRAMEWORK

Project Title and Number: Integration of Health Services (His Majesty's Government of Nepal (HMG)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Purpose: HMG capacity to organize and manage an effective nationwide Integrated Basic Health Service (IBHS) demonstrated.	Conditions that will indicate purpose has been achieved: End of project status. Within Five Years: 1. In representative geographic areas (mountains, hills, Terai) according to phase of integration. 1a. Health Post Level Operational problems identified and reported (in staffing, training, supervision, attrition rates, performance, supply, records, communications); rate of problem identification exceeds rate of program development. 1b. District and Central level Operational problems identified and reported (in supply, planning, budgeting, curriculum and teaching methodology, coordination with other Ministries, and vertical programs); rate of identification exceeds rate of program development. 1c. Yearly rate of identified problems that are resolved increases by 5-10%. 1d. Annual planning of targets and annual achievement of targets do not differ by over 25% with fall in difference over the years.	1. Management, supervisory sample surveys.	Assumptions for achieving purpose: 1. - Sufficient number (majority of HMG target) of equitably distributed health posts are in evolutionary stage to integration so as to provide adequate sample to demonstrate Project Purpose. - Management objectives congruent with communities' perceived needs.

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	2. Vertical programs integrate staff and activities with Integrated Basic Health System:	2. DHS, vertical program reports.	2. - Malaria, TB-leprosy programs targets met.
	2a. FP/MCH, at integrated Health Posts offering static and outreach FP/MCH services.		
	2b. TB/Leprosy integration follows district sweeps in surveillance, immunization.		
	2c. MMEC integrated in malaria districts when API less than 0.5.		
	2d. Smallpox integration complete when "zeropox" declared.		
	3. Villager demand for Health Services increases 25% annually.	3. Sample community surveys.	
	4. Management expertise of IBHS acknowledged by other HMG programs.	4. Requests for documents and personnel.	

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Outputs:	Magnitude of Outputs:		Assumptions for achieving outputs:
A. Basic Health Services Management and Control Systems Developed			
1. HP staff recruited and phased in with evolutionary development of integrated health posts, and maintained in place.	1. With integration each HP passes through five phases: "E" - 3-5 Health Workers (HWs), use temporary quarters, provide minor first-aid and 2-6 x/annum home visits for FP/MCH rehydration, nutrition education, communicable disease surveillance, treatment. "D" - 4-6 HWs, additional clinic services. "C-B" 6-8 HWs with ANM providing clinic and outreach pre- and postnatal services, school program, AHW providing environmental services. "A" - 10-14 HWs increasing outreach and level of activity. "I" - Same, with entire district now "integrated". - 90% of posted personnel actually in place.	1. CH/I Reports	1. Cultural acceptance philosophy and adaptation of management by objectives. - Selection process for management personnel insures adequate leadership characteristics.
2. Supervisory functions developed.	2. Majority HMG five-year targets met:		2. HMG sanctions district, regional, central level personnel.
2a. District Health Office (DHO) supervisory staff recruited in phase with Health Post development.	2a. Stages detailed in "Project Formulation for Basic Health Services, Pg. 130. Stage 1 - When one E-Stage HP established DHO has one Health Inspector.... Stage 7 - When entire district covered by A-Stage (NMEO area) or C-B Stage (non-NMEO area) total technical/supervisory staff = 15.	2a. CH/I Reports	

LOGICAL FRAMEWORK

Project Title and Number: Integration of Health Services (His Majesty's Government of Nepal (HMG)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
2b. IBHS component of Regional Health Office (RHO) staff recruited in phase with district office development.	2b. 10 supervisory staff: 1 Medical Officer, 3 Health Inspectors, 1 Senior PHN, 3 HAs, 1 Sanitarian, 1 Statistician.	2b-2c. CH/I Reports	
2c. Central level (CH/I) staff recruited in phase with IBHS development.	2c. 3 Medical Officers, 4 Health Inspectors, 1 Sanitarian, 1 Statistician, 2 Training Officers.		
2d. Supervisory guidelines and manuals written for inter-survey supervision, supervisory staff trained in their execution.	2d. One manual for each level, each supervisor to continue survey techniques at scheduled supervisory visits.	2d. CH/I Reports	
2e. Supervisory survey system developed; survey design taught to and executed by District, Regional, and Central staff.	2e. Surveys include: - Service utilization statistics (eg. ante-postnatal, FP acceptors). - Service coverage (eg. nutrition, surveillance, vital statistics registry) (twice yearly in sample of HPs). - Personnel inventory (90% of posted staff to be in place). - District supervisory staff functions (eg. time spent in field, observation of HP worker, field record review and verification, field education of worker, office record review, trouble shooting, supply management). - HP supervisory functions (eg. time spent and function by HA, ANM, AHW guiding JAHW. (Twice yearly at all districts - sample HPs). - By 3 years majority of integrated districts have functioning supervisory system.	2e. CH/I Reports	

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
3. Management and health statistics information systems developed.			
3a. Existing system analyzed.	3a. Within 90 days, as part of Project Work Plan.	3a. Work Plan	
3b. Management information system to provide minimal data needed for planning and evaluation of inputs and outputs, aggregated at lowest level.	3b. In three years majority of integrated districts have functioning management information system.	3b-3e. Management Surveys, DHS Reports	
3c. System linked to logistic/supply system (see Output A.5) at district level for local management and control ("Stage One").	3c. "Stage One" up in 6-12 months in representative district offices.		
3d. System linked to Center (DHS Statistics Section and MOH Planning Cell) for central supervision, budgetary process and program tracking ("Stage Two") (see Outputs A.3-c, A.7).	3d. "Stage Two" up 12-18 months after Stage One complete.		
3e. Management information survey designed and executed by Central and Regional staff.	3e. Sampling of HPs and DHOs annually; determine availability of forms; error rate; time from field to District-Region-Center; aggregation error magnitude; use of data at all levels in supervision, administration, planning, supply (i.e. feedback loop present and time lag?).		
4. Logistics and supply system developed.			
4a. Existing system analyzed.	4a. Within 90 days, as part of Work Plan.	4a. Work Plan	
4b. Information and supervisory systems tied to logistics and supply (see Outputs A.3, A.4).	4b. See Output A.4.e.	4b. See Output 4b	

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
4c. Number of terminal sources of medical supply and indentures for HPs reduced with use of Sajha Swastha Sewa Sub-Central Stores, District Health Office Supply Stores.	4c. HP uses District Office store as terminal source. (Current: 4-6 separate sources for each HP).	4c-4e. CH/I, DHS Reports	4c. Sajha Swastha Sewa and vertical projects' cooperation in rationalizing supply line obtained.
4d. HP inventory system established and staff trained.	4d. See Output A.4.e.		
4e. Supply trail audit designed, executed by DHS Section of supplies, procurement, inspection.	4e. Annual survey to determine lag points		
4f. Methods of increasing drug supply and reducing costs researched.	4f. Available supply of drugs last 6-9 months in each HP (up from 3 months).	4f. CH/I Reports	4f. Drug prices remain stable.
- Minimal HP formulary established.	- Cut from 60-90 to minimal number needed for tasks assigned.		- UNICEF continues capital assistance to Royal Drug Co.
- Use of low-cost Aryuvedic herbs to replace western drugs for self-limited illness investigated.	- Up to 19 herbs eligible.		- Increased drugs forthcoming from HMG in event of increased consumer demand.
- Minimal charges to consumers investigated.	- Test concept in running integrated HP with 5000 or more visits/year.		
4g. Logistic and supply system in operation.	4g. In three years majority of integrated districts have functioning logistic/ supply system.		
5. HMG budget system comprehended.			5. Improved budgetary process can make TA/DA routinely available.
5a. Budget processes analyzed from Center to periphery.	5a. Within 90 days, as part of Project Work Plan.	5a. Work Plan	
5b. Record and report forms linked to Management Information System in CH/I Division and MOH Planning Cell.	5b. See Output A.4. Program funds, travel and daily allowances planned for to support supervisory training and survey activities (Outputs A and B).	5b. DHS Reports	

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
6. HMG personnel system comprehended.			
6a. Personnel policies analyzed in detail and normal administrative channels used to advantage.	6a. Within 90 days as part of Project Work Plan.	6a. Work Plan	6a. Transfers and placements minimally interfered with by non-administrative channels.
6b. Personnel inventory designed by DHS Section on general and personnel administration and executed by Central, Regional supervisors.	6b. Annual inventory sample HPs and DHOs; feedback of information to CH/I.	6b. CH/I Reports	
7. MOH Planning Cell augmented and trained.		7. MOH Reports.	7. HMG sanctions additional personnel slots.
7a. Staff increased and spending 75% of time on Integrated Basic Health Services.	7a. Senior permanent staff increased from one to four to include: Health Planner, Budget Analyst, Management Specialist, Statistician.		
7b. Capability demonstrated in health planning, program tracking, statistical analysis, policy planning.	7b. Within three years Planning Cell should be able to: analyze health and management statistics in preparation of annual plan; track DHS programs; assist with and coordinate MOH Sections' budgeting and programming; provide guidance to Regional and District planning efforts; assist MOH coordinate overall program and budget at National Planning Commission; adjust feedback DHS program to time and target revisions.		
7c. Capability demonstrated to plan and execute health status surveys and feed back results to delivery system managers.	7c. Temporary field staff hired as necessary. Surveys may include: community KAP, TB/leprosy defaulter follow-up; traditional practitioners study; demographic sample surveys; alternative technologies: 1-2/year.		

LOGICAL FRAMEWORK

Project Title and Number : Integration of Health Services (His Majesty's Government of Nepal (HMG)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
7d. Data bank on Health Sector established.	7d. Formulations, analyses, survey results, trip reports, Project papers, relevant reports from other countries annotated and maintained.	7d. MOH Reports.	
7e. Seminar on Health Management Surveys.	7e. Annually for all donors, HMG agencies gathering data.		
B. Training of Health Workers Meets Integrated Basic Health System Needs			
1. CH/I In-service Training capacity qualitatively and quantitatively expanded to meet IBHS needs.			
1a. CH/I Central Training Cell developed.	1a. 4 Training Cell officers recruited.		1a. HMG sanctions personnel slots.
1b. CH/I In-service training curricula designed, trainers trained.			
b(1) Verification studies of JAHW roles, team health post management, and on-the-job training/supervision completed.	1b(1) Time-motion studies of JAHW's by Health Inspectors and trainers at sample HPs performed every 18-24 months to determine task load of multipurpose works.	1b(1) CH/I Management Surveys	1b. - Nepali socio-cultural aspects of learning understood and well utilized. - USAID and other donor contributions appropriate and timely.
b(2) Curriculum design by CH/I Training Cell members based on verification studies.	b(2) Curriculum review every two years.	b(2)-(5) CH/I Reports.	
b(3) District Health Inspectors, CH/I Training Cell members, and deputed vertical program trainers trained in several teaching methodologies (role playing, interactive learning, decision tree logic, field work, etc.)	b(3) Annual workshops for approximately 60 members (4/yr., 15/class)		
1c. Training facilities expanded, decentralized and staffed.	1c. Three Regional training centers established and additional trained staff provided.		1c. HMG sanctions and provides funds for two additional training centers and staff.

LOGICAL FRAMEWORK

Project Title and Number : Integration of Health Services (His Majesty's Government of Nepal (HMG)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
1d. DHS panchayat recruitment and training of JAHWs and training of other IBHS personnel phased with H.P. developed.	1d. Based on projected IBHS needs, recruitment and training does not differ by more than ± 10% per year.		
2. IOM Training capacity qualitatively and quantitatively expanded to meet IBHS needs.			2. - HMG sanctions and funds expanded IOM personnel costs. - Other donors, particularly WHO, CIDA, UMN and Dooley Foundation contribute planned assistance on timely and appropriate basis. - Close coordination between donors and HMG continues; insuring complementary, well designed inputs. - Shortfall H.A.'s corrected by adjusted output and elevation AHWs to Sr. AHW. - Hospital and Vertical programs absorb excess ANMs and AHWs. - IOM/DHS policy and technical coordinating committees continue regular and effective meetings.
a. Physical training facilities expandsd.	a(1) USAID capital grant assisted AHW Schools constructed at Pokhara and Bharatpur.	IOM and USAID records. (Grant Conditions precedent, construction records, etc.)	
	(2) CIDA grant assisted AHW School constructed at Surkhet.	IOM, CIDA records.	
b. Faculty expanded and trained, and curriculum developed.	b. IBHS relevant curriculum developed, faculty trained with donor assistance (WHO, CIDA, UMN) and expanded to approximately 150.	b(1) IOM/USAID Grant Conditions Precedent satisfied. (2) IOM records. (3) Other donor records.	
c. IOM Graduate output targets	c. Planned graduate outputs:	c. IOM/CH/I records.	
3. Quality control of training by sample surveys of Health Workers (norms established).	3. 75% of workers perform tasks satisfactorily.	3. See Output A.3.d.	
4. Health Worker Manuals updated, pre-tested and put into field.	4. Over a 3 year period modular functional manuals for technology and management activities written appropriately for each type Health Worker.	4. CH/I reports.	

	75-76	76-77	77-78	78-79	79-80	Total
HA	88	100	100	100	166	604
ANM	200	250	330	340	340	1460
AHW	166	250	250	260	314	1240

LOGICAL FRAMEWORK

Project Title and Number : Integration of Health Services (His Majesty's Government of Nepal (HMG)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS			IMPORTANT ASSUMPTIONS
Inputs:	Inputs: Implementation Target (Type and Quantity)		Inputs: Other Donor Inputs (3.5 years)	Inputs: HMG Public Sector Inputs (3.5 years)
For Output A:	Three-Year Projection			Targets Fully Met: / Majority Targets Met:
1. Technical Assistance	Long Term:		1. WHO (271 pm) $ 445,647 UNICEF (3 pm) 3,750 Dolley Foundation (140 pm) 25,830 $ 475,227	1. Salaries $ 4,114,183 / $ 3,291,347 TA/DA 871,719 / 610,198 $ 4,985,902 / $ 3,901,545
a. Information, planning, program tracking specialist, T/A to Planning Cell, CH/I, DHS Statistical Section.	One (C.O.P. - 36 pm)	$ 105,920		
b. Public Health Officer, T/A to CH/I.	One (M.D. - 36 pm)	99,300		
c. Management Training Specialist, TA/A to CH/I. Management Sections of DHS.	One (36 pm)	89,370		
d. TDY Logistics/Supply 6pm Management Information 6 pm Survey Design 6 pm Drug Supply 4 pm	(22 pm)	60,000 $ 354,590		
2. Participant Training			2. WHO (321 pm) $ 145,845 UNICEF (30 pm) 29,500 UNFPA (183 pm) 156,000 $ 331,345	
Two Public Health Officers for MPH in US.	(24 pm)	$ 23,000		
Twelve Health Inspectors to Gandhigram, India, Diploma Health Education	(144 pm) Rupee equivalent	36,000		
Three Senior Officers Health Planning Course (Johns Hopkins)	(9 pm)	23,210		
Twelve Public Health Nurses to India for Public Health Nursing Diploma.	(144 pm) Rupee equivalent	36,000 $ 118,210		

LOGICAL FRAMEWORK

Project Title and Number : Integration of Health Services (His Majesty's Government of Nepal (HMG)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS			IMPORTANT ASSUMPTIONS	
Inputs:	Inputs:		Inputs:	Inputs:	
3. Commodities				3. Targets Fully Met:	Majority Targets Met:
				$	$
a. Supplies, manuals, and printing costs for management information system.	Rupee equivalent	$ 88,000	3a. FP Supplies: Drugs USAID (Av.500 IBHS HPs) $ (943,533)* UNICEF 119,664 Dooley Foundation 151,407	a. Drugs	1,239,738 743,821
b. Office equipment.		2,000	b. Equipment UNICEF 342,281 UNFPA 8,608 Dooley Foundation 42,500 CIDA 10,000 WHO 17,040	b. Equipment	85,789 51,606
c. Vehicles and Fuel	Two	18,000 $ 108,000	c. Vehicles & Fuel etc. UNICEF 39,938 WHO(Planning Cell) 70,300 UNFPA 84,960 Dooley Foundation 5,000 $ 891,698	c. Vehicle & Fuel d. Other	1,082,889 649,789 1,726,681 1,035,842 $ 4,135,097 $ 2,481,058
4. Capital Expenditures			4. CIDA $ 100,000 UNICEF 81,563 UNFPA 187,440 Dooley Foundation 9,000 $ 378,003	4.	$ 1,742,972 $ 958,580
5. Other Direct Expenditures					
a. Management and Information Control System Development.	Rupee equivalent	$ 80,430	5. WHO $ 8,350 UMN 50,000 $ 58,350		
b. Management Control System Trng.	Rupee equivalent	71,002			
c. Management Information System Training	Rupee equivalent	71,002			
d. Management/Supervisory Network Training	Rupee equivalent	120,215	* Non additive under POP/FP Project.		

LOGICAL FRAMEWORK

Project Title and Number : Integration of Health Services (His Majesty's Government of Nepal (HMG)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS			IMPORTANT ASSUMPTIONS	
Inputs:	Inputs:		Inputs:	Inputs:	
e. Special Studies and Research	Rupee equivalent	44,612			
f. Invitational and In-country Travel		30,000			
g. Post Project Evaluation		20,000			
h. Other		4,200			
i. Incentive for Surgical Contraceptive	Rupee equivalent	10,000 $ 451,461			
				Targets Fully Met: $	Majority Targets Met: $
6. Overhead			6. Overhead, differential, air fares, backstop support.	6. Overhead Total 2,736,300	2,233,911
a. Overhead rate 65%		$ 217,640			
b. Travel and Post differential		144,588	WHO $ 453,005 UNICEF 3,750 Dooley Foundation 2,100 CIDA 32,250 $ 491,105		
c. Short-term TA overhead and other direct		82,995			
d. Backstop	(27 pm)	40,240			
e. Contractor support	Rupee equivalent	88,000 $ 573,463			
TOTAL FOR OUTPUT A:		$ 1,605,724	$ 2,625,728	$ 13,600,271	$ 9,575,094

LOGICAL FRAMEWORK

Project Title and Number : Integration of Health Services (His Majesty's Government of Nepal (HMG)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDIC...			IMPORTANT ASSUMPTIONS
Inputs:	Inputs:		Inputs:	Inputs:
For Output B:	Three-Year Projection			Targets Fully Met: Majority Targets Met:
1. Technical Assistance	Long Term		1. For CH/I:	1. Institute of Medicine
a. Paramedical Manpower Training Specialist CH/I	One (36 pm)	$ 96,000	WHO (24 pm) $ 32,775	Salaries $ 146,961 $ 104,773
b. TDY in Curriculum Design, Trainer Training, and Teaching Methodologies, CH/I	(18 pm)	45,000	For IOM	TA/DA 79,363 46,040
		$ 141,000	WHO (39) 73,293	Ministry of Health
			CIDA & IDRC (112 pm) 190,750	Est. Salaries + TA/DA 37,831 27,482
			Dooley Foundation (35 pm) 10,150	$ 264,155 $ 178,295
			United Mission to Nepal (150 pm) 7,350	
			$ 281,543	
2. Participant Training				
Four persons for two-year Master of Arts in Teaching Public Health (CH/I)	(96 pm)	$ 93,333		
3. Commodities			3. For CH/I:	
a. HW manuals, teaching-aids, books, journals, supplies, CH/I	Rupee equivalent	$ 30,000	UNICEF $ 58,358	
			UNFPA 21,600	
b. Office equipment		1,700	79,958	
			For IOM:	
c. Vehicles	One	9,000	WHO $ 4,000	
		$ 40,700	CIDA 90,500	
			UMN 14,651	
			Dolley Foundation 9,000	
			UNICEF 175,080	
			$ 293,231	

LOGICAL FRAMEWORK

Project Title and Number: Integration of Health Services (His Majesty's Government of Nepal (HMG)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS			IMPORTANT ASSUMPTIONS	
Inputs:	Inputs:		Inputs:	Inputs:	
				Targets Fully Met:	Majority Targets Met:
4. Capital Expenditures	Rupee equivalent	$ 1,560,767	4. For CH/I: UNFPA $ 50,000 For IOM: CIDA 550,000; Dooley Foundation 3,000; UMN 48,400 $ 601,400	4. $ 592,694	$ 592,964
5. Other Direct Expenditures			5. For IOM: CIDA $ 25,000; Dooley Foundation 8,000; Other Donors 10,000 $ 43,000		
a. Other direct cost.		$ 2,500			
b. CH/I inservice training research. (Testing methodologies, curricula $ 10,000/year).	Rupee equivalent	30,000			
		$ 32,500			
6. Overhead			6. For CH/I: WHO $ 53,570 For IOM: WHO 72,307; UNFPA 5,000; CIDA & IDRC 135,300; Dooley Foundation 7,797; UMN 9,150 $ 229,554	6. Overhead $ 79,247	$ 43,070
a. Overhead rate 65%		88,556			
b. Air travel and post differential		50,200			
c. Short-term T.A. overhead and other direct costs.		62,254			
d. Backstop		40,240			
e. Contractor support	Rupee equivalent	40,000			
		$ 281,250			
TOTAL FOR OUTPUT B:		$ 2,149,550	$1,665,021	$ 936,366	$ 814,329
GRAND TOTAL A AND B:		$ 3,755,274	$4,290,749	$ 14,536,637	$ 10,389,423