633-0078

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UNCLASSIFIED

BOTSWANA

Project Paper

Health Services Development

633-0078

UNCLASSIFIED

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER FACESHEET

1. TRANSACTION CODE: A (A = ADD, C = CHANGE, D = DELETE)

PP

2. DOCUMENT CODE: 3

3. COUNTRY/ENTITY: OSARAC

4. DOCUMENT REVISION NUMBER:

5. PROJECT NUMBER (7 digits): 633-0078

6. BUREAU/OFFICE: A. SYMBOL: AFR; B. CODE: 1

7. PROJECT TITLE (Maximum 40 characters): Botswana Health Services Develop-ment

8. ESTIMATED FY OF PROJECT COMPLETION: FY 83

9. ESTIMATED DATE OF OBLIGATION: A. INITIAL FY 78; B. QUARTER 4 (Enter 1, 2, 3, or 4); C. FINAL FY 81

10. ESTIMATED COSTS ($000 OR EQUIVALENT $1 –)

A. FUNDING SOURCE	FIRST FY B. FX	FIRST FY C. L/C	FIRST FY D. TOTAL	LIFE OF PROJECT E. FX	LIFE OF PROJECT F. L/C	LIFE OF PROJECT G. TOTAL
AID APPROPRIATED TOTAL						
(GRANT)	(928)	(674)	(1,602)	(4,552)	(979)	(5,531)
(LOAN)	( )	( )	( )	( )	( )	( )
OTHER U.S. 1.						
OTHER U.S. 2.						
HOST COUNTRY		59	59		1,722	1,722
OTHER DONOR(S)						
TOTALS	928	733	1,661	4,552	2,701	7,253

11. PROPOSED BUDGET APPROPRIATED FUNDS ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE C. GRANT	PRIMARY TECH. CODE D. LOAN	E. 1ST FY 78 F. GRANT	E. 1ST FY 78 G. LOAN	H. 2ND FY 79 I. GRANT	H. 2ND FY 79 J. LOAN	K. 3RD FY 80 L. GRANT	K. 3RD FY 80 M. LOAN
(1) DH	530	510		1,602		1,714		1,990	
(2)									
(3)									
(4)									
TOTALS				1,602		1,714		1,990	

A. APPROPRIATION	N. 4TH FY 81 O. GRANT	N. 4TH FY 81 P. LOAN	Q. 5TH FY ___ R. GRANT	Q. 5TH FY ___ S. LOAN	LIFE OF PROJECT T. GRANT	LIFE OF PROJECT U. LOAN
(1)	225				5,531	
(2)						
(3)						
(4)						
TOTALS	225				5,531	

12. IN-DEPTH EVALUATION SCHEDULED: MM 06 YY 80

13. DATA CHANGE INDICATOR. WERE CHANGES MADE IN THE PID FACESHEET DATA, BLOCKS 12, 13, 14, OR 15 OR IN PRP FACESHEET DATA, BLOCK 12? IF YES, ATTACH CHANGED PID FACESHEET.

1 (1 = NO, 2 = YES)

14. ORIGINATING OFFICE CLEARANCE

SIGNATURE

TITLE: Ted D. Morse, Acting Regional Development Officer

DATE SIGNED: MM 06 DD 27 YY 78

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

AID 1330-4 (3-76)

SEP 12 1 00 PM '78

7 SEP 1978

SEP 15 2 00 PM '78

ACTION MEMORANDUM FOR THE ADMINISTRATOR

THRU : ES

THRU : AA/PPC, Alexander Shakow

FROM : AA/AFR, Goler T. Butcher

SUBJECT: Botswana Health Services Development Project (633-0078)

Problem: Your approval is required to execute a grant of $5,531,000 to the Government of Botswana for the Health Services Development Project with first year funding for fiscal year 1978, not to exceed $1,602,000, which will be drawn from the Security Supporting Assistance (SSA) appropriation.

Your approval is also requested for the following: (1) a source and origin waiver to allow procurement of up to $287,000 of construction materials and $60,000 of motor vehicles of Code 935 source and origin, (2) deviation from the policy set forth in Handbook 11 to allow employment of third country nationals for construction work in excess of twenty percent of the non-local work force, and (3) waiver of the policy set forth in Handbook 1, Supplement B, to allow procurement of up to $383,000 of construction services and related maintenance and repair services from firms of Code 935 nationality.

Detailed description and justification for the waivers and determination are included in Annex N to the Project Paper.

Discussion: The project provides technical assistance to the Government of Botswana to establish training of paramedical personnel and to strengthen health support services (public health education, nutrition, and health administration). Specialized paramedical personnel, including nurse practitioners, public health nurses and enrolled nurses, will be trained to staff a network of periurban and rural facilities providing primary and secondary health care to the rural population of Botswana.

The project institutionalizes the capacity for continuing basic and specialized paramedical training in Botswana through the establishment of a program for the Bachelor's Degree in Education for nurses. This program will permit the MOH to train nurse educators for assignment to paramedical training institutions. The MOH is now dependent on donor scholarships for third country training of nurse educators, which has severely limited its capacity to expand in-country paramedical training.

000001

The project is in accord with the National Development Plan of the GOB. In 1973, the GOB initiated a 30-year plan to provide primary health care to the total population of Botswana by the Year 2000. A network of facilities has been created which, when fully staffed, will provide a mix of curative and preventive services at the secondary and primary level. The facilities are now located to serve 80% of the population, but are handicapped due to the lack of skilled paramedical and auxiliary personnel.

The project also provides training, technical assistance and construction for health support services. Health administrators will be trained to manage the logistical support for rural health services to relieve the nurses of non-nursing duties and to increase the efficiency of the delivery of health services. A modest building will be constructed to house the national health education and nutrition units of the MOH which will be expanded and strengthened to provide support to rural services.

With technical assistance, the MOH will develop national strategies for health and nutrition aimed at eradicating and controlling major causes of morbidity and mortality. Since the major causes of illness and death, tuberculosis, venereal disease, measles and malnutrition, are preventable, the population must be educated to understand the causes, prevention and treatment of these prevalent diseases.

Medical treatment alone will have only temporary effects on these health problems, the MOH must develop health and nutrition education programs that promote community action and participation in health services. The expansion of the national units for public health education and nutrition will also permit the MOH to deploy trained personnel to assist paramedics working in secondary and primary facilities to develop local community activities to promote better health and nutrition.

Funding requested for the first year of the project is $1,602,000, and requested life of project funding is $5,531,000. The following is a breakdown in U.S. dollar equivalents of the A.I.D. contribution by general input categories:

	First Year	LOP
Technical Assistance	$ 774,000	3,103,500
Participant Training	33,600	792,000
Commodities	92,000	92,000
Construction	383,000	383,000
Other	52,600	238,660

	First Year	LOP
Contingency	$ 133,520	$ 460,916
Inflation	133,520	460,916
TOTAL	$1,602,240	$5,530,992

The GOB contribution to the Project is $1,722,000. This includes land, training and commodity inputs by the GOB.

OSARAC and the Project Committee have examined and found satisfactory the Project's economic, social and technical feasibility. The MOH has the capacity to manage the project, and has developed an implementation plan with Establishment List positions for personnel to be trained.

A negative determination, as recommended by the IEE (Annex M to PP) has been approved by the AA/AFR, and no further environmental analyses are necessary.

The project agreement is not expected to contain any unusual conditions and covenants. It will require the GOB, in effect, to provide suitable personnel for counterparts and for training and to assure that participants trained under the project will be assigned to positions commensurate with their training.

Annex N to the Project Paper contains justification for the waivers and determination needed for the Project. These include: (a) a source and origin waiver to allow procurement of up to $347,000 of construction materials and motor vehicles of Code 935 source and origin, (b) a determination to allow deviation from the policy in Handbook 11 in order to permit employment of third country nationals for construction work in excess of twenty percent of the non-local work force, and (c) a waiver of the policy in Handbook 1, Supplement B, to allow procurement of up to $383,000 of construction services and related maintenance and repair services from firms of Code 935 nationality.

The major GOB implementing agency will be the Ministry of Health.

The Project Committee met on July 25, 1978, and recommended approval of the Project without referral to the ECPR, subject to submission of (a) a summary of the Project's impact on improved health care in Botswana, and (b) a formal request from the GOB for this assistance. These documents, which were prepared after the Committee meeting, are now included in the Project Paper at Annexes Q and R, respectively.

An advice of program change for this project was submitted to Congress on August 16, 1978, and the waiting period expired on August 30.

The AID Affairs Officer in Gaborone will have initial A.I.D. field responsibility for project implementation and will draw on appropriate A.I.D. expertise available for Southern Africa, particularly the OSARAC Regional Health Advisor. Douglas Kline, AFR/DR/SA, is assigned responsibility for the project in AID/W.

Recommendations: That you sign the attached PAF II and thereby authorize both the proposed project and the requested waivers and determination.

Attachments:
1. PAF II
2. Project Paper

AFR/DR/SA:WDJones:mj:8;24/78 Clearances:DAA/AFR:WHNorthern 7 SEP 1978
GC:MBall MB by EHD
GC/AFR:JPatterson
PPC/DPRE:EBHogan
COM/ALI: BViragh

9/19 SER/CM:
Cleared by phone with J. Murphy, for W. Jones, AFR/DR

DEPARTMENT OF STATE

AGENCY FOR INTERNATIONAL DEVELOPMENT

WASHINGTON

DEPUTY ADMINISTRATOR

MEMORANDUM FOR: Mrs. Goler Butcher, AA/AFR

SUBJECT: Botswana Health Services Development Project - 633-0078

Please refer to your memorandum of September 7th (received here September 18th) requesting approval of both the above project and the several waivers relating to procurement sources and the employment of third country nationals.

Inasmuch as you have authority to approve the project itself, I believe it would be preferable and more consistent with our decentralization concepts if you would also approve the required procurement waivers pursuant to the following redelegation of my authority:

> "Pursuant to the authority vested in me, I hereby authorize the Assistant Administrator for the Africa Bureau to approve the waivers described in the attached Project Authorization and Request for Allotment of Funds."

Robert H. Nooter

DEPARTMENT OF STATE

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON

SEP 20 1978

THE ADMINISTRATOR

PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS (PART II)

Country - Botswana
Project Name - Health Services Development
Project Number - 633-0078

Pursuant to Part II, Chapter 4, Sections 531 and 532, of the Foreign Assistance Act of 1961, as amended (the "Act"), I hereby authorize a Grant to Botswana of not to exceed One Million Six Hundred Two Thousand United States Dollars ($1,602,000) to assist in financing certain foreign exchange and local currency costs of goods and services for the project as described in the following paragraph.

The project is designed to assist the Cooperating Country to increase its capacity to provide preventive and curative health services. The largest component will develop the capacity for relevant in-country training of needed paramedical personnel. Initial training will be completed to enable minimal staffing of a network of rural and periurban health facilities providing primary and secondary care. Other project components complement the work in the area of paramedical training. A program for the in-country training of health administrators will be developed and graduates will be appropriately placed to render health care delivery more efficient and productive through specialized administration and by freeing medical personnel from administrative duties to permit their more complete involvement in providing health care. Assistance will be provided for both the Health Education and Nutrition Units within the Ministry of Health. Both units will develop national plans and programs within their respective areas of expertise. Public health educators will be trained and placed in local health facilities to work with paramedical personnel in guiding and instructing the population in the maintenance of more healthy

living conditions and in disease prevention. Improved nutrition initiatives will be extended through local health facilities.

To carry out the objectives of this project, A.I.D. will provide financing for technical assistance, training, commodities and construction and other services.

I approve the total level of A.I.D. appropriated funding planned for the project of not to exceed Five Million Five Hundred Thirty One Thousand United States Dollars ($5,531,000), including the funding authorized above, for Grant financing during the period FY 1978 and 1981. I approve further increments during that period of the Grant up to $3,929,000, subject to the availability of funds in accordance with A.I.D. allotment procedures.

I hereby authorize the initiation of negotiations and execution of the Project Agreement by the officer to whom such authority has been delegated in accordance with A.I.D. regulations and Delegations of Authority, subject to the following terms and conditions, together with such other terms and conditions as A.I.D. may deem appropriate.

a. Source and Origin of Goods and Services

Goods and services financed by A.I.D. under the project shall have their source and origin in the Cooperating Country and in countries included in AID Geographic Code 941, except as A.I.D. may otherwise agree in writing. Ocean Shipping financed under the Grant shall be procured in the United States or the Cooperating Country, except as A.I.D. may otherwise agree in writing.

b. Covenants

The Project Agreement shall contain special covenants providing in substance as follows:

1. The Cooperating Country will provide on a timely basis, all required counterpart and trainee personnel and will assure that personnel trained under the Project will be assigned, upon completion of training, to positions commensurate with the nature and level of their training.

2. The Cooperating Country will assure that adequate housing is made available to technical assistance personnel financed under the project upon their arrival in the Cooperating Country.

c. **Waivers**

Notwithstanding paragraph a, above, and based upon the justifications set forth in Annex N to the Project Paper, I hereby:

1. Approve a procurement source waiver from Code 941 to Code 935 of the A.I.D. Geographic Code Book for the procurement of construction materials and motor vehicles provided that the amount of such waiver shall not exceed $347,000.

I certify that the exclusion of procurement of these construction materials and motor vehicles from the requested countries in Code 935 would seriously impede attainment of U.S. foreign policy objectives and the objectives of the foreign assistance program. In regard to the procurement of motor vehicles, I find that special circumstances exist to waive, and I do hereby waive, the requirements of Section 636(i) of the Act;

2. Approve a deviation from the policy in Handbook 11, which limits the employment of third country nationals on A.I.D.-financed construction work to 20% of the non-local work force, in order to allow for such employment of third country nationals under the Project in excess of said 20%;

3. Approve a waiver from the policy set forth in Handbook 1, Supplement B, which would limit A.I.D.-financed services to those provided by firms from the Cooperating Country or from countries within A.I.D. Geographic Code 941, in order to permit procurement of $383,000 of construction, maintenance and repair services from firms of Code 935 nationality.

I certify that the interests of the United States are best served by permitting the procurement of such services from Free World countries other than the Cooperating Country and countries included in Code 941.

John J. Gilligan
Administrator

Date

HEALTH SERVICES DEVELOPMENT IN BOTSWANA

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Bibliography

ABBREVIATIONS USED

MOE	Ministry of Education
MFDP	Ministry of Finance and Development Planning
MLGL	Ministry of Local Government and Lands
MOH	Ministry of Health
ULGS	Unified Local Government Service
UBS	University of Botswana and Swaziland
B.Sc.	Bachelor of Science
B.Ed.	Bachelor of Education
M.S.	Master of Science
EN	Enrolled Nurse
SRNM	State Registered Nurse Midwife
FWE	Family Welfare Educator
NDP	National Development Program
NP	Nurse Practitioner
PHN	Public Health Nurse
HE	Health Educator
P.S.	Permanent Secretary
P.P.	Project Paper
NORAD	Norwegian Agency for Development
CIDA	Canadian International Development Association

HEALTH SERVICES DEVELOPMENT IN BOTSWANA

I. SUMMARY AND RECOMMENDATIONS

A. Face Sheet Data - Rounded Estimates (in 000)

Grant	FY 1978	$1,602
	FY 1979	1,714
	FY 1980	1,990
	FY 1981	225
	Total:	$5,531

B. Recommendations

Authorization of a grant not to exceed $5.5 million, including the following waivers:

1. Waiver of the source and origin requirements (U.S. only) of FAA Section 636(i) to allow purchase of five project vehicles and one mini-bus from AID Geographic Code 935.

2. Waiver of the procurement source and origin requirements of AID Geographic Code 000 (U.S. only) to permit procurement of construction materials under Code 935.

3. Waiver of the policy set forth in Handbook 11 limiting procurement of construction services under grant-financed projects to U.S. and local firms.

4. Waiver of the policy set forth in Handbook 11 limiting employment of third country nationals for AID-financed construction projects to 20 percent of the non-local work force.

C. Summary Description of the Project

This project will provide technical cooperation and training to strengthen the delivery of health services in Botswana. Within the past five years, the Government of Botswana (GOB) has initiated an ambitious program to extend health services to the settled population of the country. The health service network includes permanently staffed, fixed facilities and is based on a referral system beginning at the village level. The basic motivator and initial point of contact in the health system is the Family Welfare Educator (FWE), a worker selected by his or her village and given basic training in health promotion and prevention. The FWE refers villagers to the health post, from which referral proceeds to the clinic, the health center and, lastly, to the hospital.

Donor assistance has resulted in the training and placement of FWE's and in the construction of a comprehensive network of health facilities. The next most urgent need in order for the health referral system to function effectively and efficiently is more complete staffing with adequately trained health workers.

The need for trained Batswana (the people of Botswana) staff extends to all levels of the health delivery system and across all functions within that system--promotive, preventive, curative and administrative. This project is designed to address this urgent need to provide adequately trained health delivery personnel.

AID inputs include (a) nine (9) long-term technicians and 1 project administrative coordinator and 45 pm of short-term consultant services; (b) U.S. participant training for 14 Batswana (long-term) at the diploma, B.Sc. and M.A. levels and 4 Batswana (short-term); (c) support for in-country training for 200 Batswana; (d) construction* of a central health education/nutrition unit; and (e) commodity and other costs support.

The project has been designed with four functional components. Each of these components or programs is a necessary link in the provision of basic health services through an effective and efficient health delivery system. The four functional components are: (a) nursing for health services, (b) health administration, (c) health education, and (d) nutrition.

The four components and their functions are:

Nursing Education--Nurse educators to staff local training facilities will be prepared in a university level, in-country training program introduced by the project. A diploma course will also be developed to train nurse practitioners and public health nurses in-country. The graduates of the program will provide the staff for existing understaffed health facilities throughout Botswana. The Enrolled Nurse Curricula will be revised to prepare practical level nurses for rural services.

Health Administration--Health and hospital administrators will be trained at the Institute for Development Management in Botswana for positions in District Councils and hospitals. A health planner and statistical assistants will be trained in the U.S. for MOH positions.

Health Education--An in-country training program will be developed to prepare health educators for positions with regional health teams. Trained Batswana will fill all positions in the Health Education Unit of the MOH. Planning and training capabilities of the Unit will be improved. A facility for the Health Education Unit will be constructed in Gaborone.

* Also includes four technician's houses

Nutrition—Nutrition research will be conducted, and results will be incorporated into a national nutrition program developed by project technicians and counterpart staff. Project-trained Batswana will eventually fill all the positions in the Nutrition Unit of the MOH. Offices for the Nutrition Unit will be located in the same facility constructed for the Health Education Unit.

The total AID inputs over the four-year period of the project are summarized, by component, below:

Nursing for Health Services		Amount ($)
Technical Services	- 20 person years (py)	1,720,000
Participant Training	- 25 py	368,000
Commodities	-	56,370
	Sub-total	2,144,370
Health Administration		
Technical Services	- None	-
Participant Training	- 36 py	223,200
Commodities	- None	-
	Sub-total	223,200
Health Education		
Technical Assistance	- 2 py long-term	
	15 pm short-term	284,500
Participant Training	- 8 py	117,600
Commodities		23,930
	Sub-total	426,030
Nutrition		
Technical Assistance	- 8 py long-term	
	- 30 pm short-term	913,000
Participant Training	- 8 py	83,200
Commodities	-	1,700
	Sub-total	997,900

A support component relates to project administration and construction.

Project Administration			Amount ($)
Technical Assistance	- 2 py		186,000
Participant Training	- None		-
Construction	-		383,000
Commodities			10,000
Other Costs			238,660
		Sub-total	817,660
Contingencies (10%)			460,916
Inflation (10%)			460,916
		Sub-total	921,832
		Grand-total	5,530,992

D. The Project Paper (PP) Design Team

Based upon the recommendations in the PID, a multi-disciplinary team was fielded for a total of 6 1/2 person-months of effort for the PP design. The team members included:

Ms. Margaret Racz	-	Consultant on Nursing Education (APHA)
Ms. Nancy Pielemeier	-	Consultant on Health Administration and Planning (PSC)
Ms. Constance Collins	-	OSARAC Regional Health Development Officer
Ms. Dianne Blane	-	REDSO/EA Design Officer
Mr. Stafford Baker	-	REDSO/EA Engineer

The consultants worked on the PP design from February 8 - April 14, 1978. The OSARAC Regional Health Development Officer and the REDSO/EA Design Officer participated for the first three and two weeks respectively and for the final two weeks. The REDSO/EA engineer joined the team for the final two weeks to work with the Ministry of Health and Ministry of Works on the plans for the construction of the health education/nutrition facility and to prepare the engineering analysis and IEE.

The design was conducted in close collaboration throughout the effort with all MOH officials. This collaboration was facilitated by the provisions in the MOH of office space, a telephone and ready access to all MOH personnel. Site visits to GOB and mission health facilities from Gaborone to Francistown were arranged by MOH. A listing of site visits is attached as Annex A.

In addition to MOH and Mission personnel, the team contacted all donor representatives, the Director of the Nursing Council of Botswana in Gaborone and the Director of the Nursing Examinations Board of Botswana, Lesotho and Swaziland in Pretoria. A listing of all persons contacted during the PP design effort is also attached (Annex B).

Two issues papers were prepared in the course of the design effort. The first was prepared after 10 days and highlighted the issues which required subsequent resolution based on the PID and initial discussions with MOH officials and other donor representatives. The second issues paper was prepared as the basis for discussion of the project components with the MOH, represented by the Permanent Secretary. Outstanding issues were resolved in the course of this meeting on March 13, and the resolutions were incorporated in the design of the project. The two issues papers are attached (Annex C) as indicative of the progress of the design process.

A draft PP was presented to the MOH on March 29. A meeting, again chaired by the MOH Permanent Secretary, was held on April 4, and a second draft PP was subsequently prepared incorporating the MOH comments. The second draft was then delivered by the team to OSARAC/Mbabane on April 10 for comments and clearance. The team left a final draft PP incorporating OSARAC comments on April 14. This final draft has been submitted for clearance to both the MOH and Ministry of Finance and Development Planning. Submission of this PP to AID/W for approval is based on the prior approval by the GOB of the project design, including both AID and GOB outputs and inputs, both programmatically and financially.

E. GOB Request for Assistance

The GOB official application for AID assistance will be cabled by OSARAC to AID/W upon receipt. The application will include all GOB internal clearances necessary to assure the GOB commitment of personnel and financial resources to the project (MOH, Ministry of Education and Ministry of Local Government and Lands). The request will be forwarded to OSARAC from the Ministry of Finance and Development Planning.

II. BACKGROUND AND DETAILED DESCRIPTION

A. Background

1. General:

The Republic of Botswana, with an area of 570,000 square kilometers, is located in the Southern African Plateau. More than two-thirds of Botswana's land surface is occupied by the Kalahari Desert and is unsuitable for agriculture. Although Botswana is slightly larger than France, the population is only 700,000.

Eighty percent of this population resides in the Eastern region of the country, bordered by Zimbabwe and South Africa, along the catchment of the Limpopo River where the land is suitable for agriculture.

The majority of Batswana, the people of Botswana, belong to eight principal tribes of which seven are Tswana. Linguistically and culturally there are few differences in these tribes, and the population is relatively homogenous. Bushmen, aboriginal inhabitants of Southern Africa, comprise about 5 percent of the total population. An estimated 10,000 Bushmen remain nomadic and live in the Kalahari Desert region.

Botswana remains predominately rural although urban growth has accelerated since 1971. The major occupations are subsistence agriculture and cattle raising. Over the past decade, mining and small industries have been developed and these are becoming increasingly important to Botswana's economy. Migrant labor to South Africa also is an important factor in the economy.

The population growth rate of Botswana is 3 percent creating a high dependency ratio. Infant mortality is relatively low and continues to decrease. The problems of rapid population growth as they relate to development are recognized in the GOB Fourth National Development Plan. The GOB encourages the expansion of family planning services within the health services; however, cultural acceptance remains low.

Although more adequate information on nutrition in Botswana is required, severe malnutrition in the adult population does not appear to be a problem. In infants and young children, there is an increasing amount of chronic protein calorie malnutrition. especially in the urban and peri-urban areas, which appears to be an outgrowth of social changes resulting from rural-urban migration.

2. Government of Botswana's Health Strategy:

The major health problems in Botswana are respiratory diseases, including tuberculosis, and gastroenteric and venereal diseases. Although the incidence of malaria and schistosomiasis is not widespread, there is increasing concern with both of these conditions. This concern

is due to recent outbreaks of malaria in nonendemic areas, primarily due to heavy rainfall, and to recent evidence of the spread of schistosomiasis. Another condition of growing concern is mental illness, including alcoholism. A more detailed health profile of Botswana, including statistics, is attached as Annex D.

As is true with most developing and developed countries, the initial emphasis of health services in Botswana was on curative care. Beginning with the period of the Third National Development Plan (1973-1978)1/, however, the Government of Botswana (GOB) embarked on a necessarily long-term effort to establish a preventive/curative mix of health services and to extend them into the rural areas. The Plan emphasized the need to (a) construct clinics and health posts in all settled communities of more than 500 persons, (b) train and appoint health personnel to work in the rural areas, (c) improve rather than expand hospitals, (d) use hospitals as the highest level within a health care referral system, and (e) accelerate the training of para-medical and auxiliary personnel. The goal was to reach the greatest number of people possible with the broadest level of health services which the GOB could afford.

The approach is being continued during the period of the Fourth National Development Plan (1976-1981). According to the Plan, "the long-term aim of the Ministry of Health is to provide a comprehensive health service to people throughout the country. To do this, the curative and preventive aspects of health services must be integrated and aimed particularly at the community or village level." (NDP 1976-1981, Chapter 14.39, Policy Statements and General Objectives). The statement continues that much progress has been made towards establishing a well-balanced health care system and that major objectives in order of priority are:

(a) strengthening of primary health services equitably distributed, but with an emphasis on rural and peri-urban areas;

(b) expansion and diversification of training facilities and opportunities for medical and para-medical personnel;

(c) improvement of hospitals and health services to ensure adequate referral and specialists' services;

(d) control and reduction of diseases caused by an unfavorable environment through immunization, surveillance and treatment;

1/ The GOB does not publish a sequence of five-year plans. Rather, a system of "rolling plans" is used; a new five-year plan is published every three years.

(e) expansion and diversification of health education training programs;

(f) expansion of the MOH's administrative and planning establishment; and

(g) expansion or introduction of new mental health, occupational health, and handicapped services into the primary health care delivery system.

These emphases are consistent with the observed health problems in Botswana. Preventive health measures can reduce the incidence of endemic and social diseases and conditions mentioned previously which tend to overburden a health delivery system.

3. The Health Delivery System:

(a) Government Organization

Botswana is geographically divided into twelve administrative units, including 10 districts and 4 town councils (Gaborone, Francistown, Lobatse, and Selebi Pikwe). The governing body on the district/town level is the District/Town Council, which functions under the authority of the Ministry of Local Government and Land (MLGL). The MLGL supports the operations of the Council by providing equipment and supplies and funds for construction. The MLGL's Unified Local Government Service coordinates the staffing of all council facilities, including health facilities. Health activities are coordinated between the MOH and MLGL at both the central and regional levels.

For the purpose of delivering health services, in 1974-75 the GOB/MOH established seven Medical Regions based on population distribution and the location of existing health facilities. Chobe was later delineated as an eighth region. A map of Botswana with the Medical Regions superimposed on the districts is attached (Annex E). This map will be further revised, however, if three additional Medical Regions are established, as presently under discussion. A Regional Medical Team is assigned to each Medical Region, including a public health nurse and a health inspector. Proposed additional members include a medical social worker, a health education officer and a nutrition officer. The seven Regional Medical Officers are presently all expatriates. The responsibilities of the teams include: (a) supervising the delivery of health services in each region with a special emphasis on preventive and educational aspects; and (b) advising the District and Town Councils on developing and providing health services in the districts and towns.

The MOH is responsible for the overall planning, administration and supervision of the health care system and for the total operation of GOB health centers and hospitals. The professional supervision of the district health facilities is also the responsibility of the

MOH. The Ministry headquarters in Gaborone has planning, administrative and health professionals to carry out these responsibilities effectively. An organigram of the MOH is attached (Annex F).

Upon the completion of training, all nursing personnel have three options for employment: (a) by the MLGL Unified Local Government Service for assignment to the Council health facilities (health posts and clinics); (b) by the MOH for assignment to the government health facilities (MOH, health centers and hospitals); or (c) by Mission facilities. Employment benefits and working conditions differ within the two GOB systems, creating a particular problem in staffing remote health facilities. In this case, it is often necessary for the MOH to secund staff to the Unified Local Government Service. One proposed solution to this problem is the establishment of a Unified Nursing Service which would combine both employment systems into one. This proposal is currently under discussion by a joint committee of the MOH and MLGL. The final decision on how to implement this change may take several years, but such a delay will not impede implementation of this project.

(b) Personnel

There are eighteen categories of health personnel working in Botswana who are being trained or will be trained during the current Plan period (1976-81) by the GOB.2/ The delivery of primary health services, however, depends primarily on three core categories:

Family Welfare Educator (FWE)—Chosen by her3/ community, the FWE is a village health worker paid by the local (District or Town) Council. With funding provided by the International Planned Parenthood Federation (IPPF), training is provided in family health, including family planning, for 11 weeks in Gaborone. Her role is mainly motivational. Approximately 350 FWE's are presently employed, and the planned level for new trainees is 60-90 per year.

Enrolled Nurse (EN)—Candidates for the EN program must have a Junior Certificate (junior high school graduate)

2/ Categories include: medical and dental officers and pharmacists, registered nurse midwives, enrolled nurses and enrolled nurse midwives, public health nurses, nurse tutors, dental nurse tutors, nurse practitioners, family welfare educators, health inspectors, health assistants, pharmacy technicians, nurse anaesthetists, dental therapists, health administrators, health education officers, medical social workers, nutritionists, and physiotherapists (plus related fields and assistants).

3/ The attributing of sex to the health personnel discussed in this PP reflects absolutely no prejudice or bias. The terms "she" or "her" must be interpreted to include both men and women in the same way that "he" or "his" can also include both men and women.

and are then enrolled in a two-year program at one of the four government or three mission schools. The four government schools are located in Francistown, Lobatse, Serowe and Molepolole; the three mission schools are in Mochudi, Kanye, and Ramotswa. Enrollment at the government schools will increase to 40 students per school per year (beginning in 1979). Student enrollment at the mission schools averages 15 per school per year. Upon graduation, a selected number of EN's are given an additional two years of training at the National Health Institute (NHI) in Gaborone to qualify as Enrolled Nurse Midwives (ENM).

State Registered Nurse (SRN)—Beginning in 1974, candidates for the SRN program must have passed the Cambridge O-Level examination (high school graduate) and are then enrolled in a basic three-year program at the National Health Institute in Gaborone. All graduate SRN's, however, are required to qualify also as midwives. This requirement adds one year to the basic training; the candidate graduates as a State Registered Nurse Midwife (SRNM). Enrollment at NHI is 62 students per year through 1981; after 1981, enrollment will increase to 95 students per year. This proposed increase is contingent upon completion of the final phase of expansion of the NHI facilities under a loan from the African Development Fund.

Both the EN and the FWE are supervised by the SRNM. Supervision will be greatly improved by the introduction of SRNM's trained to function as Nurse Practitioners (NP's) and Public Health Nurses (PHN's) under this project. Previously a few nurse specialists (NP and PHN) were by necessity trained outside of Botswana. Under this project, these post-graduate training programs for SRNM's will be established in Botswana, and the EN and SRNM training programs will be strengthened.

Both the EN program and the SRNM program are under the professional control of the Nursing Council of Botswana. Standard examinations for the award of diplomas are offered by the Nursing Examinations Board of Botswana, Lesotho and Swaziland (NEBBLS).

The importance of the nurse in Botswana is underscored by the fact that there are approximately 75 physicians working in Botswana, of whom only 15 are Batswana.4/

A description of the functions of the Family Welfare Educator, Enrolled Nurse, and State Registered Nurse Midwife is included in the Section III. C.2, Technical Analysis.

4/ The term in the singular for a citizen of Botswana is "Motswana". In the plural the term in "Batswana".

(c) Health Facilities

Health facilities in Botswana include hospitals, health centers, clinics and health posts. The largest hospital, the Princess Marina in Gaborone, has 304 beds, provides general hospital services and is the national referral center. There are a total of nine government hospitals, including one mental hospital in Lobatse; two mine hospitals (Orapa, Selebi-Pikwe); and three mission hospitals (Mochudi, Kanye, Ramotswa).

Total numbers of health facilities are indicated in the table below. New construction since 1973 has been financed principally by NORAD (see Section II. A. 4. below).

Facility 5/	Prior 1973	Under Const & Completed by 1977	Total
Hospitals	14	-	14
Government	(9)	-	(9)
Mission	(3)	-	(3)
Mine	(2)	-	(2)
Health Centers	8	-	8
Clinics	10	79	89
Maternity Wards	5	28	33
Health Posts	20	160	180+

At the village level, the basic health facility is the health post which provides primary health care and is usually the base of operations for the FWE. Services provided at clinics vary somewhat depending on whether or not a maternity ward is included in the clinic complex. Depending on the seriousness of the malady, the patient is referred from the health post to the clinic, from the clinic to the health center, and from the health center to the nearest hospital. The most serious cases are brought to the Princess Marina Hospital for care.

The location of facilities is determined by the double criteria of population and distance. According to the Fourth National Development Plan, a health post should be available in all villages with a population of more than 500 persons and/or within 15 kilometers of the

5/ Sixty-two (62) nurses houses have also been constructed with NORAD assistance, resulting in a total of 72 houses available for nurses at rural health facilities.

homes of all settled populations. The MOH determines the additional need for clinics and health centers in more densely populated areas. See Annex G. for criteria for the location and staffing of health facilities.

According to the MOH criteria, it is estimated that 85 percent of the population of Botswana is served by health facilities. As additional facilities are constructed and staffed, increased demand for preventive and curative services has been demonstrated. Reported numbers of immunizations, one indicator of use of facilities and services, increased dramatically between 1973 and 1975, as indicated in the following table:

Type of Immunization	1973	1974	1975
BCG	17,000	86,000	120,000
Polio	14,000	84,000	89,000
DPT	27,000	63,000	84,000
Measles	4,000	6,000	25,000

During this same time period, the number of new outpatient visits also increased from approximately 270,000 to 410,000. Rural outpatients represent 70 percent of the total outpatient visits.

Fees charged for outpatient services do not represent a barrier to utilization as postnatal, antenatal care, and services to children under 13 years are provided free of charge. Charges for other health services are minimal.

(d) Role of Non-Government Health Network

Given the limited manpower and financial resources available for health, the MOH considers it essential for both the public and private sector involved in health care to coordinate their planning and work within the total framework of Botswana's health services.

A major source of health services outside the central and local government are the various missionary operated facilities. According to the Fourth National Development Plan, mission hospitals have approximately 25 percent of the total number of inpatient beds and treat approximately 20 percent of the total number of outpatients. The relationship between the GOB/MOH and the missions is evolving. The GOB does not intend to acquire mission health facilities as a matter of policy, but rather to treat each mission facility as part of the total health system. The GOB contributes financially to their viability by subsidizing operating costs and also ensures that missions recognize the essential responsibilities of the central and local government. These responsibilities include (1) supervision by the Regional Medical Teams, (2) maintenance and/or planning of new or expanded facilities and (3) budgetary and/or utilization reviews. The various missions in Botswana are members of the

Association of Medical Missions for Botswana and are represented in the MOH by an Executive Coordinator. This arrangement has proved extremely successful in coordinating the work of the missions and in improving the planning process.

GOB health care policy is also evolving with regard to private mining companies. Some have already contributed to the development of health facilities, while other new industries, especially in isolated areas, find that they cannot attract skilled workers without providing adequate health care services. Although agreeing with this necessity, the GOB/MOH would like these resources to be fully integrated into the overall health care system.

Although not part of the modern health care system, the traditional healer (Ngaka) performs a significant role in Botswana, especially in rural areas. Research findings indicate that: (a) 42.9 percent of surveyed families have consulted a traditional healer at some time; (b) 43.7 percent of the relatives of nurses have consulted a traditional healer at some time; and (c) 93.4 percent of the general population has consulted a scientific doctor at some time. On the basis of this information, the MOH policy is to evaluate further the contribution of traditional healers to the health care system and possibly then to seek ways and means of closer cooperation and consultation.

4. Other Donor Interventions in the Health Sector:

Other donor assistance accounts for approximately 90 percent of the GOB's development expenditures on health. The GOB finances 100 percent of its recurrent health expenditures. Donors and the types of assistance they are offering are listed below. The listing, however, does not include donor assistance to other ministries of health-related activities, such as village water supply.

Donor	Type of Assistance	Estimated Amount
Investment Assistant		
African Development Fund (African Development Bank)	Soft loan for expansion and new construction at NHI and at the 4 government enrolled nursing schools	$ 4,860,400
The Netherlands	Maternity Center, Maun	270,000
	Improvement of Ghanzi Health Center	400,000
	Orthopedic Workshop	30,400
	Possible Support to TB Program	Not available

Donor	Type of Assistance	Estimated Amount
Norway (NORAD)	Construction of rural health facilities (to date)	$ 5,470,000
	Proposed hospital improvements (1978-81)	4,465,500
Debswana (Harry Oppenheimer Foundation)	Improvements at Lobatse mental hospital	121,510
International Planned Parenthood Federation (IPPF)	Support to MCH/FP (contraceptives) and FWE training	59,200 (1978)
UNICEF	Supplies, vaccines and medical equipment for health posts and clinics (to be increased)	91,150
UNFPA	Support to MCH/FP program (TA, staff support, equipment)	443,500
UNDP	Support to campaigns against contagious diseases (TB, malaria) (not yet finalized)	388,850
Food Assistance		
UN World Food Program	CSM, vegetable oil 1975-76	1,634,300
	1976-77	2,205,400
Technical Assistance - Dollar value not available		
Norway (NORAD)	Doctors, pharmacy and laboratory technicians	
Denmark	Doctors, dentist and laboratory technicians	
Great Britain	Doctors, dentists and laboratory technicians	
Germany	Doctors	
Holland	Doctors	
Canadian University Services Overseas (CUSO)	Nurses, dentists and pharmacists	
South Korea	Surgeon	

Donor	Type of Assistance	Estimated Amount
WHO	Epidemiologist, statistician, health information specialist, smallpox technician and NHI tutor	
United States	AID - instructors for MCH/FP program (Meharry) Peace Corps - bilharzia biologists (partially subsidized)	$ 1,820,000

Fellowships - Dollar value not available

WHO Long-term

1 MSc public health nurse (1976-1978)
1 MSc public health nurse (1976-1980)
2 public health nursing (1977-1978)
2 health education diplomas

Short-term

2 environmental sanitation and communicable disease control
1 malaria control
2 administration for senior nurses (3 months)

UNDP

Great Britain (CFTC)

Canadian Nurses' Association

United States (AID)

1 MSc public health nurse (1977-1979)
1 MSc public health nurse (1976-1980)
1 BSc in nursing (1976-1979)
1 BSc nursing (1976-1979)
1 BSc nursing (1976-1979)
1 BSc health education (1976-1979)
5 preceptors, family health practitioners (1978-1979)
2 advanced diplomas in nursing (1976-1979)

Although commitments and/or contributions from other donors have not been incorporated into the design of this project, most of the contributions listed above will have an indirect, beneficial impact on the project. Conversely, the outputs of this project will increase the effectiveness of other donor programs and projects. For example, health

personnel trained under this project will be available to staff many of the facilities financed by other donors. The MOH centrally coordinates all donor contributions in the health sector, including the AID assistance which will be provided through this project. This assures complementary donor efforts and not duplication.

Special mention must be made of the contributions (included above) of NORAD, IPPF, and UNICEF to the establishment and continuing operation of the primary, village-level health care system. Under the project "Development of the Rural Health Services in Botswana", initiated in 1973, NORAD has financed the construction of more than 160 health posts, as well as 79 clinics, 28 with maternity wards, 62 nurses houses and 4 MCH centers. Furniture, equipment and vehicles have also been provided. UNICEF has provided medical equipment, supplies and vaccines. The staffing of these facilities, especially the health posts, by the FWE, has been supported by IPPF, which has financed the training of this growing group of primary health care workers.

Based partially on the contributions of these donors and more particularly on the effective operation of the primary health care system, additional support on this level by AID at this point is neither warranted nor requested by the GOB. The FWE training program is well established, and this primary health care worker is integrated into the overall basic health service and referral system.

B. Detailed Description

A logical framework for the project is attached as Annex H.

1. Sector Goal:

According to the Fourth National Development Plan, "an improved level of health is a national goal and an important element in a better quality of life", an appropriate goal for this project. Assuming that a "better quality of life" is the product of progressive economic and social development, interventions are required in all sectors, including health (agriculture, education, infrastructure, etc.). This project will contribute to the realization of an impact on the level of health. Achievement can be measured by (a) a decline in the infant and maternal mortality rates; (b) a decline in the incidence of endemic and communicable diseases; (c) a public awareness of social illnesses; and (d) an increase in life expectancy. Sources for verification include GOB census and vital statistical data. WHO and World Bank health and economic surveys may also indicate an improved level of health over the next decade, if not conclusively within the life of this project.

There are several basic assumptions, however, which will influence achievement of the goal:

(a) The GOB will continue to consider the development of the health sector as an important element in improving the quality of life in Botswana;

(b) a change in the political situation in Botswana will not divert budgetary resources presently allocated for health for other purposes;

(c) trained health personnel will work in rural areas as needed;

(d) the population will continue to accept health services offered; and

(e) parallel social and economic development in other sectors will also contribute to improving the level of health.

2. Purpose:

The purpose of this four-year project is to increase the capacity of the GOB Ministry of Health to provide comprehensive health services to the people of Botswana, with an emphasis on the rural and peri-urban populations. Conditions expected at the end of the project include:

(a) a reorientation of nursing training in Botswana to produce a nurse cadre effectively prepared to provide comprehensive health services to the rural and peri-urban populations;

(b) nurse practitioners, public health nurses, nursing service administrators and clinical specialists in place, supervising primary health care workers, and performing preventive and curative services within the health delivery system, in accordance with the personnel targets in the Fourth National Development Plan;

(c) administrative capacity for providing health services increased by placement of approximately 90 percent of health administrators required at the central, regional and local levels;

(d) preventive and promotive health services improved through health education (programs implemented and staff in place); and

(e) a national nutrition program planned and in process of implementation by trained personnel.

Achievement of the project purpose can be verified by analyzing numbers of out-patient/clinic visits, number of antenatal/postnatal care visits, attendance at child welfare clinics, numbers of TB program

defaulters, numbers of health facilities functioning efficiently and effectively, the kinds of health services available, and availability and distribution of drugs and medical supplies. Sources for this information include MOH annual statistical reports and periodic surveys conducted by the MOH, other donors and AID under this project.

There are three assumptions for achieving the project purpose: The MOH regards the provision of health services as contributing to an improvement in the health status of the population; the budget of the MOH and MLGL will increase sufficiently to provide the recurrent funding necessary to support the project components; and other donors continue to support complimentary programs.

The project has been designed with four components. Each component will impact on the purpose of the project; collectively the components will result in achievement of the project purpose. For purposes of presentation, project outputs and inputs will be discussed by component in the sections below.

3. Project Outputs and Inputs by Component:

(a) Nursing for Health Services

(1) Outputs

- Curricula for two one year, diploma-level, in-country training programs for SRNM's to function as nurse practitioners and public health nurses developed, in use and directed by Batswana personnel;

- educator/teaching positions for these two programs filled by Batswana, all but two of whom are presently in training;

- enrolled nurse curriculum revised and in use in the government and mission EN training schools;

- three-year Bachelor of Education in Nursing program at the University of Botswana and Swaziland (UBS) assisted and strengthened;

- nurse educator positions for this program filled by Batswana;

- foundation established, including curriculum development, for possible future transition to a Baccalaureate-degree program in nursing (B.Sc. in Nursing);

- nursing service administrators trained to direct the delivery of health care by health personnel on the central regional and district levels.

The magnitude of outputs includes:

— Sixty (60) SRNM's trained as nurse practitioners (15 per year X 4 years)

— Sixty (60) SRNM's trained as public health nurses (15 per year X 4 years)

— Sixteen (16) SRNM's trained as nurse educators with a B.Ed. in nursing; another 16 SRNM's will be in the process of completing the B.Ed. program. (8 per year X 4 years);

— Three (3) SRNM's trained as nurse practitioners, one; and nurse educators, two; to assume teaching positions;

— Five (5) SRNM's trained as nursing service administrators.

(2) AID Inputs ($2,144,370)

— Two (2) nurse practitioners (NP) educators for four years to develop the NP curriculum, assist in teaching the NP course, and to supervise five Batswana clinical preceptors, who will assist with clinical instruction in the NP program. Two technicians are needed for this program because NP training requires a high ratio of instructors to students. The program will be given at NHI.

— One (1) public health nurse (PHN) educator for four years to develop the PHN curriculum and to assist in teaching the one year in-country PHN training program to be given at NHI.

— Three (3) nurse educators: (a) One for two years to assist in developing the Bachelor of Education in nursing program at the University of Botswana and Swaziland; (b) one for four years to assist in revising and reorienting the EN curriculum; and (c) one for two years to assist in revising the present SRNM curriculum and reorienting the SRNM program toward a BSc in nursing. Job descriptions for nurse technician positions and all other positions funded under the project are attached as Annex I.

Participant Training:

Nurse Practitioner Educator

— One (1) participant for five years in the U.S.—four years in BSc in nursing; one year for an M.S. as a Family Nurse Practitioner. This participant will return to teach in the NP program.

Nurse Educators

— Two (2) SRNM participants for two years each in the U.S. to acquire a M.Ed. These participants will teach in the Bachelor of Education in nursing program at UBS.

Nurse Administrators 6/

— Two (2) participants for five years each to acquire a BSc in nursing followed by an MA in Nursing Service Administration.

— Three (3) SRNM participants for two years each to acquire an MA in nursing service administration. These participants will return to fill senior-level MOH positions in the Ministry itself and in government hospitals.

No U.S. participant training is required to support the Public Health Nursing Program. Five participants are currently in training under the MCH/FP project with Meharry. (See Section III.C.1 below for details.)

Commodities—A limited amount of medical equipment and supplies are required to support the nurse practitioner, public health nursing and enrolled nursing programs. Examples include anatomical models, a movie projector and screen, home visiting bags, and reference books. An illustrative equipment list with estimated costs is attached as Annex J. In addition, four vehicles will be purchased; one minibus (15 passenger) and one VW Combi for the NP/PHN programs; one station wagon (Ford or Peugeot) for the UBS program; and one van VW Combi for the EN program.

(b) Health Administration

(1) Outputs

— Health administrators trained for senior-level positions in hospitals, on local council staffs and in the MOH.

The magnitude of outputs includes:

— Thrity-two (32) Batswana trained in health administration (8 per year X 4 years)

— One (1) Batswana trained in health planning;

6/ It will be necessary to train two participants in nursing service administration from the B.Sc. through the M.S. level because there are insufficient numbers of B.Sc. nurses in country for all five candidates to enter at the MS. level.

— Four (4) statistical assistants trained in census and vital statistics.

(2) AID Inputs ($223,200)

Technical services are not required. The rationale for this decision is discussed in the Technical Analysis. Inputs include scholarships for 32 participants to attend the health and hospital administration program offered at the Institute for Development Management (IDM) in Botswana. Upon completion of the one-year course, the student is awarded a diploma in health and hospital administration. Graduates will assume administrative positions in health facilities on the national and district level.

In the area of U.S. participant training, one BA graduate of UBS will be trained for two years for a MS in Health Planning. This participant will return to become a Planning Officer in the MOH, replacing an expatriate presently in this position. Four Batswana statistical assistants will receive short-term training for six months each in statistics and statistical analysis. Appropriate training may be offered at the Bureau of the Census.

(c) Health Education

(1) Outputs

— National health education plan developed and in the process of being implemented;

— capability developed to provide training in health education;

— training program developed for health educators;

— health education positions in the MOH Health Education Unit filled by Batswana;

— new facility for the Health Education Unit built and in use.

The magnitude of outputs includes:

— Two (2) Batswana trained in health education planning;

— One (1) Motswana trained in graphic arts; and

— Eight (8) to 10 Batswana trained on-the-job in health education programming and techniques.

(2) AID Inputs ($426,030)

Technical Services—The services of one Health Educator with speciality in planning will be provided for a total of 15 months. This consultant will assist the staff of the MOH Health Education Unit in long-range planning and program development. Services will be provided on a periodic basis, initially for several months, to assist in developing an organized and rational HE program and thereafter for a shorter period to follow-up on the implementation of the program. The services of a second Health Educator with a specialty in curriculum development will also be required for two years to design and assist in teaching an in-service health education program. Trainees will be staff members of the HE Unit and/or Batswana who will be assigned in the future as HE officers on the Regional Medical Teams. The third requirement is for the services for two years of a Graphic Artist to advise and assist the HE Unit in the production of audio-visual materials and publications. These aids are essential for the implementation of an effective country-wide program in health education. The Graphic Artist will be a Peace Corps Volunteer.

Participant Training—Three participants will be trained in the U.S. under this component: One will be trained for four years for a BSc. (or MS. if a university candidate) in Health Education with an emphasis on planning; one BSc. graduate of UBS for two years for a MA/MS in Health Education Planning; and one for two years diploma training in graphic arts. These participants will return to staff the HE Unit, in some cases replacing expatriate staff.

Commodities—Audio-visual supplies will be purchased to equip fully the HE Unit for photography and film production. Camping equipment for the staff will be provided to permit them to direct health education programs in the rural areas. One VW Combi will be purchased for transportation. An illustrative equipment list is attached (Annex J).

(d) Nutrition

(1) Outputs

- Nutrition research conducted with the results analyzed and considered in the design of nutrition programs;
- a national nutrition program developed and in the process of implementation;
- nutrition positions in the MOH Nutrition Unit filled by Batswana;
- new facility for the Nutrition Unit built and in use.

The magnitude of outputs includes:

— Two (2) Batswana trained in nutrition and nutrition planning;

— Eight (8) - 10 Batswana trained on-the-job in nutrition planning and surveillance.

(2) AID Inputs ($997,900)

Technical Services—The services of one Nutrition Planner and one Human Nutritionist are required for four years each. These technicians will assist in identifying requirements for nutrition research and assisting in that research. The Nutrition Planner will be primarily responsible for identifying requirements for research, assisting in implementation of research, and planning and implementing a comprehensive, national nutrition program including surveillance. The Human Nutritionist will be responsible for providing in-service training for staff of the MOH Nutrition Unit; preparing a nutrition component for the training programs of FWE's, ENs, and SRNMs; and the supervision and implementation of ongoing nutrition programs. Consultant specialist in nutrition research will be provided on a periodic basis for a total of 30 months to assist in planning and implementing research studies and surveys.

Participant Training—In addition to the in-service training mentioned above, two participants will be trained in the United States: One for four years for a BSc. in Nutrition; and one BSc. graduate of UBS for two years for a MS in Nutrition. These participants will return to assume senior-level positions in the Nutrition Unit.

Commodities—Wall charts and other visual and teaching aids are required to more fully equip the Nutrition Unit, supplementing equipment and supplies to be provided by UNICEF. These, as well as books, will be purchased in limited supply.

(e) Summary of AID Inputs in Technical Services and Participant Training

The following tables illustrate the requirements in technical services and participant training which have been outlined above. Also illustrated is the time flow for these inputs, i.e. scheduled arrival and departure dates for long-term technicians and periods of study in the United States for long-term participants. Altogether nine long-term technicians and one project administrative coordinator (30 person years of technical assistance), 45 person months of short-term consultant services, 14 long-term and 4 short-term U.S. participants(75 person years) will be funded under this project. In addition, 200 Batswana will be trained in-country, for a total of 275 person years.

COMPONENT	1979	1980	1981	1982	1983	1984
	J M M J S N	J M M J S N	J M M J S N	J M M J S N	J M M J S N	J M M J S N
	F A J A O D	F A J A O D	F A J A O D	F A J A O D	F A J A O D	F A J A O D
Nursing for Health Services						
Technical Services						
Nurse Practitioner (4 years)	June				May	
Nurse Practitioner (4 years)	June				May	
Public Health Nurse (4 years)	June				May	
Nurse Educator (BEd.)(2 years)	June		May			
Nurse Educator (EN) (4 years)	June				May	
Nurse Educator (2 years) (SRNM/BSc. curriculum)			June		May	
Participant Training						
Nurse Practitioner (5 years)	Sept					June
Nurse Educators (2 years)	Sept		June			
Nurse Educators (2 years)	Sept		June			
Nursing Service Admin (5 years)	Sept					June
Nursing Service Admin (5 years)	Sept					June
Nursing Service Admin (2 years)		Sept		June		
Nursing Service Admin (2 years)		Sept		June		
Nursing Service Admin (2 years)			Sept		June	
Health Administration						
Technical Services						
None						
Participant Training						
IDM Course (32 participants)	January				Dec	
Health Planning (2 years)		Sept	Sept			

	1979	1980	1981	1982	1983	1984
	J M M J S N F A J A O D	J M M J S N F A J A O D	J M M J S N F A J A O D	J M M J S N F A J A O D	J M M J S N F A J A O D	J M M J S N F A J A O D
Statistician (short term)						
Health Education						
Technical Services						
Health Educator (15 months consultant services)		___	___	___	___	
Health Educator (2 years)	June ___	___	___	May		
Graphic Artist (2 years) (Peace Corps Volunteer)	June ___	___	___	May		
Participant Training						
Health Education (4 years)		Sept ___	___	___	___	June
Health Education Plan (2 years)		Sept ___	___	June		
Graphic Artists (2 years)	Sept ___	___	June			
In-service (8 - 10 years)						
Nutrition						
Technical Services						
Nutrition Planner (4 years)	June ___	___	___	___	May	
Nutritionist (4 years)	June ___	___	___	___	May	
Research Consultant (30 months)		___	___	___	___	___
Participant Training						
Nutrition (4 years)	Sept ___	___	___	___	June	
Nutrition (2 years)		Sept ___	___	June		
In-Service (8-10 person years)						

(f) Additional AID Inputs

(1) Project Administration

The project will be implemented by a contractor. Given the scope of the project an Administrative Coordinator will be required for the life of the project. A U.S. Coordinator will be hired for the first two years. Resident in Gaborone this Coordinator will be responsible for personnel management, project accounting, and administrative management of the AID contract. Other duties will include commodity purchasing, customs clearance, housing management, and the submission of project progress reports to both the contractor's home office backstop and the AID Affair's Officer/Gaborone. The U.S. Coordinator will be responsible for recruiting a local counterpart and training this person to assume the duties described for the remaining years of the project. A detailed job description is included in Annex I.

(2) Project Evaluation

Funds have been included in the project budget for short-term consultant services for two project evaluations. Four consultants, one to evaluate each component, will be required for four weeks of service in each evaluation (4 months X 2 = 8 months of services). The requirements for evaluations are discussed in Section V.C., Evaluation Arrangements.

(3) Commodities

The purchase of one station wagon is required for the Administrative Coordinator. A request for waiver of the source and origin requirements for all project vehicles is attached (Annex K).

(4) Other Costs

Provision in the project budget has been made for (a) the local employment of clerk-secretary to assist the Administrative Coordinator; (b) the local employment of a driver/mechanic for the project vehicles; (c) housing rental for three project technicians; (d) vehicle operation and maintenance; (e) in-country travel costs; (f) computer services for the analysis of nutrition research data; (g) rental of a project office for the Administrative Coordinator and clerk-secretary; and (h) purchase of basic office supplies and equipment.

It is possible that the MOH will provide space for the project office. An office would be available when the Nutrition Unit is moved to the new facility (see below). Since this is only a possibility, however, funds have been included in the project budget for office rental for the life of the project.

(5) Construction

The present physical facilities of both the MOH Nutrition Unit and Health Education Unit are inadequate in terms of space and location. One modest building complex will be built to accommodate both units. Four standard GOB technician houses will be required to provide housing for the nine long-term technicians and project administrator. This housing will be supplemented by the rental housing units available at UBS and previously financed AID technician housing in Gaborone. A detailed engineering analysis of the construction activities is attached Annex L.

(4) Government of Botswana's Contribution

The primary GOB contribution to the project is personnel. Counterparts will be provided either for project technicians or for participant training to replace project technicians. Ten Batswana counterparts will be named to work with and replace the ten project technicians. Positions requiring counterparts include nurse educators, (6); a health educator, a graphic artist, a nutrition planner, and a human nutritionist. Additional Batswana will be identified for both long-term,(14); and short-term, (200) participant training. In all cases, participants will be salaried or subsidized by the MOH while in training status. The teaching facilities and classroom supplies and equipment at NHI and the University will be available to the project technicians. Office and working space, supplies and equipment and utilities at NHL, UBS, and the MOH Health Education and MOH Nutrition Unit will likewise be available. In addition, the GOB will contribute the land for the Health Education and Nutrition Unit's building.

III. PROJECT ANALYSES

A. Cost-Effectiveness Analysis

Studies from various sources indicate that the nurse practitioner can treat approximately 90 percent of the health problems presented at outpatient facilities. It is obvious, therefore, that retraining nurses is more cost-effective than training physicians to staff these outpatient facilities (hospitals, health centers and clinics). Public health nurses will also function as "physician extenders" in the public health aspects of health services. Services will be provided by an increase in the quality and quantity of retrained personnel. It is presently impossible to estimate the percentage of cases treated and/or referred by each cadre of health personnel. It can be assumed, however, as larger numbers of better trained personnel are placed at each level of health service, that the referral system will function more effectively and a cost savings will thus be realized.

The table below illustrates the salary levels of the various health cadres in the referral system.

Profession	Salary Scale (Midpoint) Pula	Dollar Equiv.
Physician	6,000	7,320
Nursing Sister (SRNM)	4,000	4,880
Staff Nurse (SRNM)	2,500	3,050
Enrolled Nurse	1,500	1,830
Family Welfare Educator	1,350	1,647

The above figures are based on middle-of-the-scale estimates. Most FWE's currently employed are closer to the bottom of their salary scale, while the other cadres are more evenly distributed.

The small difference between the salary of the FWE and the EN reflects a rather high salary scale for a village-level worker (Standard 7 education and three months' training), and an inequitably low salary for the EN (Junior Certificate education and two - four years of training), whose actual functions essentially differ very little from those of an SRNM. The FWE remains essential to the effective functioning of a referral system, since she is village-based, while the other cadres are based on static facilities. Despite the similarity between the salary levels of the lower-level cadres, the table above illustrates how cost savings can be realized in an effectively functioning referral system by treating common and easily diagnosed conditions at the lowest possible level.

The assignment of health administrators will allow health cadre to devote more time to providing services and will also result in the more effective and efficient operation of health facilities. Nutrition and health education workers will improve the quality and quantity of preventive

services, which should reduce the incidence of preventable disease. This also will reduce the cost of health services.

Most of the training under this project will be done in-country, representing considerable savings over sending the same participants to the United States for comparable programs. The estimated savings are shown in the following table:

ESTIMATED COMPARATIVE COSTS

Cadre	Length of Training	No. to be Trained	Total Yrs. of Training	In-Country Training Costs COB		U.S. Train. Costs	Savings
Nurse Practical	1 year	60	60	$ 87,840 ($ 1,464 X 60)	$ 348,000 (2 X 4 yrs. each; 60 % of time)	$ 840,000 ($ 14,000 X 60)	$ 404,160
PHN	1 year	60	60	$ 87,840 ($ 1,464 X 60)	$ 348,000 (2 X 4 yrs. each; 60 % of time)	$ 840,000 ($ 14,000 X 60)	$ 404,160
Nurse tutors	3 years	32	96	$240,000 ($ 3,050 X 96)	$ 174,000 (2 X 2 yrs. each; 60 % of time)	$1,344,000 ($ 14,000 X 96)	$ 930,000
Health Admin.	1 year	32	32		$ 134,304 ($4,197 X 32)	$ 448,000 ($ 14,000 X 32)	$ 313,696
Health Edu.	1 year	8	8		$ 87,000 (1 X 2 yrs; 60 % of time)	$ 112,000 $ 14,000 X 8)	$ 25,000
Nutritionist	1 year	10	10		$ 116,000 (2 X 4 yrs; 60 % of time)	$ 140,000 ($ 14,000 X 10)	$ 24,000
		TOTALS:		**$415,680**	**$1,207,304**	**$3,724,000**	**$2,101,016**

B. Social Soundness Analysis

1. Background:

Eighty-five percent of the population of Botswana remains rural; however, a recent phenomenon is rapid population growth of urban areas. Between 1971 and 1976, the urban population increased from 8 percent to 15 percent. During this period, Gaborone and Selibi-Pikwe, a mining center, doubled their populations, while the two other major urban centers also increased in population by a lesser percentage.

In the rural areas, women form a larger percentage of the population due to male migrant labor. Over 40 percent of rural households are headed temporarily or permanently by women. The fourth NDP estimates that one-third of the male work force, aged 20-34, is absent and employed in the mines of South Africa.

Both the recent urban growth and migrant labor have created social problems that impact on health. The male migration disrupts family life and cultural traditions and leaves the rural women with responsibility for agricultural production as well as the care of the family. The social changes are producing stress leading to mental illness, which is increasing in Botswana. The system also has implications for the control of venereal disease, tuberculosis, and acceptance of family planning.

In the urban and peri-urban areas, the social problems of rapid urbanization are manifested in an increasing incidence of mental illness, including alcoholism. Although statistics are not available, health workers report there appears to be an increase in women alcoholics in these areas.

Malnutrition in children under five also appears to be increasing. This is partially due to the change in feeding patterns that occur in rural urban migration where more reliance is placed on prepared infant foods; however, at least one other factor appears to be neglect by alcoholic mothers.

Within the rural population, there are traditional, seasonal movements between villages, agricultural lands, and cattle posts. This system complicates the planning of health services and the follow up of patients who require sustained services. While the FWE can provide the follow up and motivational work in the more remote areas, the seasonal population movement also requires the provision of more extensive curative services at the periphery. As increasing numbers of enrolled nurses become available, they will be placed in the health posts to deliver the curative services, that will complement the motivational and preventive services of the FWE.

The Botswana MOH, in addition to providing the medical care for the routine physical illnesses of the population, must develop new approaches to the problems of stress in both the rural and urban populations. While the problems of mental illness and alcoholism are exacerbated by the stresses of urban migration, the causative factors are rooted in the rural culture. An expansion of public health and community mental health programs is required throughout the country for both prevention and treatment of mental illness. The effectiveness of the health services in Botswana will be largely dependent on nurses and their auxiliaries, who have been trained to deal with not only the prevention and treatment of the common health problems of the population but also with the more complex psycho-social aspects of health.

2. Socio-cultural Feasibility

This project will assist the MOH to extend basic health services to the rural population of Botswana. Technical assistance and other resources will be provided to train appropriate personnel to staff rural health facilities and to develop health support services for a primary health care program.

With this improved level of both curative and preventive health services, Botswana should be able to reduce the morbidity and mortality caused by the most common diseases and to improve the health of the total population. General acceptability of health services by the population is illustrated by the increase in utilization experienced as health facilities are expanded and staffed. Research results quoted previously indicate that 93 percent of the population of Botswana have used the modern health system. Sociology is included in the present nurse training curricula, and additional attention will be given to this subject in the curricula revisions planned under this project. Evaluation of the curricula content and broader social impact of the project will be built into the two project evaluations.

The project goal and purpose are consistent with the GOB National Development Plans (NDP) for health services. Beginning with the third NDP in 1973, the GOB initiated a long-term health program to extend a preventive/curative mix of services into rural areas. Over the past five years, and with the assistance of donors, the MOH has made significant progress in (a) the construction of rural health facilities (NORAD); (b) the training of FWE's (IPPF); and (c) the training of the majority of practicing RN's in community health, maternal child health, and family planning (AID). Further progress in health delivery now depends on the capacity of the MOH to prepare nurse practitioners (NP), public health nurses (PHN), enrolled nurses (EN), and other health workers.

At present there is no facility for training nurse educators in Botswana and all candidates must be trained abroad. This situation has created a dependency on scholarships from donor agencies. As both space and funding are limited for these scholarships, it is difficult for the

MOH to program the training of appropriate numbers of nurse educators on a regular basis. This is the most critical in nursing since nurses represent the largest body of trained health personnel in Botswana and are responsible for delivering all routine health care in rural health facilities. The establishment of the Bachelor of Education in Nursing program at the University of Botswana and Swaziland will enable the MOH to produce a small but planned number of nursing faculty each year.

Administratively, the introduction of the postgraduate (NP and PHN and degree B.Ed) programs in nursing will not pose any serious problems for the MOH. Postgraduate nurses (NP's and PHN's) will receive an increment in salary. Bachelor-level nurses will enter the personnel system at a standard salary recently established for B.Sc. nurses. Botswana's nursing laws are currently being revised to include the nurse practitioner so that there will be no legal barriers to prevent the NP to function as trained.

Socio-culturally, the bachelor's degree for nurses appears well accepted. Nursing enjoys a progressive leadership in Botswana and has a high status. Current RN candidates must be O-level, which is also required for university entrance, so that basic education requirements present no problems. The establishment of Bachelor degree programs for nurses should attract candidates for nursing who would otherwise enter other professions. At present, the RN school loses about 25 percent of each entering class to the university. These are candidates who have high academic qualifications and are being sought for other professions. The opportunity to obtain a degree, rather than a diploma, may help to keep highly qualified candidates in nursing, especially as other fields open to women in Botswana.

3. Social Impact of the Project

This project can be expected to have the highest impact on the Eastern region of Botswana where 80 percent of the population is located. It will also serve to expand and improve the health services delivery system in the Western regions of the country where the population is sparse and is scattered over vast areas.

In the Eastern areas, each medical region has hospital services and a network of rural health facilities. The four medical regions of this area are linked to Gaborone and the three other urban centers by the one major road in Botswana which extends from the southern border to the Zimbabwe border just north of Francistown. A railway line carrying passengers and freight parallels the road.

The Western region remains undeveloped with much of it occupied by the Kalahari Desert. There are few adequate road links from east to west and communication is via radio. The MOH, through the NORAD program, has built health centers, clinics and health posts, and a doctor

is located in each region. However, more adequate development of health services will be difficult to accomplish without a larger degree of general development.

Posting of personnel to these districts is also difficult since most trained health personnel are from the Eastern region. The population of the Western region has had almost no access to secondary education and thus students are not eligible for EN and RN programs. This situation will improve in the near future when a large secondary boarding school will be built in the Western Region to serve the area. A secondary school also exists in the northwest district of Ngamiland. The MOH makes every effort to keep the Western facilities staffed but turnover is high and the situation is aggravated by a lack of qualified personnel for Botswana as a whole.

Botswana now has a 90 percent enrollment in primary schools but access to secondary schools is limited due to a lack of facilities and teachers. About 18 percent of primary school leavers are able to enter secondary schools. However, the secondary facilities available are equitably distributed along the road and rail line in the Eastern region providing fairly equal access to rural students in the area.

This access is especially important to the EN program which requires basic junior secondary education, and makes it possible to recruit rural women. Five of the seven EN schools are also located in rural or semi-rural areas so that the training has a rural orientation. At present the EN curricula is hospital oriented and, as a part of this project, it will be revised to make it more appropriate to rural outpatient care. In the revision of both the RN and EN curricula planned for this project, sharper lines of demarcation will be established between the programs to reflect the basic levels of education and the levels of responsibility. At present although the EN has less training, she functions little differently than the RN in the job situation. However, she receives less pay and has no opportunity for advancement. The curriculum revision will help to establish a wider separation of the functions so that the RN definitely has more responsibility and the duties of the EN are commensurate with her training and salary.

The training of health personnel in this project and the development of health support services will enable the MOH, to provide appropriate health services to the majority of the rural poor in accessible areas of the Eastern region of Botswana and to increasing numbers of the minority of the poor rural population located in the Western region.

4. Role of Women

Women are both beneficiaries and major participants in this project. A substantial portion of the project involves the training of nurses to expand rural health services. Since both professional nurses and their auxiliaries are predominately female in Botswana, women will

play a major role in the expansion of these services. It is also expected that women will be trained for the expanded nutrition, health education and health administration programs assisted by the project.

Although the project does not provide any substantial increase in employment for women, it will permit the MOH to train larger numbers of nursing and other health personnel required for the expansion of health services to an increasing population. This training will benefit women with all levels of education. Increased training and upgrading of nursing personnel will better prepare additional professional women to enter higher level positions in the government and private sector.

The expansion of the Enrolled Nurse program will offer increased opportunities for training for rural women who only have access to a Junior Certificate level of education, while the Family Welfare Educator program accepts rural women with less education.

An expanded rural health service program providing maternal/child health and family planning services can be expected to benefit rural women both physically and socially. Better maternal care and child spacing will decrease the morbidity and mortality of mothers and their infants. In addition, family planning offers the rural woman freedom from excess fertility and permits her to participate more fully in economic activities that can increase family income.

C. Technical Analysis and Feasibility

1. Rationale of the Design

The Botswana Health Services Development Project has been designed to provide appropriately trained personnel and technical expertise to alleviate and control the common health problems of Botswana's rural population.

The control of these diseases (see II Background) is largely dependent on the understanding of the cause of the disease, and the manner in which it can be prevented or treated by the population. Malnutrition, another major health problem in young children in Botswana, also requires education if it is to be prevented.

At present both the health education and nutrition units of the MOH are inadequately staffed to provide support to health workers in the field. The technical assistance provided by this project will strengthen the central units but at least for the next decade neither unit will be able to provide technical expertise beyond the regional level. Therefore the day-to-day health and nutrition education will be carried out by nurses and their auxiliaries.

The limited operational capacity of the health and nutrition units makes it essential that the central units develop a substantial input into training programs for nurses and auxiliaries and develop materials that can be utilized for teaching. This input is especially important for the Family Welfare Educators since they provide village-level health education, identify health problems, and motivate villagers to seek health care.

The inclusion of health education and nutrition in this project not only strengthens the MOH capacity in these areas but also provides the MOH with the ability to integrate these subjects into health training programs so that personnel are prepared to deliver nutrition and health education in peripheral health services.

2. Relationship to Other AID Projects

(a) Maternal Child Health/Family Planning Project (Meharry Medical School/MCH-FP-Nutrition Training Center, Nashville)

The Meharry MCH/FP project, funded by AID from 1973-1978, had two major components—health education and in-service nurse training. Through technical, participant, and commodity assistance, Meharry was to establish a functioning health education unit within the MOH. Under the project, a small unit was established, and three participants sent for training. Two participants have returned with a bachelor's degree in health education and are working in the Health Education Unit. A third participant with a bachelor's degree will return to Botswana in late 1978.

Although the unit has been established and is functioning, the MOH feels the outputs are less than satisfactory, and there is no existing national plan for health education. Part of this problem has evolved from Meharry's inability to provide the needed technical assistance. The first health education technician left after only a few months and was not replaced for almost two years. The second technician assisted the unit from 1975 - 1977, but was not replaced because of inability to effect timely recruitment of a qualified long-term technician. Although Meharry provided some essential equipment, many of the items required and planned for the project have never been supplied. Meharry's responsibility for supplying this equipment remains an area of contention in the AID/GOB contract close-out procedures and has not as yet been resolved.

The Health Education component of the Botswana Health Services Development Project has been designed in part to supplement and complement the initial Meharry effort. A first priority is adequate working space for the unit to function effectively and efficiently. This will be provided through construction of a modest structure which will also house the Nutrition Unit. The second priority is technical assistance to the MOH to develop long-range planning and programs in health

education. Technical assistance will be provided to the unit to help trained Batswana assume responsibility for health education services and to train additional Batswana for regional health education responsibilities.

The nurse training portion of the Meharry Project has provided three nurse educators for five years (1973-1978).

The objectives of this program, which were to be designed and implemented by the nurse technicians, were as follows:

(1) To offer an 8-week in-service Public Health/ Maternal Child Health/Family Planning course to all RN's and EN's employed in Botswana;

(2) to integrate the curriculum of the in-service course into the curricula of the RN and EN schools;

(3) to train selected nurse tutorial staff to utilize the curricula in the RN and EN schools;

(4) to develop field training sites for the support of PH/MCH/FP training; and

(5) to establish effective postnatal services in government training hospitals.

As of March 1978, 501 of a total pool of 748 nurses had been trained under the Project (180 RN's and 321 EN's). The original contract estimated that 550 nurses (those employed in 1972) were to be trained in the five-year period. In 1972, there were 283 EN's; by 1977, this number had increased to 405. Since the MOH has decided the EN's will be placed in peripheral-level health posts, more effort has been expended to ensure the EN's have these skills.

The technician team has prepared curricula for both the RN and EN schools and has worked with selected tutors on the integration of the curriculum. A final evaluation of the project, scheduled for May 1978, will determine the effectiveness of this project. Periodic AID evaluations of the Meharry Project in 1974 and 1976 indicated that while the in-service training program was progressing satisfactorily the in-service curricula was not being integrated into RN and EN programs.

The technician team has also been successful in establishing field training at three in-service training sites and has assisted with the establishment of two post-partum clinics. The Meharry in-service training for nurses was designed as an interim measure to increase rapidly the MCH/FP skills of employed Batswana nurses and to provide an orientation to community health. The objectives of this training program have not been met, and the curriculum content must be integrated into basic curricula to eliminate the need for further in-service training.

Although the RN's and EN's trained in the Meharry program are now better prepared for community rural health services, the MOH feels that better trained nurses, nurse practitioners and public health nurses are necessary to deliver services and supervise rural health personnel. While the Meharry Project provided basic training and reorientation to previously trained personnel, the Botswana Health Services project will train new categories of nurse specialists at the postgraduate level. The village level health worker, the FWE, is functioning adequately without direct AID input at this time. The training programs planned in this project will provide better support and supervision for the village level worker. Another urgent need is an increased number of nurse educators to train larger numbers of RN's and EN's. At present, Botswana does not have the capacity to train any of these specialists.

In addition to the technical assistance in nursing, the Meharry Project has provided participant training for six BSc - level nurses, two MS-level nurses, three diploma-level nurse educators and five nurse practitioner preceptors (non-degree).

The participants trained under the Meharry project will be fully utilized under this project as nurse educators in the Bachelor of Education program and in the RN and EN schools. This project is designed to ensure maximum utilization of the personnel resources developed by Meharry to further expand the MOH rural health program.

(b) Southern Africa Academic and Skills Training (SAAST)

Nine participants are currently scheduled for training with SAAST funding; they will have a direct relationship to this project. Three candidates will receive a BS in Health Education, a BS in Nutrition, and a MA/MS in Health Administration. These participants will return to positions in the respective units of the MOH (HE, Nutrition, and Administration) to provide professional local staffing.

The nursing participants will be trained in the United States in clinical specialities: Three for two years each for a MA/MS, in Psychiatric Nursing, and one for two years for a MA/MS, in epidemiology. This latter candidate will already have training in public health. An alternative type of program would be an internship at CDC/Atlanta. This nurse will return to work in the MOH communicable disease program. One psychiatric nurse will return to work in the Lobatse Mental Hospital; the second will plan and implement a community mental health program for Botswana; and the third will teach psychiatric nursing at NHI.

Two BA graduates of UBS will be trained for two years each for an MS in health/hospital administration. They will return for postings as administrators at the Princess Marina Hospital in Gaborone and at the Jubilee Hospital in Francistown.

(c) Southern Africa Development Personnel and Training (SADPT)

Through an OPEX-type arrangement under SADPT, one public health nurse educator technician is being recruited to teach PH nursing in the Bachelor of Education Program at UBS in 1978-1980. A Meharry participant currently studying for an MPH in the US is expected to return in late 1979. She will work with the SADPT PH tutor and assume responsibility for the program in 1981.

3. Description of Core Health Personnel

The health manpower pyramid in Botswana begins with the Family Welfare Educator, a village worker chosen by the community and appointed and paid by the Local (District or Town) Council. These auxiliary workers are trained for eleven weeks in the basic principles of improvement of family health through immunization, ante- and postnatal care, FP, nutrition, environmental sanitation, first aid and simple treatment, recognition of serious illness, and follow up of the TB patient. FWE's are primarily motivational health workers who work under supervision of trained nurses.

Training of the FWE's is the responsibility of the MOH Senior Medical Officer for MCH/FP, and is funded by IPPF. In-service training is given by the Regional Medical Teams and nurses. In addition, a pilot in-service training program has been set up in the NE District. It is hoped that other such regional training sites and programs can be set up based on the experience of the NE District.

Because of the shortage of nurses, many health posts are currently "staffed" by FWE's. The MOH plans to staff all health posts with EN's, the next level of health auxiliary, within the next five years. This will allow the FWE to perform the motivational and health promotive functions at the village level for which whe was trained.

Enrolled nurses are trained for two years at four government and three mission EN training schools. Projected intake for the four government training schools is 40 per school per year beginning in 1979. According to MOH projections, 695 additional EN's will have been trained at the end of five years (1983) and 955 by 1985. There are currently 405 EN's employed in Botswana (286 in government hospitals and health centers, 20 in mine hospitals, 51 in mission hospitals, and 48 in district clinics). The expanded output of trained EN's from the four government schools should thus allow for complete staffing of health posts, clinics, health centers and hospitals within five years. At present the EN curriculum is largely curatively oriented and hospital-based. The training prepares the EN as a bedside practical nurse. However, because of staff shortages, hospitals, health centers and clinics are largely staffed by EN's, who are required to assume additional non-bedside responsibilities.

The SRNM is the next cadre of health worker; she supervises the auxiliary staff at the health post, clinic, health center, and hospital levels. She also performs preventive and curative services at all levels. RN's are currently trained at the NHI central training facility in Gaborone and a few at the Kanye mission hospital. There are presently 313 RN's working the country (166 at government hospitals and health centers, 45 at mine hospitals, 45 at mission hospitals and 57 at district clinics). Intake into the training program at NHI will be maintained at 62 per year from 1978 to 1981, but will then increase to 95 per year. At this projected rate of output, all clinics, health centers, and hospitals should be fully staffed, according to the medium-term staffing plan, by 1985. Nurses employed at the health clinics will be hired by ULGS and paid by the local council; those staffing health centers and hospitals are employed by the MOH.

The projected staffing pattern of FWB, ENs and RNs for health facilities within Botswana is:

Facility	Present	Medium-Term By 1985	Long-Term By 1990
Health Post	1 FWE	1 EN FWE according to population	1 or 2 ENs depending on location; FWE according to population
Clinics	Varies 1 SRNM 1 EN	2 FWEs at least 1 SRNM or 1 ENM 1 EN	FWE according to population; 1 Nurse Practitioner (SRNM) 1 ENM, 1 EN, and 1 PHN
Clinic with Maternity Ward	As per Clinic	2 FWEs at least 2 SRNM or 1 SRNM and 1 ENM	As above plus 1 Public Health Nurse 1 ENM, 1 EN
Health Center	2 SRNMs 2 ENs	2 SRNMs 4 ENs 1 PHN	1 PHN, 2 SRNMs, 4 ENs, and 2 ENMs

Long-term staffing projections indicate what the MOH considers as the maximum level of health services which should be available at health facilities below the hospital.

4. Nursing for Health Services

To maintain progress toward the goal of an improved level of health for all its people, the GOB is concentrating on the preparation of the necessary manpower. The number of physicians available is extremely small. The preparation and education of doctors is slow and expensive. The alternative to the preparation of doctors chosen by the MOH is to use nurses as far as possible in curative and preventive roles.

The nurse practitioner, as planned, is a nurse-midwife with one year of additional training to function primarily in clinics, hospitals and health centers. This training will enable the nurse practioner to examine and treat patients suffering from common health problems. The goal of preparing fifteen nurse practitioners per year for four years will permit 50 percent of the staffing as envisaged in the Fourth NDP.

The nurse practitioner is seen as being located in an institution, either a health center, clinic or hospital. Patients will be coming to her. To develop the out-reach program from all of these institutions requires another person with a different kind of preparation. This is the public health nurse. The public health nurse will be posted to clinics. Her field of work is the community. The public health nurse will have related functions in the supervision of rural health workers, such as the Enrolled Nurse and the Family Welfare Educator. The preparation for public health nursing is for one year. The goal of preparing fifteen public health nurses yearly for four years will permit 50 percent of the staffing envisaged in the Fourth NDP.

Staffing outpatient facilities with appropriately trained preventive and curative personnel will provide a necessary link for referral and supervision within the health delivery system. The health system as planned in Botswana is well-conceived, but as yet sufficient numbers of adequately trained personnel are unavailable to staff the system. Appropriately trained staff will provide better services, which will improve health status.

To improve, enlarge and continue any training program, teachers are essential. Until now, nurses from Botswana have been required to leave the country for postgraduate education. The current proposal to train nurse educators in-country for teaching will decrease costs and make the training more attuned to Botswana's particular needs. SRNM's will be able to enter the University of Botswana and Swaziland to complete the teacher training requirements of the Faculty of Education. The students entering the program will be given one year of credit for their SRNM diploma so they will be able to complete the University program in three years.

The three training programs: the nurse educator program, the nurse practitioner program and the public health program, are all postgraduate retraining programs. This retraining has become necessary because the SRNM is not fully equipped to work in areas of the greatest need in Botswana, the rural milieu. The current SRNM training program, as established by the syllabus, is clinically oriented and hospital-based. Due to the acute shortage of nursing personnel. students must provide a large percentage of the nursing service needs of the hospital. Should this curriculum continue to be used, and should the teaching methodology, and service requirements remain unchanged, the retraining will continue to be a future need and a concomitant severe financial drain on limited resources. A revised curricula reducing service requirement could

incorporate public health and nurse practitioner concepts producing a nurse midwife prepared for a beginning position in any area. This will create an initial strain on nursing services but over the long term be less expensive than postgraduate programs.

Even more than the SRNM curriculum, the EN curriculum needs review and a complete reorientation towards rural nursing. The EN curriculum is geared to providing a nursing assistant in a curative setting. All those working with the EN program, who were in contact with the Project Team, indicated that one of the major problems is the pre-service entry preparation of the candidates. The Junior Certificate candidate needs remedial teaching in reading, English, math and sciences before the prepared syllabus can be introduced. Since it is likely that recruitment will continue to be from this group for the foreseeable future, a period of preparation to serve as a "bridge" could be introduced. It is proposed that the staffing for this bridge program be provided by Peace Corps Volunteers in the four government EN schools.

The EN program was not in the PID,but is included in this project because of the many reports received by the Project Team leading them to believe that there is friction and unrest in this group of personnel. The verbalized discontent reinforces the concensus that a change in both the SRNM and the EN program would widen the gap between the two programs and give both groups their own individual identity and status in nursing.

The first objective as stated in the Curriculum for Nurse Training is "to prepare a nurse who will be an effective practitioner in the Health Services of the Republic of Botswana, i.e. the hospital, rural clinic, health center, and village/town clinic". The total accomplishment of the objective could be achieved by phasing into a basic baccalaureate nursing program (BSc) which will prepare a nurse to function as a public health nurse, a supervisor, a nurse practitioner and as an administrator on graduation. At the minimum, a revision of the SRNM curriculum is required. Retraining in these areas will then become unnecessary. The postgraduate training of nurse educators will continue to be a need.

It is appropriate to consider other factors in relation to this possible transition to a baccalaureate program. In favor of the transition, it is noted that within the next five years more Cambridge-level students will be choosing careers. At the same time, more job opportunities will be open to them, such as a university career. It can be assumed, given a choice of two four-year programs (one leading to a degree and the other to an SRNM diploma), many students will not choose the difficult nursing program, and nursing will be looking for candidates. A phase in period would be needed to make the change-over. This period would allow for field placement of the health workers to the areas of greatest needs. At the same time, an evaluation of all health worker programs could be undertaken and completed. Other important issues to be considered prior to a transition to a baccalaureate in nursing include

(a) resolving with the University such issues as admission and graduation requirements; (b) setting up the nursing faculty and reserving places for nursing candidates; (c) resolving the financial issue of the need for higher salaries for better qualified nurses; and (d) planning for the upgrading of previously trained non-baccalaureate nurses.

5. Health Administration

The need for specially trained health administrators has been recognized for some time. This need was stressed in the Fourth NDP as one of the Plan's seven main objectives; that is, to expand and specialize the Ministry's administrative and planning establishment. The MOH has already established a planning unit of two economic/health planning officers to improve the quality of policy proposals and projects, and to coordinate sectoral development activities. The creation of an administrative cadre is still needed to free medical staff from many of their administrative duties at central and district levels. The two planner positions are currently filled by expatriate staff. While there is no need for technical assistance in health administration since the overall functioning of the planning, administrative, personnel, logistic, supply, record-keeping, and reporting systems are currently functioning adequately to support the health delivery system, training of high-level administrators is needed to replace expatriate personnel. In addition, although administrative functions are currently being carried out by nursing personnel at the district and hospital level, it is recognized that this is the wrong type of person for the job and that training for district-level administrators is urgently needed.

Concurrent with the MOH plans to train health administrators and its request for AID assistance, a health and hospital administration program is being established on the Botswana campus of the Institute for Development Management (Botswana, Lesotho, Swaziland) in response to needs expressed by both government and mission institutions in Botswana, Lesotho and Swaziland, as well as by AID/OSARAC in connection with the Swaziland health project. The IDM was established in 1974 "to meet the mid-career and senior management training needs of Botswana, Lesotho and Swaziland, and to undertake research, consultancy and public education related to training and development generally". The description of the health and hospital administration course given in the 1978 IDM prospectus is as follows:

> This program has been designed for personnel identified as present or potential hospital administrators or secretaries and senior health administrators. The objective of the program is to provide participants with a thorough grounding in managerial practices as they apply within a hospital environment and throughout the national health system. The curriculum is designed to meet the specific needs of developing countries in central and southern Africa.

The course will begin about January 1979, and will consist of one full year of study. The year will be composed of three eight-week classroom sessions alternating with two twelve-week on-the-job training sessions. The on-the-job estimated cost of training for each participant is $4,200.00, and is all-inclusive:

Fees	Pula 960
Board and Lodging	1,512
Allowances	168
Travel	300
Health References and Teaching Material	300
Project Consultation	170
Miscellaneous	30
	Pula 3,440 = $4,200 U.S.

There is general agreement on the type and level of candidates to be trained, i.e. the Executive Officer, an administrative official, who should have O-level preparation, some training and/or experience in administration, but no previous training in health administration. The GOB recognizes the need for a professional administative cadre to relieve RMO's, PHN's, matrons, council nurses, and other health professionals from purely administrative duties in order to allow them to concentrate on their professional duties. Nurses should not generally be considered for this position because of the acute need for nurses at all levels in the field of nursing.

General agreement has been reached on placement and employment of health administrators in the hospitals and on the local councils. Two points which still must be taken into consideration are: (a) whether on the smaller local councils there is "room" for both council nurses and health administrators; and (b) on the larger councils, where there is need for both cadres, what the relative level of their positions should be. However, since a local council administrator candidate would have to be sponsored by the council, it will be the decision of the councils which position is most relevant to their needs. For example, the Northeast District Council, which already has a council nurse, is likely to retain that position and not create a separate post for a health administrator; while the Kgalagadi District intends to create an administrator post, but no post for a council nurse.

In regard to the relative positions of the council nurse and the council health administrator in districts in which both positions are required, it is recommended that these two individuals be on more or less equal footing, with each reporting to the other, but with division of responsibilities clearly defined. The career structures of these two cadres should also be separate and distinct. Separation of duties should follow along the lines suggested in the job descriptions included in the District Development Plan of the Southern District Council (see Annex M). This District is the first to have created a position for a District

Administrative Officer (Health) to replace a NORAD-funded technician who worked for two years as District Health Administrator. A committee has recently been established to review the proposed position descriptions of the Health Administrator and Senior Council Nurse (senior-level SRNM).

In those hospitals where executive officers have been placed, the functions of hospital administrator and matron are clearly enough defined to introduce training programs. With upgrading through training, it will be necessary to support and strengthen the position of the administrator and to redefine the roles of the administrator and the matron.

At the time the PID was written for this project, support for training at IDM was listed as one of the options for AID funding in the area of health administration. Since that time the IDM course has been under development and the momentum of demand for training health administrators has increased in all health-related sectors in Botswana. Because of the immediacy of the demand, and because the IDM course has been tailored to meet this demand, training at IDM now appears to be the most effective approach. It is expected that funding for mission candidates will be obtained concurrently through a joint project of the Association of Medical Missions of Botswana, the Private Health Association of Medical Missions of Botswana, the Private Health Association of Lesotho, the mission institutions of Swaziland, and the Christian Organization for Research and Administrative Trust. (CORAT).

In addition to training in-country, lower level health and hospital administrators, there is a need to train, out-of-country, one planning specialist to occupy the health planner position in the MOH. It will be necessary to train one candidate at the Masters level in health planning/economics. This candidate will be identified and placed in the Ministry to work as a counterpart with the individual currently in the position to be filled and then sent for appropriate two-year Masters programs in the United States.

Finally, in order to strengthen the planning capacity of the MOH, it is recommended that short-term training be programmed for statistical assistants in the Health Statistics Division of the MOH. Currently a Motswana statistician is being trained at the BSc. (and possibly MS.) level. Additional junior staff will be given short-term training in vital and health statistics (possibly at the U.S. Census Bureau) in order to provide back-up for the chief statistician and to improve the quality of statistical collection and analysis.

6. Health Education

The Health Education (HE) Unit was established in 1973 with assistance under the Meharry MCH/FP Project. The Unit is designed to assist in planning the educational component of all health programs. There are currently seven staff members in the Unit, including one expatriate, one WHO consultant, two BSc.-level Batswana health educators trained under the Meharry project, and two health assistants. Two Batswana, the head of the Health Education Unit and the health education officer-designate for a regional post at Francistown, are currently training for a diploma in Health Education at the University of Ibadan in Nigeria. One other Motswana is completing a B.Sc. in the United States under Meharry funding, and another candidate has been nominated for a BSc. under AID financing. There are plans for attaching a health educator to each Regional Health Team, but as yet no job description or positions have been created, and training has not yet begun.

The HE Unit does not currently have either a long-range plan or the capacity for planning. The Unit currently functions on an ad hoc basis, responding to requests and needs of the various health programs. Some of the services provided by the Unit include providing curriculum and teaching input into training programs for the various health cadres, developing audio-visual materials, and providing assistance in running health campaigns and village seminars. There is need for adequate space for offices, graphics design, duplicating and other production equipment and machines, and for screening audio-visual materials. The Unit has also requested equipment to support these functions.

The needs of the Unit which can most appropriately be addressed through the project are three-fold:

- assistance in long-range planning and program development;
- construction of a facility designed to meet the special needs of a health education unit; and
- further assistance in training.

To meet the needs in long-range planning, the MOH has requested short-term consultant services available at intermittent periods over the life of the project to assist the Unit in preparing a plan and assist in its implementation. Under the Meharry project, technical assistance was provided to the Unit, and training of core personnel was carried out. It is now time for these trained technicians to assume full responsibility. However, since little or no emphasis has been placed on planning, it is appropriate that short-term technical assistance be provided in this area and that further training be given in the area of health education planning, both in-service by the planning consultant(s) and long-term for two additional participants.

The GOB has decided to train additional health education staff at the diploma level. Because of the difficulty of securing places for health education trainees in other African countries, and because of the importance of appropriate training, the MOH prefers to train additional regional health educators through in-service training provided by the Central Unit. In order to staff all regions with persons trained in HE within the next five years, beginning with those districts or regions where the need is greatest (such as in the Southern and Kgatleng Districts, which are designated as pilot areas for the planned Environmental Sanitation Project), the long-term services of a Health Educator will be provided to develop the curriculum for an in-country health education training program and to assist in the teaching.

The effective functioning of a health education program is dependent on its ability to produce graphic materials. Since there are no trained Batswana available to assume the position of graphic artist, it will be necessary to provide (a) training in graphics and (b) technical assistance in this area until the selected Motswana returns from training. Localizing this position will complete the desired localization of the HE Unit. A U.S. Peace Corps Volunteer Graphic Artist will be recruited to serve in the HE Unit for the two-year period of participant training.

7. Nutrition

The Nutrition Unit of the MOH was established in 1973 with WHO assistance. According to the Fourth NDP, its aims are "to develop strategies and programs to reduce under-nutrition, to establish social and geographical profiles of risk groups, and to act as a functional liaison unit between the MOH and other organizations involved in nutrition programmes". The Unit is currently staffed by two Batswana diploma-level nutritionists directed by the WHO Regional Nutrition Officer, who divides his time between the countries under his purview. Because of the extreme shortage of staff and because the Unit has very little equipment and no vehicles, its activities are limited. Furthermore, the abilities of the Unit staff are limited, due in part to the level of the staff's training. The acting director of the Unit is scheduled to go to the United States for BSc.-level training, which will further deplete the nutrition staff by half.

The nutritional needs of Botswana are as yet only vaguely defined and based on intermittent research by different groups in scattered parts of the country. It is partly for this reason that very little attention has been given to the need to staff a nutrition unit adequate to plan and run a nation-wide nutrition program. Yet from the existing research results (and not all data has been analyzed) it is apparent that there is an increasing problem with pre-school under-nutrition, especially in the peri-urban areas. It also seems likely that increasing modernization and accompanying social and cultural changes are having and will continue to have increasing impact on dietary habits and child-rearing practices.

In addition to scattered research efforts, other nutrition activities undertaken outside the nutrition unit include establishment of nutrition rehabilitation units by local councils, feeding programs sponsored by WFP, and the nutrition component of the MCH clinics. Nutrition rehabilitation centers have been set up in Serowe, Tlokweng (outside Gaborone, 1977) and Selibi-Pikwe (1978). These centers were set up on local initiative, once the need had been identified by the health staff in the area. Discussions with the staff involved in the running of these centers reveal, however, that the centers are currently unable to deal with the causes of poor child nutrition and a wider effort is needed to respond to the problem. The WFP feeding program includes vulnerable group feeding (through MCH clinics), school feeding, brigade feeding, and supplemental feeding of TB patients. Food supplements include CSM and vegetable oil. The nutrition component of the MCH program includes food distribution and nutrition surveillance based on the use of a weight chart. Children identified as undernourished in the weighing program are referred to a special "malnutrition clinic" held weekly, at which FWE's, some of whom are specially trained, give nutrition education talks and cooking demonstrations. UNICEF is currently planning a project to strengthen these and other nutrition activities at the local level.

The Nutrition Unit should be strengthened. The first and most immediate need is for staff development. The Nutrition Unit should be staffed adequately to plan and initiate a nation-wide nutrition program. One nutrition officer will be sent for training in September, 1978, under SAAST, and two nutrition officers will be sent for U.S. training (one for B.Sc. and one for M.A. training) under the project. During the project period services of two nutrition technicians will be required to support ongoing and planned program activities and to direct the research and planning functions of the Unit. A nutrition planner will act as head of the Unit and will be primarily responsible for identifying research needs and directing research efforts, selecting trainees and Unit staff, overseeing all training and operational programs of the Unit, and for planning and initiating the nation-wide nutrition program. The human nutritionist will be primarily responsible for conducting and supervising ongoing surveillance and teaching programs, developing and conducting the in-service education program for nutrition trainees, assisting in the conduct of nutrition research, and implementing and supervising new programs as developed. The assistance of both technicians will be needed for the four years of the project in order to carry out all operational, training, and planning functions required for the development of a nation-wide program and plan.

Staffing of the Regional Health Teams with nutrition officers should be postponed until the nation-wide program is adequately developed to provide direction and back-up. At such time as Regional Nutrition Officer positions are established, it will be necessary to review the qualifications and level of training required to carry out an effective nutrition program.

Second only to staffing needs is the need for research. Before a full-scale nutrition program can be implemented, it will be necessary to define more clearly the nutrition needs of the Batswana. This research should be carried out under the direction of the Nutrition Unit. The establishment of a nutrition research unit at the University is not appropriate at this time. This type of research unit might be recommended at the end of the period, but to establish such an entity at this time would be premature. Adequate provision is made in the project to support the action research necessary as a foundation for the on-going program. Short-term consultants will be available to assist in the design, implementation and analysis of research studies. Such studies may include nutrition surveillance, cross sectional nutrition surveys, analysis of locally available foods, food availability, food distribution and evaluation of on-going programs.

Support will be provided under the project for computer funds for research analysis, for consultant services for research, for construction of an adequate central Health Education/Nutrition Unit facility, and for supplementary books and teaching supplies to complement those being supplied by UNICEF, to support the in-service training program.

8. FAA Section 611 (a)

An Engineering Analysis of the proposed construction activities is attached in Annex L. The analysis shows that the proposed construction is technically sound, sufficient planning has been made by the GOB and cost estimates are firm and reasonable. Therefore, it is concluded that the project meets the Section 611 (a) requirements of the FAA Act of 1961, as amended.

D. Administrative Feasibility

1. Government of Botswana

This project will be implemented through the GOB Ministry of Health. The office of the Permanent Secretary will provide program direction. The MOH senior-level staff responsible for Nursing, Health Administration, Health Education, Nutrition, and Planning (individual units/divisions in the MOH) will monitor the implementation of the project in their respective technical areas. They will work in a collaborative manner with the project technicians to pace project implementation. The MOH organizational structure is adequate to support the project, and the senior-level staff have the administrative capability to participate effectively in the project. Administrative capacity of related ministries, the MOE and MLGL, is also adequate to provide support for the project.

The Project Paper has been reviewed in draft by the MOE. The approval in principle of the MLGL and the Ministry of Finance and Development Planning is also required to assure the GOB contribution to the project.

2. A.I.D.

Funds will be obligated through a Grant Agreement signed with the Ministry of Finance and Development Planning. A PIO/T will be issued for the implementation of the full scope of the contract except construction and IDM training (Technical services, U.S. participant training, commodity procurement and other costs). A Request for Proposal (RFP) will solicit the interest of potential contractors. A private firm or institution in the health field would be most suitable as the prime contractor, with sub-contracts let for participant training. The technical skills required for the project are neither unique nor unusual, and it is reasonable to expect that technicians can be recruited in a timely manner. The complexity of the project will require, however, effective and efficient home-office backstopping. Each area of technical expertise will have a team leader who will coordinate the outputs under each component. An additional discussion is included below in Section V.A., Implementation Plan.

The AID Affairs Officer/Gaborone will be responsible for direct AID monitoring of the project. The Assistant GDO will manage the project with technical backstopping from the RHDO in Mbabane. It is anticipated that a Health Development Officer will be assigned to the AID Office beginning in FY 1980. This officer will then be the AID project manager.

E. Environmental Concerns

An Initial Environmental Examination was not prepared at the PID stages. The REDSO/EA Engineer on the project team has now prepared an IEE which is attached as Annex N. The IEE discusses possible environmental impacts, concluding that (1) the project activities will have little or no beneficial or harmful impact on the environment, and (2) construction of the health facility will follow environmentally sound guidelines. Under these circumstances, neither an Environmental Assessment nor an Environmental Impact Statement are required. A Negative Determination is recommended.

IV. FINANCIAL PLAN

A. Project Funding Summary

As indicated in the Project Funding Summary below, the estimated total cost of the project is $7,252,992. It is proposed that AID will finance $5,530,992. The GOB will contribute the equivalent of $1,722,000.

PROJECT FUNDING SUMMARY

Source	Foreign Exchange	Local Currency	Total	Percent of Total
AID	$4,551,720	$ 979,272	$5,530,992	76
GOB	-	1,722,000	1,722,000	24
Total:	$4,551,720	$2,701,272	$7,250,992	100

B. Summary Cost and Financial Plan

The project costs and financial plan are summarized in the Table I at the end of this Section IV., Financial Plan. Of the AID contribution 82 percent represents dollar costs, and the equivalent of 18 percent represents local costs. The latter consists mainly of construction and administrative support costs.

SUMMARY COST ESTIMATES AND FINANCIAL PLAN

C. Cost Analysis

1. Technical Services:

The base salary for all long-term technicians' services has been estimated at $25,000 per year. Most U.S. nursing personnel, health educators and nutritionists earn between $22,000 and $24,000 per year. The total cost of two years' services is estimated at $172,000 as indicated below:

Project Technician's Services for 24 Person-Months

Salary	$ 50,000
Post Differential at 10 percent	5,000
Benefits at 18 percent base	9,000

Continued - Project Technician's Services for 24 Person Months

Travel to Post/Return a/	$ 28,000
Temporary Lodging	3,200
Education Allowance b/	15,500
Guard Service ($100 per month)	2,400
In-Country Travel (air fare)	5,000
Furnishings (appliances and utilities)	11,280
R&R Travel (one trip)c/	4,580
Overhead at 35 percent base	17,500
Sub-total	$151,460
Fixed Fee/Profit Campus Backstopping at 15 percent (less overhead)	20,094
Total	$171,554

a/ Travel to post/return (family of 4)

Four one-way air fares with excess baggage	$ 4,000
Air freight one way at 700 lbs.	2,500
Surface HHE	6,000
Shipment of POV - one way	2,000
	$ 14,000
Round Trip	$ 28,000

b/ Education Allowance

One at post	$ 1,150
One away from post	6,600
Each Year	$ 7,750
Two Years	$ 15,500

c/ Four round-trips Gaborone/Athens at $1,145 — $ 4,580

For the purposes of estimating the project budget, the technicians' services have been rounded to $172,000 per two year tour or $86,000 per person-year. The most recent health contract, executed in April 1978, came to $70,000 per person year. It was executed with a small firm. Contracts with educational associations and institutions have been running a slightly higher person year cost, over $80,000, therefore the above estimates appear reasonable.

Consultant services are estimated at $7,500 per person-month.

2. Participant Training

Long-term and short-term participant training costs for FY 79 have been estimated according to the standard costs contained in the guidelines for preparation of the FY 80 Annual Budget Submission (Annex to AIDTO CIRCULAR 147). This comes to $13,200 per year for academic training and $2,100 per month for non-academic. The project inflation factor of 10 percent is essentially consistent with ABS guidance for calculating future year participant costs. Round trip air fare of $2,000 is included in every participant's initial funding.

3. Commodities

Commodities have been estimated as accurately as possible from catalogues and from prices cited by MOH personnel. Estimated unit costs per item are included in the illustrative equipment list (Annex J). The cost of vehicles has been averaged at $10,000, including spare parts. The Ford or Peugeot station wagons and the VW Combis will cost less; one minibus will cost slightly more. All vehicles are manufactured in South Africa.

4. Construction ($383,000)

The GOB Ministry of Works has estimated the cost of constructing a facility for the Health Education and Nutrition Units at $243,000. This total includes the cost of construction materials, labor, plus 10 percent for contingency and 25 percent for inflation. Also included is the cost of constructing four homes at $35,000 per house. All disbursements for construction will be handled on FAR method of reimbursement.

5. Other Costs ($238,660)

Provision has been made in the budget for the following costs for primarily administrative support: The local employment of a clerk-secretary at a salary of $5,000 per year; the local employment of a driver/mechanic at a salary of $1,500 per year; the rental of three houses for the project technicians at $4,500 per year each; vehicle operation and maintenance at $1,500 per year for each vehicle; and rental of an in-town project office at $4,500 per year. Additional annual estimates have been included for the annual purchase of office supplies, computer services and secretarial services.

The largest portion of Other Costs is to finance per diem for in-country travel by the project technicians. In FY 1978 provision is made for each technician to travel only 35 days per year (35 days/yr. X $42.00/day X 10 technicians = $14,700). For the following years of the project, however, the requirements for in-country travel will increase considerably. Annual requirements for each technician are indicated below and correspond to the type of job which the technician is performing.

Average Annual In-Country Travel Requirements

Technician	Number of Days
Nurse Practitioner	45
Nurse Practitioner	45
Public Health Nurse	90
Nurse Educator (BEd. program)	30
Nurse Educator (EN program)	90
Health Educator	90
Nutrition Planner	90
Human Nutritionist	90
Administrative Coordinator	20
Total	590

Computation: 590 days/yr
X $42.00/day = $24,780/year

D. AID Obligations

The project will be financed incrementally from FY 1978 - FY 1981. The summary of AID obligations by fiscal year is indicated in the Table II at the end of this section.

SUMMARY OF AID OBLIGATIONS BY FISCAL YEAR

Additional tables listed below but found at the end of this section provide the breakdown by project component on which the Summary of AID Obligations is based. It should be noted that funding has been provided only for one year of long-term technicians' services in FY 1978. This is required in order to remain within the established FY 1978 OYB Level of $1.6 million. In order to fully fund a contract for long-term technicians' services, U.S. participant training, commodities and other costs, the FY 1979 obligation of funds must be made no later than the end of the second quarter.

III	AID OBLIGATIONS:	SUMMARY BY COMPONENT
IV	AID OBLIGATIONS:	NURSING FOR HEALTH SERVICES
V	AID OBLIGATIONS:	HEALTH ADMINISTRATION
VI	AID OBLIGATIONS:	HEALTH EDUCATION
VII	AID OBLIGATIONS:	NUTRITION
VIII	AID OBLIGATIONS:	PROJECT ADMINISTRATION

E. AID Expenditures

The tables IX and X at the end of this section indicate estimated AID expenditures by fiscal year.

IX SUMMARY OF AID EXPENDITURES BY FISCAL YEAR

X AID EXPENDITURES BY PROJECT COMPONENT

F. GOB Contribution

The total estimated GOB contribution to the project is $1,722,000. Table XI indicates the contribution in participant training, commodities, other costs and construction (value of the land site). The GOB costs of supporting both in-country and U.S. participant training have been calculated in considerable detail in collaboration with the MOH Planning Officers. The contribution is shown by fiscal year and on an expenditure basis.

G. GOB Budget for the Health Sector

The yearly percent growth of recurrent expenditures of all GOB Ministries is limited by the Cabinet over the Development Plan period. For the MOH the limit has been established at 12 percent per year; for the MLGL the limit is 13.5 percent per year. This means that the average yearly growth rate over the Plan period should remain within this limit. In fact, growth rates have varied widely over the last Plan periods (see Table XII), and the limit may be exceeded if overall budgetary growth allows. If major departures from the limit are required due to large capital projects, such as the recent expansion of health facilities, the Cabinet may also increase the limit for the Ministry involved.

The implications of increasing staff and raising salaries must be taken into account by both the MOH and MLGL in their plans for staffing health facilities. The major expansion of health facilities over the past five years, requiring additional staff positions, and the large increase in output of trained nurses projected over the next 7-8 years will have a major impact on the recurrent budgets for both Ministries. A further consideration will be the increase in salaries for nurse practitioners, public health nurses, nurse educators, and auxiliary health personnel trained over the next 5-10 years. Budget trends in the recurrent and development expenditures by the GOB on health are shown in Table XII.

Recurrent expenditures are financed from the GOB's general revenue, while approximately 90 percent of development expenditures for health are financed by foreign grants or loans. Table XII illustrates that, during the period of the Fourth National Development Plan (1976-1981), percent increases in the MOH recurrent budget have fluctuated from 22 percent between 1975/1976 and 1976/1977 to 10 percent between 1976/1977 and 1977/1978, to 21 percent between 1977/1978 and 1978/1979. The Fifth NDP is currently being prepared and should go into operation during 1978. Recurrent growth limits have not yet been established for that Plan period.

The large growth in capital or development expenditures in the last two years reflects (a) the bulk of obligations for the expanded building program financed by NORAD, and (b) the high limits established by the Cabinet for development expenditures. It is anticipated that 1978/79 development expenditures will fall far short of the 2.7 million Pula allowed, despite continued building under the NORAD and ADF programs.

Budget analyses (Kam, etc. al.) reveal that the majority of health recurrent expenditures are consumed by hospitals and that a disproportionate share of the total goes to the urban population. By preparing health personnel to staff the increasing rural facilities, this project will contribute to correcting these imbalances. Overall, 46 percent of the total 1976 health expenditures by the Central Government and District and Town Councils was consumed by personal emoluments (salaries), not an extraordinary percentage considering the labor-intensive nature of health services. However, considering that salaries consume such a large portion of the health budget, it is important that personnel are as productive as possible in their jobs. This project will contribute to increasing the productivity and effectiveness of nurses, (whose salaries comprised 35 percent of total salaries paid to health workers in 1976/1977). The project will contribute also to improving the effectiveness and efficiency of the total health system through the training of health administrators, health educators, and nutritionists.

The contribution of the GOB to the project is summarized in Section IV.F. The recurrent cost implications for the GOB include salary increases resulting from retraining programs. The retrained SRNM who has received a diploma in PEN or as a nurse practitioner would receive two salary increments, or approximately P350 per year more after completing additional training. The added cost of employing a B.Ed.-qualified nurse over the cost of employing a clinical instructor (SRNM) is approximately P1,000. Nurse participants trained out of country at the Masters level will earn an estimated additional P1,500 per year on return. Costs of training and employing health administrators, health educators, and nutritionists will cause very little change in the recurrent budgets of the MOH and the MLGL. Salary increases for auxiliary health personnel are estimated to be equivalent to those for nuring personnel; i.e., P350 for a diploma, P1,000 for B.Sc., and P1.500 for MS training.

Table XIII illustrates recurrent costs to be absorbed by the health sector resulting from training provided by this project. For illustrative purposes, these costs are totaled and the cumulative yearly increase compared to the projected MOH recurrent budgets 1980-1984. By the end of the project (1983), the total cumulative increase will be approximately 1 percent of the recurrent budget.

TABLE I

SUMMARY COST ESTIMATES AND FINANCIAL PLAN

SOURCES	AID			GOB				%
USE	FOREIGN EXCHANGE COSTS	LOCAL CURRENCY COSTS	TOTAL	F.E COSTS	LOCAL CURRENCY	TOTAL	GRAND TOTAL	
Technical Services	$3,103,500	$ -	$3,103,500	-	$ -	$ -	$3,103,500	43
Participant Training	657,600	134,400	792,000	-	1,442,000	1,442,000	2,234,000	31
Commodities	32,000	60,000	92,000	-	6,000	6,000	98,000	1
Construction	-	383,000	383,000	-	10,000	10,000	393,000	6
Other Costs	-	238,660	238,660	-	264,000	264,000	502,660	7
Contingency (10%)	379,310	81,606	460,916	-	-	-	460,916	6
Inflation (10%)	379,310	81,606	460,916	-	-	-	460,916	6
Total	$4,551,720	$ 979,272	5,530,992	-	1,722,000	1,722,000	7,252,992	100

TABLE II

SUMMARY OF AID OBLIGATIONS BY FISCAL YEAR

	FY 1978	FY 1979	FY 1980	FY 1981	TOTAL
TECHNICAL SERVICES					
(9 Long-Term Technicians and Administrative Coordinator) (45 pm short-term)	774,000	939,000	1,338,500	52,000	3,103,500
PARTICIPANT TRAINING					
(14 Long-Term; 4 Short-Term)	33,600	427,600	257,600	73,200	792,000
COMMODITIES	92,000	-	-	-	92,000
CONSTRUCTION	383,000	-	-	-	383,000
OTHER COSTS	52,600	62,020	62,020	62,020	238,660
Sub-Total	1,335,200	1,428,620	1,658,120	187,220	4,609,160
CONTINGENCY (10%)	133,520	142,862	165,812	18,722	460,916
INFLATION (10%)	133,520	142,862	165,812	18,722	460,916
GRAND TOTAL	1,602,240	1,714,344	1,989,744	224,664	5,530,992

TABLE III

AID OBLIGATIONS: SUMMARY BY COMPONENT

NURSING FOR HEALTH SERVICES		FY 1978	FY 1979	FY 1980	FY 1981	TOTAL
Technical Services		430,000	430,000	660,000	-	1,720,000
Participant Training		-	214,800	113,600	39,600	368,000
Commodities		56,370	-	-	-	56,370
	Sub-Total	486,370	644,800	973,600	39,600	2,144,370
HEALTH ADMINISTRATION						
Technical Services		-	-	-	-	-
Participant Training		33,600	93,200	62,800	33,600	223,200
Commodities		-	-	-	-	-
	Sub-Total	33,600	93,200	62,800	33,600	223,200
HEALTH EDUCATION						
Technical Services		86,000	145,000	52,500	-	284,500
Participant Training		-	91,200	26,400	-	117,600
Commodities		23,930	-	-	-	23,930
	Sub-Total	109,930	237,200	78,900	-	426,030
NUTRITION						
Technical Services		172,000	277,000	419,000	45,000	913,000
Participant Training		-	28,400	54,800	-	83,200
Commodities		1,700	-	-	-	1,700
	Sub-Total	173,700	305,400	473,800	45,000	997,900

TABLE III (Continued)

PROJECT ADMINISTRATION		FY 1978	FY 1979	FY 1980	FY 1981	TOTAL
Technical Services		86,000	86,000	7,000	7,000	186,000
Participant Training		-	-	-	-	-
Construction		383,000	-	-	-	383,000
HF/Nutrition Unit						
4 Technician houses						
Commodities		10,000	-	-	-	10,000
Other Costs		52,600	62,020	62,020	62,020	238,660
	Sub-Total	531,600	148,020	69,020	69,020	817,660
	Sub-Total of all Components	1,335,200	1,428,620	1,658,120	187,220	4,609,160
Contingencies (10%)		133,520	142,862	165,812	18,722	460,916
Inflation (10%)		133,520	142,862	165,812	18,722	460,916
	GRAND TOTAL	1,602,240	1,714,344	1,989,744	224,664	5,530,992

TABLE IV

AID OBLIGATIONS: NURSING FOR HEALTH SERVICES

TECHNICAL SERVICES	FY 1978	FY 1979	FY 1980	FY 1981	TOTAL
Long-Term					
Nurse Practitioner (4 years)	86,000	86,000	172,000	-	344,000
Nurse Practitioner (4 years)	86,000	86,000	172,000	-	344,000
Public Health Nurse (4 years)	86,000	86,000	172,000	-	344,000
Nurse Educator (BED) (2 years)	86,000	86,000	-	-	172,000
Nurse Educator (NE) (4 years)	86,000	86,000	172,000	-	344,000
Nurse Educator BSC) (2 Years	-	-	172,000	-	172,000
Sub-Total	430,000	430,000	860,000	-	1,720,000
PARTICIPANT TRAINING					
Nurse Practitioner (5 years)	-	30,400	28,400	13,200	72,000
Nurse Educator (2 x 2 years each)	-	60,800	-	-	60,800
Nursing Service Administration (3 for 2 years each)	-	62,800	28,400	-	91,200
Nursing Service Administration (2 for 5 years each)	-	60,800	56,800	26,400	144,000
Sub-Total	-	214,800	113,600	39,600	368,000
COMMODITIES					
Teaching Aids	16,370	-	-	-	16,370
Vehicles (4)	40,000	-	-	-	40,000
Sub-Total	56,370	-	-	-	56,370
TOTAL	486,370	644,800	973,600	39,600	2,144,370

TABLE V

AID OBLIGATIONS: HEALTH ADMINISTRATION

	FY 1978	FY 1979	FY 1980	FY 1981	TOTAL
PARTICIPANT TRAINING					
Long-Term U.S.					
Health Planning (2 years)	-	30,400	-		30,400
Short-Term U.S.					
Statistics (4 for 6 months each)	-	29,200	29,200	-	58,400
Short-Term In-Country					
IDM Course (8 per year x $4,200 each)	33,600	33,600	33,600	33,600	134,400
TOTAL (All Training)	33,600	93,200	62,800	33,600	223,200

TABLE VI

AID OBLIGATIONS: HEALTH EDUCATION

TECHNICAL SERVICES	FY 1978	FY 1979	FY 1980	FY 1981	TOTAL
Long-Term					
Health Education (2 Years)	86,000	86,000	-	-	172,000
Short-Term					
Health Educator (15 months) ($7,500 per month)	-	60,000	52,500	-	112,500
Sub-Total	86,000	146,000	52,500	-	284,500
PARTICIPANT TRAINING					
Long-Term U.S.					
Health Education (4 years)	-	30,400	26,400	-	56,800
Health Education Planning (2 years)	-	30,400	-	-	30,400
Graphic Arts (2 years)	-	30,400	-	-	30,400
Sub-Total	-	91,200	26,400	-	117,600
COMMODITIES					
A-V Equipment and Supplies	13,930	-	-	-	13,930
Vehicle (1)	10,000	-	-	-	10,000
Sub-Total	23,930	-	-	-	23,930
TOTAL	109,930	237,200	78,900	-	426,030

TABLE VII

AID OBLIGATIONS: NUTRITION

TECHNICAL SERVICES	FY 1978	FY 1979	FY 1980	FY 1981	TOTAL
Long-Term					
Nutrition Planner (4 years)	86,000	86,000	172,000	-	344,000
Nutritionist (4 years)	86,000	86,000	172,000	-	344,000
Short-Term					
Nutrition Research (30 months)	-	105,000	75,000	45,000	225,000
Sub-Total	172,000	277,000	419,000	45,000	913,000
PARTICIPANT TRAINING					
Nutrition (4 years)	-	28,400	26,400	-	54,800
Nutrition (2 years)	-	-	28,400	-	28,400
Sub-Total	-	28,400	54,800	-	83,200
COMMODITIES					
Teaching Aids	1,700	-	-	-	1,700
TOTAL	173,700	305,400	473,800	45,000	997,900

TABLE VIII

AID OBLIGATIONS: PROJECT ADMINISTRATION

TECHNICAL SERVICES	FY 1978	FY 1979	FY 1980	FY 1981	TOTAL
Administration Coordination (2 years U.S., 2 years local hire)	86,000	86,000	7,000	7,000	186,000
COMMODITIES					
Vehicle (1)	10,000	-	-	-	10,000
CONSTRUCTION					
Office Building	243,000	-	-	-	243,000
4 Houses	140,000	-	-	-	140,000
Sub-Total	383,000				383,000
OTHER COSTS					
Clerk-Secretary ($5,000 per year X 4)	5,000	5,000	5,000	5,000	20,000
Driver/Mechanic ($1,500 per year X 4)	1,500	1,500	1,500	1,500	6,000
Housing Rental (3 X $4,500 per year)	13,500	13,500	13,500	13,500	54,000
Vehicle O&M ($1,500 per year X 6)	9,000	9,000	9,000	9,000	36,000
In-Country Travel	14,700	25,620	25,620	25,620	91,560
Project Office Rental (1 X $4,500/year)	4,500	4,500	4,500	4,500	18,000
Office Supplies	2,000	500	500	500	3,500
Computer Services	1,400	1,400	1,400	1,400	5,600
Secretarial Services	1,000	1,000	1,000	1,000	4,000
Sub-Total	52,600	62,020	62,020	62,020	238,660
TOTAL	531,600	148,020	69,020	69,020	817,660

TABLE IX

SUMMARY OF AID EXPENDITURES BY FISCAL YEAR

	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	TOTAL
Technical Services	-	249,833	863,000	851,500	730,500	408,667	-	3,103,500
Participant Training	-	37,000	168,000	267,400	207,800	77,800	34,000	792,000
Commodities	-	60,000	32,000	-	-	-	-	92,000
Construction	-		383,000	-	-	-	-	383,000
Other Costs	-	48,660	54,000	54,000	50,000	32,000	-	238,660
Sub-Total	-	395,493	1,500,000	1,172,900	988,300	518,467	34,000	4,609,160
Contingency (10%)	-	39,549	150,000	117,290	98,830	51,847	3,400	460,916
Inflation (10%)	-	39,549	150,000	117,290	98,830	51,847	3,400	460,916
GRAND TOTAL		474,591	1,800,000	1,407,480	1,185,960	622,161	40,800	5,530,992

TABLE X

AID EXPENDITURES BY COMPONENT

	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	TOTAL
Nursing for Health Services							
Technical Services	143,333	430,000	430,000	430,000	286,667	-	1,720,000
Participant Training	6,000	80,000	119,000	81,000	48,000	34,000	368,000
Commodities	40,000	16,370	-	-	-	-	56,370
Sub-Total	189,333	526,370	549,000	511,000	334,667	34,000	2,144,370
Health Administration							
Technical Services	-	-	-	-	-	-	-
Participant Training	29,000	52,400	79,400	58,800	3,600	-	223,200
Commodities	-	-	-	-	-	-	-
Sub-Total	29,000	52,400	79,400	58,800	3,600	-	223,200
Health Education							
Technical Services	28,000	100,000	110,000	46,500	-	-	284,500
Participant Training	1,000	20,600	42,000	40,000	14,000	-	117,600
Commodities	10,000	13,930	-	-	-	-	23,930
Sub-Total	39,000	134,530	152,000	86,500	14,000	-	426,030
Nutrition							
Technical Services	57,000	247,000	247,000	247,000	115,000	-	913,000
Participant Training	1,000	15,000	27,000	28,000	12,200	-	83,200
Commodities	-	1,700	-	-	-	-	1,700
Sub-Total	58,000	263,700	274,000	275,000	127,200	-	997,900
Project Administration							
Technical Services	21,500	86,000	64,500	7,000	7,000	-	186,000
Participant Training	-	-	-	-	-	-	
Construction	-	383,000	-	-	-	-	383,000
Commodities	10,000	-	-	-	-	-	10,000
Other Costs	48,660	54,000	54,000	50,000	32,000	-	238,660
Sub-Total	80,160	523,000	118,500	57,000	39,000	-	817,660

TABLE X (Continued)

	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	TOTAL
SUB-TOTAL OF ALL COMPONENTS	395,493	1,500,000	1,172,900	988,300	518,467	34,000	4,609,160
Contingency (10%)	39,549	150,000	117,290	98,830	51,847	3,400	460,916
Inflation (10%)	39,549	150,000	117,290	98,830	51,847	3,400	460,916
GRAND TOTAL	474,591	1,800,000	1,407,480	1,185,960	622,161	40,800	5,530,992

TABLE XI

GOB CONTRIBUTION IN DOLLAR EQUIVALENT

Technical Services	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	TOTAL
Participant Training	-	-	-	-	-	-	-	-
Nursing for Health Services								
U.S. a/								
Nurse Practitioner (5 years)	-	-	4,392	1,098	1,098	1,098	1,098	8,784
Nurse Educator (2 X 2 years each)	-	-	8,784	2,196	-	-	-	10,980
Nursing Service Admin. (2 X 5 yrs. ea)	-	-	8,784	2,196	2,196	2,196	2,196	17,568
(2 X 2 yrs. ea)	-	-	-	8,784	2,196	-	-	10,980
(1 X 2 Yrs.)	-	-	-	-	4,392	1,098	-	5,490
In-Country b/								
Nurse Practitioner (60 X 1 year each)	-	-	87,840	87,840	87,840	87,840	-	351,360
Public Health Nurse (60 X 1 Year each)	-	-	87,840	87,840	87,840	87,840	-	351,360
Nurse Educator c/ (32 X 3 Years each)								
First group (8)	59,536	33,184	33,184	-	-	-	-	125,904
Second group (8)	-	59,536	33,184	33,184	-	-	-	125,904
Third group (8)	-	-	59,536	33,184	33,184	-	-	125,904
Fourth group (8)	-	-	-	59,536	33,184	33,184	-	125,904

a/ The GOB pays salary for the first year of training, and P900 ($1,098) allowance for each subsequent year. An average nurses salary is estimated at P3,600 ($4,392) per year.

b/ Estimated costs for nurse practitioner training is P1,200 ($1,464), plus salary at P3,600 ($4,392) = $5,856 per year.

c/ Salary = P3,600 ($4,392), allowance = P900 ($1,098), Training costs = P2,500 ($3,050) per year.

TABLE XI (Continued)

	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	TOTAL
Health Administration								
U.S.								
Long-Term d/								
Health Planner (1 X 2 years)	-	-	3,660	1,098	-	-	-	4,758
Short-Term e/								
Statistical Assistancts (4 X 6 mo each)	-	-	1,830	1,830	-	-	-	3,660
In-Country								
Health Administrators f/(32 X 1 yr. ea) (8 per year)	-	29,280	29,280	29,280	29,280	-	-	117,120
Health Education								
U.S.								
Health Educator f/(1 X 4 yrs)	-	-	-	3,660	1,098	1,098	1,098	6,954
(1 X 2 Yrs)	-	-	-	3,660	1,098	-	-	4,758
Graphic Artist (1 X 2 yrs)	-	-	1,098	1,098	-	-	-	2,196
In-Country								
Health Educator g/(8 X 1 yr in-service)	-	-	6,832	6,832	-	-	-	13,664
Nutrition								
U.S.								
Nutritionist f/ (1 X 4 yrs)	-	-	3,660	1,098	1,098	1,098	-	6,954
(1 X 2 yrs)	-	-	-	3,660	1,098	-	-	4,758

d/ Salary = P3,000 ($3,660) per year
e/ Salary = P1,500 ($1,830) per year
f/ Salary = P3,000 ($3,660) per year
g/ Salary = P1,400 ($1,708) per year

Page 3	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	TOTAL
In-Country								
Nutrition Trainees (10 X 1 yr)g/	-	-	3,416	6,832	6,832	-	-	17,080
						SUBTOTAL		1,442,040
COMMODITIES	-	1,400	1,400	1,400	1,400	-	-	5,600
						SUBTOTAL		5,600
OTHER COSTS								
Office Space	-	20,000	20,000	20,000	20,000	-	-	80,000
Classrooms	-	20,000	20,000	20,000	20,000	-	-	80,000
Secretarial Services (3.3 secretaries at P3000 ($3,660) X 4 yrs)	-	12,078	12,078	12,078	12,078	-	-	48,312
Utilities	-	250	250	250	250	-	-	1,000
Furnishings, including stoves	-	50,000	-	5,000	-	-	-	55,000
						SUBTOTAL		264,312
CONSTRUCTION								
Land site for facility for HE/ nutrition units	-	10,000	-	-	-	-	-	10,000
						SUBTOTAL		10,000
GRAND TOTAL	59,536	235,728	427,048	433,634	346,162	215,452	4,392	1,721,952

g/ Salary - P 1,400 ($1,708) per year

EXPENDITURE BY GOB/CENTRAL GOVERNMENT ON HEALTH
(000's Pula) a/

1 Pula = $1.22

	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79
Recurrent Expenditure						
MOH	1,838	3,079	4,001	4,885	5,467	6,631
Other Ministries	575	721	834	1,092		
	2,413	3,800	4,835	5,977		
% of total government recurrent budget	5.9%	6.1%	6.7%	7.0%		
Development Expenditures						
MOH a/	63	425	398	300	1,400	2,723
MLGL	100	777	515	1,069		
Water Affairs	251	993	1,031	1,505		
Other Central Government	38	349	105			
	452	2,544	2,049	2,874		
% of total government development budget b/	1.5%	7.8%	5.8%	7.5%		

a/ Figures for 1973/74 - 1976/77 are taken from "Financing of Health Services in Botswana Health", prepared by MOH/GOB, (Murray P. Kam, MOH Chief Planning Officer, et al), August, 1977. Figures for 1977/78 - 1978/79 recurrent expenditures and for 1978/79 development expenditure figure is based on MOH estimates in March, 1978 for the FY ending 31 March.

b/ Figures do not include the value of donated foods.

TABLE XIII

GOB RECURRENT COSTS RESULTING FROM PROJECT TRAINING (IN PULA)
1980 - 1984

1 Pula = $ 1.22

	1980	1981	1982	1983	1984
Salary increases for graduates of H. S. Training Programs		2 Statistical Assts. (Diploma)X 350 = 700	2 Nurse Ed (MS) X1,500=3,000 1 H. Planner (MS) X1,500=1,500 1 Graphic Artist (Dip) X350=350 2 Statistical Asst. X350= 700	2 Nursing Serv. Admin. (MS) X1,500=3,000 1 Nutritionist (MS) X1,500=1,500	1 Nurse Prac. (MS) X1,500=1,500 3 Nurse Serv.Admin. X1,500=4,500 1 H. Ed. (MS) X1,500=1,500 1 Nutritionist (BS) X1,000=1,000
Salary increases for graduates of In-Country Training Programs	8 H.Admin. X350=2,800	15 Nurse Prac. X350=5,250 15 PHN's X350=5,250 8 Nurse Ed. X1,000=8,000 8 H. Adm. X350=2,800	15 Nurse Prac. X350=5,250 15 PHN's X350=5,250 8 Nurse Ed. X1,000=8,000 8 H. Ed. X350=2,800	15 Nurse Prac. X350=5,250 15 PHN's X350=5,250 8 Nurse Ed. X1,000=8,000 8 H. Ed. X350=2,800	15 Nurse Prac. X350=5,250 15 PHN's X350=5,250 8 Nurse Ed. X1,000=8,000

TABLE XIII

	1980	1981	1982	1983	1984
		4 H. Ed. X350=1,400 2 Nutrition Asst's X 350=700	4 H. Ed. X350=1,400 4 Nutrition Asst's X 350=1,400	4 Nutritionist Asst's X350=1,400	
Yearly Increase	P2,800	P 24,100	P 29,650	P 27,200	P 27,000
Cumulative Increase	P2,800	P 26,900	P 56,550	P 83,750	P110,750
Projected MOH Recurrent Budget	P8,318,000	P9,316,000	P10,434,000	P11,686,000	P13,088,000
Cumulative Increase as % of Recurrent Health Budget	2.1%	.3%	5.5%	7.5%	8.5%

V. IMPLEMENTATION ARRANGEMENTS

A. Implementation Plan

The project will be implemented through a contract with a private firm or professional organization in the health field. Selection of the contractor should be based on the capability and commitment to implement all components of the project, on the degree of expertise available for the long-term technicians' services and on the ability to place Batswana candidates in high-quality training programs in U.S. health programs The GOB/MOH must be included in the final selection of the contractor. Final acceptance will depend on the proposed contractor's ability to place the personnel whose curriculum vitae were submitted in the proposal. Any personnel changes, either for initial placement or for replacement, will require GOB/MOH and AID approval.

The Implementation Plan is based on the arrival of long-term technicians no later than June 1979. This scheduling allows three months for contractor selection and two months for contract negotiation and signature.

Date 1978	Action	Agency
June	PP submitted to AID/W for approval	OSARAC
July	PP approved	AID/W
Aug	B.Ed. program for nurse educators begins with 8 candidates	GOB/UBS
Sept	Grant Agreement signed	OSARAC/GOB
1979		
Jan	Contractor selection	AID/W-GOB
	Construction contract out for bid	GOB
	In-country training in health administrations begins with 8 candidates	GOB-IDM
Apr	Contract signed	AID/W
	Participant selection underway	GOB
	Construction of HE/Nutrition facility begins	
June	Project technicians arrive: Nurse Practitioners (2) Public Health Nurse, Nurse Educator (2) Health Educator, Graphic Art (PVC) Nutritionists (2), Admin Coor.	Contractor
Aug	Second group of 8 B.Ed. candidates enter UBS	GOB/MOH

Date	Action	Agency
1979 - continued		
Sept	Short-term consultant in health education arrives for first visit	Contractor
	Participants depart for U.S. long-term training: nurse practitioner (1), nursing education, nursing service administration, (2), health planning, (1), graphic arts (1), nutrition (1)	GOB-Contractor
Oct	Commodity lists prepared and order placed	Contractor
	Curricula for Nurse Practitioner and Public Health Nursing programs completed	Contractor
	Nurse Practitioner and Public Health training programs begin	GOB/MOH
Dec	Construction of HE/Nutrition facility completed and occupied	GOB
	Eight health administrators graduate from IDM and are placed	GOB/MOH
1980		
Jan	Second group of eight health administrator candidates begins training at IDM	GOB-IDM
	Short-term nutrition consultant(s) arrives for first visit	GOB-Contractor
Apr	Participant selection under way	GOB/MOH
Aug	Third group of eight B.Ed. candidates enter UBS	GOB/MOH
	Fifteen Nurse Practitioners graduate and are placed	GOB/MOH
	Fifteen Public Health Nurses graduate and are placed	GOB/MOH
Sept	Participants depart for U.S. long-term training: nursing service admin (2), health education (2), and nutrition (1)	GOB Contractor
Oct	Second cycle of Nurse Practitioner and Public Health Nursing programs begins	GOB/MOH
	Commodities arrive, are inventoried and put into use	GOB/MOH-Contractor
Dec	Eight health administrators graduate from IDM and are placed	GOB

Date 1981	Action	Agency
Jan	Third group of 8 health administrator candidates begins training at IDM	GOB-IDM
Apr	Participants selection underway	GOB/MOH
June	Nurse Educator (curriculum specialist) arrives	Contractor
	Mid-term project evaluation	GOB-AID-Contractor
	Batswana participants return from U.S. nurse educator (2), health plan (1), graphic arts (1)	
	Returning participants placed	GOB/MOH
July	Nurse Educator (at UBS) departs; B.Ed. program localized	GOB-UBS-Contractor
Aug	First group of 8 B.Ed. nurse educators graduate from UBS and are placed	GOB-UBS
	Fourth group of 8 B.Ed. candidates enter UBS	GOB/MOH-UBS
Sept	Fifteen Nurse Practitioners graduate and are placed	GOB/MOH
	Fifteen Public Health Nurses graduate and are placed	GOB/MOH
	Partcipants in nursing service administration depart for training	GOB/MOH
Oct	Third cycle of Nurse Practitioner and Public Health Nursing programs begins	GOB/MOH
Dec	Eight Health Administrator candidates graduate from IDM and are placed	GOB
1982		
Jan	Fourth and last group of 8 health administrator candidates begins training at IDM	GOB-IDM
June	Batswana participants return from U.S. and are placed: nursing service administration (2), health education (1), and nutrition (1)	GOB/MOH
Aug	Second group of 8 B.Ed. nurse educators graduate from UBS and are placed	GOB-UBS
Sept	Fifteen Nurse Practitioners graduate and are placed	GOB/MOH
	Fifteen Public Health Nurses graduate and are placed	GOB/MOH
Oct	Fourth and final cycle of Nurse Practitioner and Public Health Nursing programs begins	GOB/MOH
Dec	Eight health administrators graduate from IDM and are placed	GOB

Date 1983	Action	Agency
June	Project technicians complete tours of duty: Nurse Practitioners (2), Public Health Nurse (1), Nurse Educators (2), Nutritionists (2)	GOB/MOH-Contractor
	Batswana participants return from the U.S. and are placed: nursing service administration (1) and nutrition (1)	GOB/MOH
	Final Project Evaluation	GOB-AID-Contractor
Aug	Third group of 8 B.Ed. nurse educators graduate and are placed	GOB/MOH-UBS
Sept	Fifteen Nurse Practitioners graduate and are placed	GOB/MOH
	Fifteen Public Health Nurses graduate and are placed	GOB/MOH
1984		
June	Batswana participants return from U.S. and are placed: nurse practitioner (1), nursing service administration (2), and health educator (1)	GOB/MOH
Aug	Fourth group of 8 B.Ed. nurse educators graduate and are placed	GOB/MOH-UBS

B. Conditions, Covenants and Negotiating Status

The Project Paper has been reviewed in draft by the Ministry of Health and formal draft has been submitted to the MOH and Ministry of Finance and Development Planning. Upon their review and clearances from all relevant GOB ministries the GOB request for assistance will be forwarded to OSARAC.

The Project Agreement will contain, in substance, the following covenants:

1. The Grantee will provide, on a timely basis, all required counterpart and participant trainee personnel and will assure that participants trained under this project will be assigned, upon completion of training, to positions within the Government commensurate with the nature and level of their training. The Grantee's normal bonding requirements will be made applicable to those trained under the project.

2. The Grantee will make adequate housing available to the AID-financed technical assistance personnel upon their arrival in Botswana.

C. Evaluation Arrangements

Annual in-house evaluation will be conducted and PARS submitted to AID/W. The first external project evaluation will take place at the end of the second year of the project, and the second and final evaluation will take place at the end of the fourth year. The external evaluation team for both will include a nurse educator, a health administrator team leader, a health educator and a nutritionist.

In both evaluations, the nurse educator will be responsible for reviewing the following project-related activities.

1. Progress of training in in-country programs for Nurse Practitioners and Public Health Nurses;

2. appropriateness of the course content and curricula of the above programs and of the Enrolled Nurse training course;

3. placement of students trained in the above programs and their performance on the job;

4. performance of the nurse educator project technicians; and

5. progress of U.S. participant training (number of students placed and appropriateness of training);

6. progress of the Bachelor of Education in Nursing program at UBS in terms of quality and appropriateness for preparing nurse educators and the acceptance of nurse education as a university-level subject by UBS.

7. changes introduced into the SRNM training program to improve appropriateness for health services in Botswana and to prepare for future transition to BSc. training; and

8. progress made toward legal and administrative steps necessary for transition to the basic BSc. program for SRNM's.

For the second evaluation, the nurse educator will also assess the curriculum developed for the BSc. in Nursing program and the schedule for transition being developed jointly by the MOH and the project nurse technicians.

The health administrator will evaluate the following:

1. Progress of training at IDM (number of students trained and placed);

2. placement of trainees (government hospitals, local councils, mission facilities;

3. appropriateness of course content to jobs;

4. functioning of trained health administrators on-the-job; and

5. progress of U.S. participant training for health administrators, the health planner, and statistical assistants;

The health administrator will also assess the effectiveness of overall project coordination and administration. As team leader, he/she will also coordinate the editing and completion of the final evaluation report for each evaluation.

The health educator will assess the following:

1. Progress in development and implementation of a long-range plan for health education;

2. progress in development of an in-service training program (content of course, progress of students trained to date, etc.), plus plans for placement of trainees.

3. progress of U.S. participant training;

4. progress on construction of the health education facility and/or use of the facility;

5. extent of procurement of health education equipment, its appropriateness and use and needs, if any, for additional equipment; and

6. performance of the project technicians and effectiveness of health education consultant services.

The nutritionist will evaluate the following:

1. Research projects planned, underway and completed (appropriateness of research, quality of design and implementation, application of research results);

2. effectiveness of research consultants;

3. programs developed and implemented by the Nutrition Unit;

4. in-service training developed in the Unit (number and progress of trainees, content of course);

5. effectiveness of U.S. participant training provided;

6. performance of nutrition project technicians on-the-job; and

7. progress of construction and/or use of the nutrition facility.

Both the mid-term and final evaluations will require an estimated four weeks of consultant services. An AID Evaluation Consultant Officer should also be a member of the teams.

ANNEXES

A List of Site Visits

B List of Contacts

C Issues Papers

D Health Profile of Botswana

E Map Showing Districts and Medical Regions

F MDH Organigram

G Criteria for Location and Staffing of Health Facilities

H Logical Framework

I Position Descriptions

J Illustrative Equipment List

K Engineering Analysis

L Proposed Positions Descriptions of Health Administrative Officers and Senior Council Nurse

M IEE

N Detailed Justification for Waivers and Approvals

O Country Checklist

P Project Authorization and Request for Allotment of Funds Part II

Bibliography

ANNEX A

SITE VISITS

Gaborone:	Health Education Unit Nutrition Unit National Health Institute Princess Marina Hospital
Francistown:	Jubilee Hospital EN School FWE In-Service Training Center, Tsamaya Clinic, Tsamaya
Lobatse:	General Hospital EN School Mental Hospital
Mochudi:	Mission Hospital
Serowe:	Nutrition Village
Mahalapye:	MCH Clinic
Pretoria:	University of South Africa, Dept. of Nursing

Annex B

PERSONS CONTACTED

1. Berry, Ms. Sister Tutor, EN School, Francistown
2. Beaton, Mr. M., I.D.M., Gaborone
3. Bome, Ms., Sister Tutor, EN School, Lobatse
4. Buechler, Mr. Philip, USAID/Gaborone
5. Edwards, Ms. Louise, Nurse, Meharry Project, Francistown
6. Erlwanger, Dr., Dean, Faculty of Education, UBS, Gaborone
7. Hanrahan, Ms., Nurse, Project Concern Irish/Botswana Project, Tsamaya
8. Haythorn, Mr. George, I.D.M., Gaborone
9. Jones, Mr. Tim, Health Educator, MOH, Gaborone
10. Kam, Mr. Murray, Planning Officer 1, MOH, Gaborone
11. Kgari, Mrs. Grace, Principal Matron, Princess Marina Hospital, Gaborone
12. Kobue, Mrs. M., Acting Principal Tutor, N.H.I., Gaborone
13. Kreysler, Dr., WHO Nutrition Advisor, Gaborone
14. MacPherson, Mr., UBS, Faculty of Education, Gaborone
15. Makhwade, Ms. K., Chief Nursing Officer, Administration, MOH, Gaborone
16. Manyeula, Ms., Asst. Matron, Jubilee Hospital, Francistown
17. Mashalaba, Dr., Senior Medical Officer, MCH/FP, MOH, Gaborone
18. Matome, Ms. Peggy, Nurse, Nutrition Village, Serowe
19. Mills, Mr. Mike, Planning Officer 11, MOH, Gaborone
20. Mbai, Ms., Matron, Jubilee Hospital, Francistown
21. Moagi, Ms., Matron, Mental Hospital, Lobatse
22. Moeti, Dr. J.S., Chief Medical Officer, MOH, Gaborone
23. Moleelele, Ms., Sister Tutor, EN School, Francistown
24. Nesset, Ms. T., Health Administrator, Southern Region
25. O'Brien, Mr. B., UNICEF Representative, Gaborone
26. Olson, Mr. D., I.D.M., Gaborone
27. Osile, Ms. Lily, Nutritionist, Nutrition Unit, MOH, Gaborone
28. Pirle, Mr., Town Council Clerk, Francistown
29. Pontsho, Mr. A.J., Chief Health Administrator, MOH, Gaborone
30. Poonyane, Mr. D., Instructor, Mental Hospital, Lobatse

PERSONS CONTACTED

31. Raditladi, Mrs., Matron, Lobatse Hospital, Lobatse
32. Ratshosa, Mr., Secretary, District Council, N.E. District
33. Rowland, Mr. M., Unified Government Service, MLGL, Gaborone
34. S'Brana, Dr., Medical Officer, Mental Hospital, Lobatse
35. Schildkamp, Dr. H., Medical Officer, Lobatse Hospital, Lobatse
36. Scott, Mr. Andrew, Planning Officer, Health, MF&DP
37. Searle, Professor, UNISA, Advisor to NEBBLS, Pretoria
38. Sebina, Dr. D.B., Permanent Secretary, MOH, Gaborone
39. Seretse, L.M. The Honorable, Minister of Health, Botswana
40. Shih, Ms. Linda., Tutor, EN School, Serowe
41. Staffs of NHI and the Princess Marina Hospital, Gaborone
42 Sunde, Dr. A., Principal Medical Officer, MOH, Gaborone
43. Swinney, Ms. Jean, COP, Meharry Project, Gaborone
44. Tachezy, Dr. P., Regional Medical Officer, Southern Region
45. Ward, Dr. & Hoyng, Dr., Regional Medical Officers, Francistown
46. Wood, Mr. Bill, Health Administrator, MOH, Gaborone

ANNEX C
Issues Papers

BOTSWANA HEALTH SERVICES DEVELOPMENT - ISSUES PAPER
(Prepared 10 days into PP design)
February 17, 1978

The proposed project will include four basic components: assistance to the GOB programs in (a) nurse education, (b) health education, (c) health administration and (d) nutrition. The following issues, discussed by project component, have arisen early in the course of PP design. A fifth issue, which relates to implementation of the project in general, is also discussed. To the extent possible, the PP design team expects to resolve most, if not all, of these issues in the course of the PP design through a continuing series of discussions with the Ministry of Health (MOH) officials.

1. Nursing Education: The PP team will propose in the PP assistance in establishing training programs for nurse practitioners, public health nurses, nurse educators, and a two-year follow-on program for Registered Nurses (SRN/M's) to the B.Sc. level.

(a) Public Health Nursing:

In determining the numbers of public health nurses required by the GOB over the next five years, the question of staffing patterns for the Regional Health Teams, clinics, health centers and hospitals becomes crucial. Although there is disagreement within the MOH on projected staffing requirements for public health nurses, it seems likely that the MOH will seek to place public health nurses in clinics at the district level. The PP design team feels that such a decision would be a mistake. Basically it would result in the misuse and misallocation of the public health nurse, who functions at the service of the community. Placed in a clinic, the public health nurse will spend most of her time and energy on curative care and, probably, administrative work. These functions should be filled more appropriately by the Nurse Practitioner and/or Enrolled Nurse. To function effectively and at peak capacity, the public health nurse should be assigned to the Regional Health Teams and/or District Council staff for greatest contact with the village community, the health centers and/or the hospitals (for patient counselling on family health and follow-up of patients in the home). Curative care on the health center and hospital level will be provided by ENs, RNs, nurse practitioners and physicians, leaving the public health nurse free to provide public health services and supervise the FWE's. On the MOH decision-making level, the basic problem seems to one of perception of the role and function of the public health nurse. To the extent possible, the PP team will attempt to influence the decision-makers to decide in favor of placing public health nurses at any and all levels higher than the clinic, including the Regional Health Team.

(b) Evolution of Nursing Education: The MOH is requesting AID assistance in establishing supplementary nursing education programs for RNS to "produce" nurse practitioners, public health nurses and RN's with a B.Ed. in Nursing. The first two programs will each require an additional year of study; the third program will require two additional years. To train as an RN now requires three years of schooling with an additional, fourth year for mid-wifery. In short, to become a nurse practitioner or a public health nurse will require five years of training and to acquire a B.Sc. in Nursing will require six years of schooling.

The PP team recommends a more comprehensive and streamlined approach to nurse training. Instead of graduating RN/Ms who, at some point in time, will require additional training, a 4-5 year degree (BSc) program should be institutionalized. Graduates would be qualified as not only RNS but also as basic nurse practitioners and basic public health nurses. A fifth year might be necessary to qualify graduates as midwives. The advantages of institutionalizing one, rather than several, training programs for nurses are obvious: financial and social. Financing training and retraining is more expensive than simply training once. Also, graduating nurses can be placed immediately in urgently required positions at all levels of health care and will not be continuously "pulled away" for additional training. Of equal importance is the fact that the time required for the B.Sc. nursing program is no longer (but equal to) the time required under the present system. Further, since RN candidates enter training with university-level entrance requirements, granting a B.Sc. will make the nursing profession more competitive with other university level training. Recruitment is becoming a problem already, with nurse candidates transfering to university programs, and it is anticipated that this problem will become more severe as more career options become available for qualified women.

The PP team proposes to design the nursing education program to evolve toward this reform. It is hoped that the MOH will accept this evolution. A key MOH decision-maker is the Director of Nursing Education, who is presently studying for her MS at Columbia University. It is highly likely that, as a result of the studies and exposure to the American system, she will accept this proposed reform.

2. Health Education

The issue at hand is the question of the MOH's interest and commitment to health education in general and, more specifically, in staffing equipment and, facilities.

(a) Staffing: It is unclear to the PP team how the MOH proposes to extent health education to the periphery. At the present time, the Health Education Unit is staffed thinly and only at headquarters.

Proposed planning would place a health educator on each Regional Health Team. The idea is sound but questions remain on recruitment and the level to which health educators will be trained. The PP team will further discuss this question with the MOH, as it will effect the type and level of training which AID may provide under this component of the project.

(b) Equipment: Under the MCH/FP Health Education project implemented by Meharry, the Health Education Unit was to receive the basic equipment to function effectively. For reasons not necessary to discuss in this Issues Paper, the required equipment may not be ordered and delivered to the Unit prior to completion of the project. The PP team is uncertain, therefore, whether or not to include the provision of such equipment under this proposed project. This question will be investigated further during PP design.

(c) Facilities: The Health Education Unit is now housed in temporary quarters with inadequate space for projected staffing requirements and for functioning effectively and efficiently in implementing a national health education program and in producing health education materials. The MOH acknowledges this problem, but seems to have no immediate solution. This irresolution reinforces an impression of a general lack of interest and commitment in health education. On the other hand, if it indicates only budgetary constraints for constructing new facilities, provision might be made in the project for construction. This possibility has not been broached with the MOH, and the MOH has not requested such assistance. If the MOH is serious about expanding health education to the periphery, and if AID is serious about assisting an expansion, the PP team may propose the construction of facilities for the Health Education Unit. Requirements would be limited to office space, storage rooms, a library, and a workroom for graphics. The degree of commitment of the part of the MOH will be further explored during the PP design period.

3. Health Administration: As in the case of health education, the MOH and District Councils seem undecided on staffing patterns on the district levels. Again it is a question of recruitment and the level of training required for effective and efficient health administration. It is obvious, however, that health administrators are required to relieve all nursing levels of administrative tasks. The PP team will discuss this issue in greater detail with MOH officials and will tailor proposed training programs in health administration based on a consensus.

4. Nutrition Programs: Again as in the case of health education, the PP team is unsure of the MOH's interest in and commitment to nutrition as a basic component of health care and delivery. The MOH, however, has requested AID assistance in staffing the presently weak Nutrition Unit. On-going programs are presently supervised by the WHO Regional Nutrition Advisor who is absent (covering his Southern Africa region) more than 50%

of the time. Nevertheless, this advisor is controversial in role and personality. The question of the future role of WHO in the Nutrition Unit should be resolved, especially if the PP team recommends placing staff in the Unit. It is hoped the WHO advisor would not assume a supervisory role. The problem may be partially solved by either completion of the advisor's tour or transfer of the WHO regional office to another country. Whether or not this question is resolved in the near future, the PP team may recommend assistance in nutrition programs, including staffing of the unit, as a means of encouraging generating MOH interest and commitment to nutrition.

5. General: Two general questions will be discussed in greater detail with the GOB: (a) personnel ceilings for positions to be filled by Botswana counterparts to AID-financed staff advisory positions and (b) salary scales for nursing, health education and health administration cadres trained through the project. Of primary importance, perhaps, are the salary scales for graduates of the nurse practitioner, public health nurse, B.Ed. nursing program and proposed B.Sc. nursing program.

6. Funding:

(1) SSA or DA
(2) Host government 25% contribution.

PP Team Members: Constance Collins, OSARAV Regional Health Development Officer

Margaret Racz, Consultant in Nurse Education

Nancy Pielemeier, Consultant in Health Administration and Planning

Diane Blane, REDSO Project Design Officer

BOTSWANA HEALTH SERVICES DEVELOPMENT - ISSUES PAPER

(Prepared 10 days into PP design)
March 10, 1978

A number of the issues raised in the first Issue Paper have been resolved in the intervening weeks, while new issues have been raised. A meeting has been scheduled for 13 March with the PS and appropriate planning, administrative and nursing personnel of the MOH, in which to discuss the proposals of the Project Team and other related issues. It is hoped that most of the remaining issues discussed below will be resolved in this meeting so that a final draft of the P.P. can be prepared prior to the return of the H.D.O. and the P.D.O. on the 28/29 March.

Discussion of "old" issues:

1. (a) Nursing Education - public health nursing. The issue of placement PHN at the clinic has been resolved to the satisfaction of the Project Team. After discussions with the Director of MOH services and with the MOH and Regional Health Officers, it became apparent that the clinic is the appropriate base for the PHN, provided the clinic staffing pattern is complete; i. e. a staff nurse/N.P. is available to perform curative services, and 1 or 2 E.N.'s are also in position.

(b) Evolution of Nursing Education. The idea of transition into a BSc program is well accepted by certain groups interviewed and viewed more skeptically by others. The Acting Principal Tutor and Sr. Matron of PMH are enthusiastic supporters of the idea and have voiced their assessment of the absent Director of Nursing Education, Mrs. Kupe's endorsement as well. The Director of Nursing Administration, Mrs. Makhwade, was more reluctant when this proposition was presented to her, but she did not completely reject the idea and declared that such a decision was up to "the government". Planning officers of the MOH, Ministry of Finance and Development Planning, and Ministry of Local Government and Lands seemed to feel this was a technical decision but were naturally concerned with recurrent funding implications of such a change. These implications are under investigation by the Project Team and will be dealt with in detail in the Final Analysis section of the P.P. The issue of transition to a BSc program will be dealt with in depth in the scheduled meeting with the Permanent Secretary.

2. Health Education. The issue of the MOH's interest and concern with Health Education has not yet been resolved and will be further explored at the scheduled meeting.

(b) Equipment - how much equipment and whether equipment will be supplied by the Meharry project has not yet been resolved.

(c) Facilities - The Project Team will propose that contruction of a

Health Education facility be included under the P.P. and this will be discussed at the meeting.

3. Health Administration: Discussions with Regional Health Teams and Local council staff reveal that there is general agreement regarding the appropriate level of candidates needed and that positions should be established by local councils. The issue that remains as yet unresolved is the position of the Council Health Administrator vis-a-vis the Council Nurse. Recommendations regarding this relationship will be made by the Project Team in the Technical Analysis section of the P.P. and will be discussed at the MOH meeting.

4. Nutrition Programs: The Project Team will recommend a staffing pattern for the Nutrition Unit which will be discussed at the meeting and incorporated into the P.P.

5. General: The issues of personnel ceiling and salary scales will be discussed in the general meeting and have been aired with the planning officers. (MOH, MF, DP, MLGL)

NEW ISSUES

1. Recruitment for training programs: Discussions with local government officials reveal that because of the division between MOH and Unified Local Government Service Personnel and hiring systems, local government feels their nurses do not have equal opportunity for training and other benefits with the MOH personnel. It is important that this issue be raised with MOH and agreement reached on recruitment policies for the various training programs to be offered under the proposed project. The P.P. Team suggests that recruitment be proportional to the number of personnel employed by local government and by the MOH. After airing this issue with the MOH, concrete recommendations for recruitment will be written into the P.P. The Project Team will also voice approval for the conversion of the dual personnel system into a Unified Nursing Service, a proposal which meets with widespread approval by nurses and other personnel at local and central levels.

2. UBS B.Ed. Program: Discussion with UBS and MOH personnel reveal that there is a lack of agreement between the organizations on many aspects of the nurse education program including the issue of recruitment of necessary personnel (3 professors of Nursing). As a result it is unclear if or how many USAID technicians are expected to fit into this program. The Project Team has requested clarification of this issue and will pursue the matter further.

3. Enrolled Nurse Program: While the MOH request and the PID identified the nurse practitioner, PHN and the B. Ed. Programs as requiring AID input and the Project Team concurs with this request and recommendation, the Project Team has identified two further areas of nurse education requiring input at this time in order to achieve maximum benefit from the project. One area identified is the transition to the BSc training of RNs discussed under 1 (b) above. The second area is the training program for ENs. The Project Team believes strongly that adjustments must be made in the currently curative/hospital oriented curriculum in order to prepare a cadre of ENs to function as the "backbone" of the proposed health system. In addition major revisions are needed in scheduling and teaching methods. Finally with the up-grading of RN training it will be necessary to upgrade EN training and simultaneously to clarify the distinction between two cadres. The current lack of distinction between the levels of these two cadres is causing growing discontent and concern. With a reorientation of nursing training and with the establishment of a new cadre of nurse educators (most of whom will be teaching in EN schools), the timing is ripe for the simultaneous reorientation of the EN curriculum and training. This additional input can be made under the pruposed project with very little increase in funding.

CLARIFICATION OF ISSUE RESOLUTION

The issues identified during the development of the Project Paper were satisfactorily resolved, and the outcome is evident in the body of the P.P. Further clarification of selected issues is presented below.

Evolution of Nursing Education. The acceptance of eventual transition to B.Sc. training for nurses has been accepted in principle by the Permanent Secretary on behalf of the MOH. Although the Ministry is not yet in a position to determine when the final transition will take place, USAID was requested to provided assistance in developing the curriculum and preparing for that eventuality. Two years of technical assistance has been included in the project for this purpose. Should the transition to B.Sc. training be delayed further than expected, curriculum revisions needed to improve the appropriateness of SRNM training will still be needed and can be incorporated into the diploma program prior to the final changeover. For these reasons, the additional two years of services of a nurse educator/curriculum specialist are included as an integral part of the project design.

Recruitment for Training Programs. The MOH will selct candidates for training programs based on qualifications of candidates and location and/ or availability for placement at facilities in which the need is greatest. Determination of priorities for placement of newly trained Nurse Practitioners and Public Health Nurses will be left to the professsional judgment of the MOH.

UBS B.Ed. Program. During the visit of the Project Team, agreement was reached between the University, MOH, and USAID on recruitment of three professors of Nursing for the B.Ed. program. One Professor of Public Health Nursing will be recruited by the University and CIDA, a Professor of Psychiatric Nursing will be recruited under USAID SADPT, and a Professor of Nursing Education will be recruited under this project. The first two technicians will begin work in August/September, 1978 during the first year of the B. Ed. program, while the third techncilan whose input is needed in the second and subsequent years of the program, will begin work in 1979.

ANNEX D

HEALTH PROFILE OF BOTSWANA

The major health problems in Botswana are respiratory and gastroenteric diseases, venereal diseases, and tuberculosis. Pneumonia, bronchitis, emphysema and asthma account for a large portion of both outpatient and hospitalized cases, while acute respiratory infections account for the largest portion of the outpatient respiratory caseload. Respiratory diseases account for 21% of the outpatient and 11% of hospital cases, with tuberculosis representing an additional 5% of the hospital cases. While new TB cases account for only approximately 1% of new outpatient cases, treatment of follow-up of old cases puts a heavy load on clinic staff. TB also accounts for the largest proportion of hospital deaths, (20%), followed by deaths from other respiratory diseases (11%). Gastroenteric diseases account for 7% of outpatient cases, 4% of hospital cases, and 8% of hospital deaths. Of the inpatient gastroenteric cases, most were reported in Lobatse, Gaborone, and Francistown. Reported cases of V.D. account for 10% of outpatient cases. Additional information on disease incidence is given in Tables I - III.

In 1973, 38% of all births took place in hospitals or clinics. By 1975 this figure had increased to 58%. The Crude Birth Rate remains high, at 44-45/1000. Antenatal clinic attendance continues to improve year by year, while postnatal and family planning attendance remains much lower. According to 1975 statistics, 11% of urban and 5% of rural women of reproductive age were classified as new acceptors of family planning. Although figures are not available on attendance at child welfare clinics, available information on immunizations demonstrates a marked improvement in coverage of DPT and polio immunizations. Measles vaccine is given to those at greatest risk (9 months - 2 years). BCG vaccinations are given in all health facilities, and in 1975 an estimated 83% of children 0 - 14 had been vaccinated against TB. While cases of marasmus are seen in hospitals, Kwashiorkor is almost unknown in Botswana. Very little is known about the incidence of childhood undernutrition, although scattered surveys and preliminary surveillance data indicate that this problem is increasing, especially in the periurban areas.

ANNEX D

TABLE I

HEALTH STATISTICS, 1973 - 75**

10 Leading Causes, Hospital Discharges 1973, Hospital Admissions 1975

1.	Normal Deliveries	23%	Normal Deliveries	24%
2.	Injuries, Burns	10%	Respiratory	11%
3.	Respiratory	9%	Injuries, Burns	10%
4.	Complications of Childbirth	8%	Complications of Childbirth	9%
5.	Enteritis	7%	Measles	5%
6.	T. B.	7%	Other, Genito Urinary	5%
7.	Other, Genito Urinary	6%	T. B.	5%
8.	Other, Communicable Diseases	5%	Enteritis	4%
9.	ILL defined	3%	Symptoms, ILL defined	4%
10.	Skin	3%	Skin	3%
		81% of total		80% of total

TABLE II

Leading Causes of Hospital Deaths, 1975

1.	T. B.	20%
2.	Respiratory	11%
3.	Enteritis	8%
4.	Cardio-vascular	7%
5.	Measles	7%
6.	Injuries	6%
7.	Malignant Disease	5%
8.	Malaria	1%
		65% of total

** Figures for 1973 taken from Syncrisis, Botswana; figures for 1975 taken from Report of the MOH, 1975 and Fourth National Development Plan (1976-81)

ANNEX D

TABLE III

NUMBER OF NEW (DIAGNOSED)

OUT PATIENTS REPORTED BY 10

LEADING CAUSES/GROUPS

1973		1975	
1. Respiratory	19%	Respiratory	21%
2. Venereal Disease	11%	Venereal Disease	10%
3. Enteritis	9%	Skin	9%
4. ILL Defined	7%	Enteritis	7%
5. Skin	7%	Other, Unspecified	7%
6. Genito Urinary	7%	Genito Urinary	6%
7. Injuries	6%	Injuries	6%
8. Eye	5%	Eye	5%
9. Digestive	5%	Digestive	5%
10. Other, Communicable Diseases	3%	Musculo-skeletal	5%
	79%		81%

ANNEX E

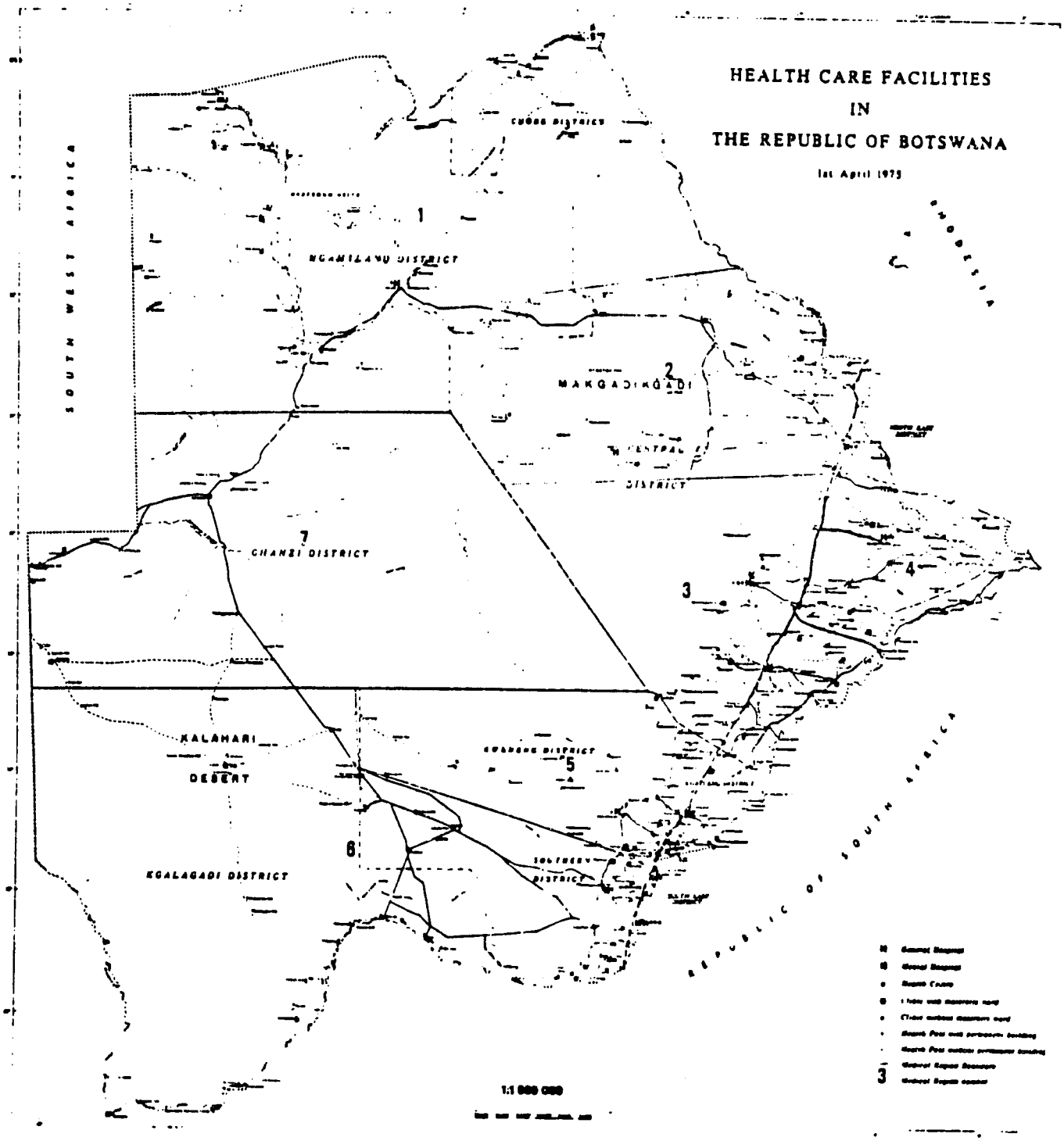
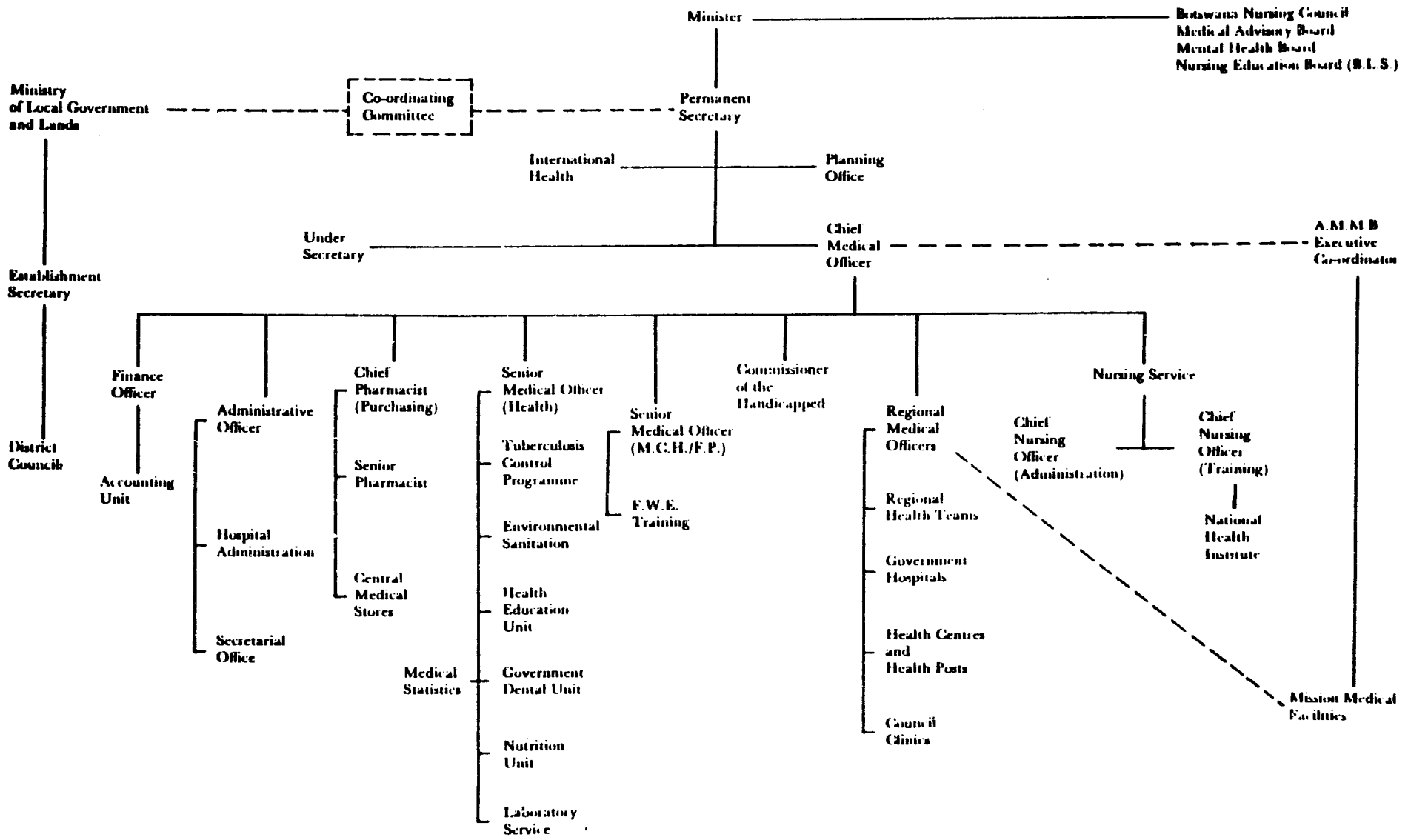

HEALTH CARE FACILITIES
IN
THE REPUBLIC OF BOTSWANA
1st April 1975
SOUTH WEST AFRICA
NGAMILAND DISTRICT
MAKGADIKGADI
CENTRAL
DISTRICT
CHANZI DISTRICT
KALAHARI
DESERT
KGALAGADI DISTRICT
SOUTHERN
DISTRICT
REPUBLIC OF SOUTH AFRICA
1:1 000 000

Table 1

MINISTRY OF HEALTH TABLE OF ORGANISATION



ANNEX G

NATIONAL DISTRICT DEVELOPMENT CONFERENCE 1978

CRITERIA FOR CHOICE OF HEALTH FACILITIES, ACCORDING TO DISTANCE/POPULATION COVERAGE, STANDARD OF BUILDINGS, AND PROVISION OF STAFF

A) Settlements of less than 500 people (within a 15Km radius)

Description - no Government or District supplied fixed facility; visits possibly based at a hut provided by the community, or in a shop or at the kgotla.

Community based health personnel - F.W.E. (to serve a minimum of 200)

Medical Personnel - visited by Mobile Teams who are based at clinics or health centers. (to serve a minimum 20 - 30 families)

Functions - as per health post.

B) Health Posts	Medium Term (During NDP 5)	Long Term
Description -	Fixed facility; standard design HP2 or other building; 3 rooms (consultation, treatment, store) and toilet; a house in remote areas	Fixed facility; standard design HP 2; 1 nurse's house.
Population covered (within 15 Km radius)	500 - 1000 in rural areas; 4000 - 8000 in major villages & towns	Minimum 500 in rural areas; 3000-5000 in major villages and towns
Health Staff	1 EN (in remote areas)	1 EN (possibly 2 depending on location and work load)
Community based personnel	FWEs (covering 500 to max. 2000 people each)	FWEs (covering 500 to max. 2000; possibly linked to ward system in major villages and towns)

Functions -	i) Preventive health work (MCH, school health, immunization, nutrition, health education, family planning etc); ii) First aid; iii) Diagnosis and treatment of referral of common diseases. iv) Case finding, follow-up of discharged patients; v) Keeping records (becoming more comprehensive with time)

C) Clinic	Medium Term (During NDP V)	Long Term
Description -	Fixed facility; standard design C2 or other building; 5 rooms with covered waiting area and toilets; vehicle; two staff houses	Fixed facility; standard design C2; vehicle; 4 staff houses
Population (within 30 km. radius)	5000-10000 in rural areas; 10 000 in major villages and towns	3000-8000 in rural areas; 5000-10000 in large villages and towns
Community-based personnel -	2FWEs (at least)	FWEs (as required by population; 1 FWE to max. 2000 people)
Health Staff -	1 SN/MW or 1 EN/MW (if available) 1 EN 1 HA (CLINICAL) 1 Driver 2 GDAs	1 Public Health Nurse 1 SN/MW-Practitioner 1 HA(Clinical) 1 Driver 2 GDAs

Functions -	i) MCH and Family planning and necessary deliveries. ii) Immunisation

	iii) Environmental health iv) School health v) Health Education and nutrition vi) First Aid vii) Elementary lab examinations viii) Diagnosis and treatment of common diseases ix) Case finding and follow up, with particular emphasis on TB x) Collection of statistics xi) Supervision of health posts in area and mobile services to small settlements. xii) In-service training of ENs and FWEs.	
D) Clinical with Maternity Ward	Medium Term (During NDP 5)	Long Term
Description -	Fixed facility, standard design C2/MW1, a vehicle, three staff houses	as in medium term but with one additional vehicle, and toilet of five staff houses
Population covered -	As for clinic but Maternity ward subject to specific assessment of area	as in medium
Health Staff -	2 SN/MW or 1 SN/MW and 1 EN/MW 1 HA (clinical) 1 Driver 4 GDAs 1 EN	as in medium term plus 1 Public Health Nurse 1 EN/MW 1 EN 1 Driver 1
Community based personnel -	at least 2 FWEs	FWEs (as required by population)
Functions -	as for clinic but plus deliveries from wide area	as in medium term

E) Health Centre	Term: As soon as resource constraints permit
Description -	Wards with 4-12 beds for delivery and maternity, 8-18 beds for observation and curative care. Outpatients block comparable to clinic C2; support facilities such as basic kitchen, laundry, storerooms, incinerator, mortuary, generator, laboratory, and administration offices; three vehicles, eight staff houses or Pool houses where available
Population covered -	subject to specific assessment of area
Health Staff -	One Public Health Nurse Two Staff Nurses/Midwives Four Enrolled Nurses/Midwives One Senior Health Assistant (Clinical) One Health Assistant (Sanitation) One Executive Officer One Clerk/Typist Six General Duty Assistants Two Drivers
Community based personnel -	FWEs (employed by local authority; as many as population requires)
Functions -	i) MCH, inpatient midwifery and family planning ii) Immunisation iii) Environmental health, including demonstration and guidance iv) School Health v) Health Education and Nutrition vi) First Aid vii) Diagnosis and treatment of common diseases viii) Case finding and follow up with particular emphasis on TB ix) Collection of statistics x) Elementary laboratory examinations, including sputs, TB, examinations of blood films, analysis and examination of urine and stools for parasites xi) Field Surveys for communicable diseases xii) Supervision of clinics and health posts in its area xiii) In-service training xiv) General Inpatient care

F) General

i) **Use of Clinic Medical Vehicles**
- for scheduled mobile visits
- for referral of patients to clinic (on return of mobile team)
- for emergency evacuation patient to hospital
- not for transport of supplies
- not for follow-up of individual patients
- Council may use its discretion on whether to allow vehicles to be used for routine referral of patients from clinic to hospital
- Nurse-in-charge of Clinic should have responsibility for and overall control of vehicle, and vehicle use in a particular situation will therefore correspond to the particular clinic situation and requirements in the area.

ii) **Placement of Radios** - only in remote and/or isolated staffed health facilities

iii) **Use of planes by MOH**
- for regular supervisory trips by RHTs into remote areas
- irregular trips by specialists for special clinics to treat extra rural dwellers
- emergency evacuation when a matter of life or death

iv) Long term proposals are given to provide some idea of what the MOH presently foresees as the maximum level of health services that should be considered in a given area.

Expected Output of Newly Trained Nurses

Enrolled Nurses	1978	1979	1980	1981	1982	1983	1984	1985	Total 1978-85
Lobatse	15	14	40	40	40	40	40	40	269
Molepolole	30	23	40	40	40	40	40	40	293
Serowe	10	16	40	40	40	40	40	40	266
Francistown	14	15	15	40	40	40	40	40	244
Sub total	69	68	135	160	160	160	160	160	1072
Missions	20	45	23	-	-	-	-	-	88
Total	89	113	158	160	160	160	160	160	1160
Adjusted Total	80	95	130	130	130	130	130	130	955
Registered Nurses									
Gaborone	48	52	62	62	62	62	95	95	538
Missions	4	7							11
Total	52	59	62	62	62	62	95	95	549
Adjusted Total	42	44	41	42	43	44	75	75	406

Assumptions 1) Drop-out rate of about 10% p.a. for enrolled nurses

2) Drop-out rate of about 25% over full course for registered nurses.

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

ANNEX H

Project Title & Number: HEALTH SERVICES DEVELOPMENT IN BOTSWANA

Life of Project
From FY 78 to FY 81
Total U.S. Funding $ 5,000,000
Date Prepared: 4/14/78

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program of Sector Goal: The broader objective to which this project contributes: An improved level of health in Botswana as an important element in a better quality of life.	Measures of Goal Achiement: (a) decline in infant and maternal mortality rates; (b) decline in the incidence of endemic and communicable diseases; (c) a public awareness of social illnesses; (d) increase in life expectancy	World Bank surveys. WHO reports on Botswana GOB census and vital statistical data.	Assumptions for achieving goal targets: The GOB will continue to consider the development of the health sector as an important element in improving the quality of life in Botswana. Any changes in the political situation in Botswana will not divert budgetary resources presently allocated for health for other purposes. Trained health personnel will work in the rural areas as needed. The population will continue to accept health services offered. Parallel social and economic development in other sectors will also contribute to improving the level of health.

Project Purpose	Conditions that will indicate purpose has been achieved: End of project status.	Verification	Assumptions for achieving purpose:
To increase the capacity of the GOB Ministry of Health to provide comprehensive health services to the people of Botswana with an emphasis on the rural and periurban populations.	(a) a reorientation of nursing training in Botswana to produce a nurse cadre better prepared to provide comprehensive health services to the rural periurban populations; (b) nurse practitioners, public health nurses and nursing service administrators in place, supervising primary health care workers and performing preventive and curative services within the health delivery system; (c) administrative capacity for providing health services increased by placement of approximately 90% of health administrators required at the central, regional and promotive health services improved through health education (programs implemented and staff in place); (e) a national nutrition program planned and in process of implementation by trained personnel.	Analysis of (a) numbers of outpatient/clinic, visits, (b) number of antenatal/postnatal care visits, (c) attendance at child welfare clinics, (d) numbers of TB programs defaulters, (e) numbers of health facilities functioning efficiently and effectively, (f) the kinds of health services available, and (g) availability and distribution of drugs and medical supplies.	The MOH regards the provision of health services as contributing to an improvement in the health status of the population. The budget of the MOH and MLGL will increase sufficiently to provide the recurrent funding necessary to support the project components. Other donors continue to support complimentary projects.

Outputs:	Magnitude of Outputs:		Assumptions for achieving outputs:
Nursing for Health Services			
1. Curricula for one-year, diploma-level, in-country training programs for SRNM's to function as nurse practitioners and public health nurses developed, in use and directed by Batswana personnel. 2. Educator/teaching positions for these two programs filled by Batswana, all of whom are presently in training. 3. Enrolled Nurse curriculum revised and in use in government and mission EN training schools. 4. Three-year B.Ed. in Nursing program at UBS assisted and strengthened. 5. Nurse educator positions for this program filled by Batswana. 6. Foundation established, including curriculum development for possible future transition to a B.Sc. in Nursing program. 7. Nursing service administrators trained to direct the delivery of health care by health personnel on the central, regional and district levels.	1. 60 SRNM's trained as Nurse practitioners (15 per year x 4 years). 2. 60 SRNM's trained as Public Health Nurses (15 per year x 4 years). 16 SRNM's trained as Nurse Educators with a B.Ed. in Nursing; another 16 will be in the process of completing the B.Ed. program (8per year x 4 years). 4. 3 SRNM's trained as Nurse Practitioner (1) and Nurse Educators (2) to assume teaching positions. 5. 5 SRNM's trained as Nursing Service Administrators.	MOH annual statistical reports. Contractor periodic reports. Project evaluations. Site visits. NHI reports and publications UBS, NHI and TDM records. AID project evaluations (PARs) and monitoring.	Qualified candidates will be available for training. The MOH continues to support the evolution of the nursing educaton program Other donor, complimentary program will continue as projected. CIDA continues to support TDM. The GOB recurrent budget will be sufficient to hire new health personnel.

Health Administration

1. Health Administrators trained for senior-level positions in hospitals, on local council staffs and in the MOH.

1. 32 Batswana trained in health administration (8 per year x 4 years).
2. 1 Batswana trained in health planning.

3. 4 Batswana statistical assistants trained in census and vital statistics.

Health Education

1. A national health education plan developed and in the process of being implemented.
2. Capability developed to provide training in health education.
3. Training program developed for health educators.
4. Health education positions on the MCH Health Education Unit filled by Batswana.
5. New facility for the Health Education Unit built and in use.

1. 2 Batswana trained in health education planning
2. 1 Motswana trained in graphic arts.
3. 8-10 Batswana trained on-the-job in health education and programming techniques.

Nutrition

1. Nutrition research conducted with the results analyzed and considered in the design of nutrition programs.
2. A national nutrition program developed and in process of implementation.
3. Nutrition positions in the MOH Nutrition Unit filled by Batswana.
4. New facility for the Nutrition Unit build and in use.

1. 2 Batswana trained in nutrition and nutrition planning.
2. 8-10 Batswana trained on-the-job in nutrition planning and surveillance.

Inputs;	Implementation Target (Type and Quantity)		Assumptions for providing inputs:
AID			
TA: Long-Term			
Nurse Practitioners	2 Nurse Practitioners - 8 py	Review and audits of AID and GOB records (Grant Agreements, PIO's contracts)	Available and adequate construction firms.
Public Health Nurse	1 Public Health Nurse - 4 py		
Nurse Educators	3 Nurse Educators - 8 py		Suitable contractors available and able to undertake project implementation.
Health Educator	1 Health Educator - 2 py		
Nutrition Planner	1 Nutrition Planner - 4 py		
Human Nutritionist	1 Human Nutritionist - 4 py		
TA: Short-Term			
Health Educator	Health Educator -15 pm		AID incremental funding available in timely manner.
Nutrition Researchers	Nutrition Researchers -30 pm		
Participant Training			
Long-Term			
Nurse Practitioner	1 Nurse Practitioner - 5 py		GOB inputs delivered in a timely manner, esp. personnel for training and counterparts
Nursing Education	2 Nurse Educators - 4 py		
Nursing Service Admin.	5 Nursing Service Admin. 5 py		
Health Planning	1 Health Planning - 2 py		
Health Education	1 Health Education - 4 py		
Health Education Planning	1 H. Ed. Planning - 2 py		
Graphic Arts	1 Graphic Arts - 2 py		
Nutrition	2 Nutrition - 6 py		
Short-Term			
Statistics	4 Stat. Assist. - 6 pm,ea.		
Commodities			
Medical equipment & supplies	Medical supplies -$ 56,370		
Audio-visual aids	A-V Aids and		
Camping equipment	Camping Equip. -$ 23,930		
Teaching aids	Teaching Aids -$ 1,700		
Vehicles	Vehicles -$ 60,000		
Construction			
Facility for HK/Nutrition Units	Facility -$243,000		

INPUTS, continued

GOB

Counterparts	1 Nurse Practitioner	- 5 py
Participant trainees	2 Nurse Educators	- 4 py
Established positions	5 Nursing Service Admin.	- 16 py
Admin. Support	1 Health Planning	- 2 PY
Trainee support	1 Health Education	- 4 py
Staff housing for rental	1 Health Planning	- 2 py
Furnishings	1 Graphic Arts	- 2 py
Student & faculty supplies	2 Nutrition	- 6 py
Land site	4 Stat. Assistants	- 6 pm. ea.
	60 Nurse Practitioners	- 60 py (1 yr. ea.)
	60 Public Health Nurses	- 60 PY (1 yr. ea.)
	32 Nurse Educators	- 96 py (3 yr. ea.)
	32 Health Administrators	- 32 py. (1 yr. ea.)
	8-10 Health Educator Trainees	
	8-10 Nutrition Trainees	
	Supplies and Equipment	- $ 5,600
	Office Space	- $ 80,000
	Classrooms	- $ 80,000
	Secretarial Services	- $ 48,312
	Utilities	- $ 1,000
	Furnishings	- $ 55,000
	Land Site	- $ 10,000

ANNEX I

JOB DESCRIPTION

Title: Nurse Practitioner Educator Number Required: 2

Qualifications and Experience Requirements: Minimum academic requirement is Master's Degree in Nursing with a clinical speciality in Family Health or related specialty. Teaching and curriculum development experience essential. Candidates should also have had work experience in Family Health Care programs. Experience in developing country preferred.

Scope of Work: These technicians will be responsible for the development of a curriculum to be used in a one year in-country training program for Botswana State Registered Nurse Midwives. Fifteen SRNMs are to be prepared each year for 4 years to perform diagnostic and curative services at all health institutions in Botswana. Technician will be required to work with counterparts, participate in the teaching of course content, and to develop appropriate experience fields for the students. Clinical supervision of the students will be through preceptors.

The cooperation of this technician with and participation in professional activities of the team in Botswana is essential.

Language Required: English

Placement: NHI Gaborone, in-country travel will be required.

Supervision: MOH

Tour of duty: 4 years.

Title: Public Health Nurse Educator Number Required: 1

Qualifications and Experience Requirements: Minimum academic requirement Masters Degree in public health or public health nursing. Experience should include public health nursing at staff and supervisory levels. Experience in teaching and curriculum development essential. Experience in developing country preferred.

Scope of Work: This technician will be responsible for developing a curriculum for a one year in-country training program for Botswana State Registered Nurse Midwives. Fifteen nurses are to be prepared as public health nurses for a four year period. The technician will be required to work with counterpart nurses, participate in the teaching as well as the supervision of the students. The development of the experience fields for

students will be a combined effort of the technician and the counterparts. Her cooperation with and participation in professional activities of the team in Botswana is essential.

Language required: English

Placement: NHI Gaborone, in-country travel will be required.

Supervision: MOH

Tour of Duty: 4 years

Title: Nurse Educator Number Required: 3

Qualification and Experience Requirements: Minimum academic requirement Masters Degree in Nursing Education. Experience in teaching and curriculum development essential. Additional skills as required will be in the scope of work as there are three separate and specific assignments. Experience in developing country preferred.

Scope of Work: No. 1

This nurse educator will work with the on-going Bachelor of Education program at UBS. Duties will include teaching nursing courses and curriculum development at UBS with a counterpart. Assistance in organization and supervision of teaching practices is required as well as in-puts into the development of the National Curriculum of Botswana. This nurse will serve as team leader; for the other nurses working with this project and should have experience in supervision of personnel.

Language Required: English

Placement: Gaborone

Supervision: MOH & UBS

Tour of Duty: 2 years

Scope of Work: No. 2

This nurse educator will work with the Enrolled Nurse programs. Duties include working with four counterparts (one from each school) to revise and re-orient the EN curriculum to produce an EN suited to the needs of Botswana. Other duties include assistance with teaching methods and requirements for supervision. The cooperation of this technician with and participation in professional activities of the team in Botswana is essential. This candidate will assist and supervise the Peace Corps Volunteers assigned to the program.

Language required: English

Placement: Francistown, Lobatse, Molepolole, Gaborone.

Supervision: MOH

Tour of Duty: 4 years

Scope of Work: No. 3

This nurse educator will arrive at post at the beginning of the 3rd year of the project. Duties include working with a counterpart to finalize curriculum course content and to establish field training sites for the transition of the SRN program to a basic baccalaureate program in nursing. She will also be responsible for assisting with development of the budgeting process and orienting teachers and staff to the new program and should be knowledgeable about nursing school management. Her cooperation in the activities and participation in the professional experience of the team is essential.

Language required: English

Placement: Gaborone

Supervision: MOH, UBS

Tour of Duty: 4 years

Title: Health Educator Number required: 1

Qualification and Experience Requirements: A Health Educator with at least a Master qualification. Work experience should be broad, either in program development or management. Developing country experience preferred.

Scope of Work:

This technician will be required to work in a health education unit already established and functioning. The technician will work in a counterpart relationship and with a small staff. Duties include assisting a consultant funded under this project and the staff to develop and plan a nationwide long range health education program that emphasizes priorities and establishes the functional pattern of the unit. The technician will be primarily responsible for determining needs, course content, etc. for a one year in-country training program for health educators to staff the Regional Health Teams. Teaching duties are included in this scope of work.

Language required: English

Placement: Gabrorone, in-country travel will be required.

Supervision: MOH

Tour of Duty: 2 years.

Title: Nutrition Planner Number Required: 1

Qualifications and Experience Requirements: Candidate should have a Masters degree in nutrition planning. Broad research background and experience in program planning and administration is required. Candidate with previous experience in developing countries is preferred.

Title: Nutritionist Number Required: 1

Qualifications and Experience Requirements: Undergraduate and Masters degree in human nutrition. Candidate should have had at least 2 years work experience either in research or programming. Candidate with previous experience in developing countries is preferred.

Scope of Work:

The scope of work for the two nutrition technicians is all encompassing and very broad. There is a need to plan and implement a comprehensive national nutrition program; prepare the nutrition component for training programs for Family Welfare Educators, Enrolled Nurses, State Registered Nurses; to develop a staffing pattern for the nutrition unit; to provide in-service training for local staff; to identify requirements for nutrition research and to assist in conduction research. (Short-term consultants will be provided under this project when nutrition needs have been identified) Both technicians will be operational as well as advisor. The nutrition planner will be responsible for the day-to-day management of the nutrition unit. Supervision of staff will be an added responsibility.

Language required: English

Drivers License required

Placement: Gaborone, Travel in-country will be required.

Supervision: MOH

Tour of Duty: 4 years.

Title: Administrative Coordinator Number Required: 1

Qualifications and Experience Requirements: Academic requirements are a Bachelors degree. Experience should include personnel management, personnel supervision. Typing skills are required. Candidate should have a valid drivers license.

Scope of Work:

The Administrative Coordinator will be responsible for establishing administrative procedures for project personnel support and contract management. The coordinators tours is two years. During this period the coordinator will recruit and train a Motswana to assume the coordinator's duties for the last two years of the project. Responsibilities and duties include: time and attendance records for project personnel; allocation of offices and furnishings; vehicle maintenance and control; arrangements for housing,travel, air and sea freight; fiscal management and quarterly reports to contractor. The Administrative Coordinator will not have direct professional supervisory responsibilities of project team members.

Language Required: English

Placement: Gaborone

Supervision: MOH

Tour of Duty: 2 years.

JOB DESCRIPTIONS - PEACE CORPS PERSONNEL

Title: Math/Science/English Tutor for En Bridge Program Number Required: 4

Scope of Work: The bridge tutors will be assigned one each to each of the four Enrolled Nurse Schools. They will be responsible for helping to develop, with the nurse tutors and nurse technician, a bridge program of 3 months or less, to tutor EN candidates in basic 9th grade level math, science and English skills. The bridge tutors will be responsible for teaching remedial courses during the 3 months prior to the opening of school in April, for assisting with teaching of basic science courses for the first year ENs, and for providing on-going tutoring and remedial assistance as required throughout the school year.

Language required: English

Placement: Lobatse, Molepolole, Serowe and Francistown

Drivers License required

Tour of Duty: 2 years

Supervision: MOH

Title: Graphic Artist Number Required: 1

Qualification and Experience Requirements: Candidate should have a Bachelors degree in graphic design. Preferably applicant should have work experience in advertising, newspapers or with a magazine.

Scope of Work: The graphic artist technician will work at the central health education unit and will have overall responsibility for the work of the graphic arts section which designs, illustrates and produces a wide range of teaching, training and extension materials. The artist will be responsible for creating display and exhibition materials, other printed materials such as leaflets, posters and booklets. The artist will be responsible for organizing and production of all materials required to evaluate the effectiveness of the materials produced by the section. The artist will prepare an annual work plan for the section. The management and operation of the graphic section, including estimate of expenditures, is part of the scope of work.

Language required: English

Placement: Gaborone, with travel required.

Supervision: MOH

Tour of Duty: 2 years.

ANNEX J

ILLUSTRATIVE COMMODITY LIST BY COMPONENT

Nursing for Health Services

Nurse Practitioner Program:	Estimated Unit Cost	Total
Anatomical Model (1)	$400.00	$400.00
Wall Charts (2)	200.00	400.00
Books	600.00	600.00
Miscellaneous	600.00	600.00
Movie Projector, Screen, Stand (one each)	750.00	750.00
Public Health Nurse Program:		
Home visiting bags (60)	55.00	3,300.00
Books	600.00	600.00
Miscellaneous	600.00	600.00
Enrolled Nurse Program:		
Mrs. Chase Model (4)	400.00	1,600.00
Chase Doll Model (4)	125.00	500.00
Skeleton (4)	250.00	1,000.00
Anatomical Model (4)	250.00	1,000.00
Dressing Instruments		1,200.00
Stethoscopes (48)	5.00	240.00
BP Apparatus (24)	40.00	960.00
Dressing Trays (24)	5.00	120.00
Reference Books		1,500.00
Miscellaneous		1,000.00
	Sub-Total	$ 16,370.00
Health Education:		
Twelve Trays	30.00	360.00
Developing and Printing Tanks (3)	30.00	90.00
Safe Light with Filter (1)	20.00	20.00
Time Clock (1)	50.00	50.00
Contact Printer (1)	50.00	50.00
Photo Thermometers (2)	40.00	80.00
Print Dryer/Glazer (1)	100.00	100.00
Tongs and Bottles		20.00
Photo Easels (2)	75.00	150.00

Health Education: Continued	Estimated Unit Cost	Total
Air Conditioner (1)	400.00	400.00
Thermal Copier (1)	600.00	600.00
Transparencies and Mounts (1000)	.50	500.00
Spirit Duplicator (1)	300.00	300.00
Reams of Paper		500.00
Portable Cassette Record Players (10)	180.00	1,800.00
Editing Tape Recorder (1)	700.00	700.00
Film Splicer (1)	100.00	100.00
Tape Splicer (1)	100.00	100.00
Film Strip Camera (1)	200.00	200.00
Slide Mounts (1000)	.10	100.00
C-90 Cassettes (100)	1.50	150.00
Electronic Tool Kit (1)	250.00	250.00
Back Projection Units with Screen and Projectors (2)	300.00	600.00
Clamp and Magnifier Light (1)	20.00	20.00
Pantograph		
Graphic Arts Storage Cabinet (1)	100.00	100.00
Photo Enlarger with Condenser (1)	350.00	350.00
150 mm Lens (1)	60.00	60.00
200 W Lamps		150.00
Lenses for Nikon Camera, 105mm, 200mm, 55mm, 200-600 zoom, 50mm, 105mm	1,400.00	1,400.00
Transparency Maker (1)	100.00	100.00
Electric Stencil Cutter (1)	100.00	100.00
35mm Pentax Camera with Lens (1)	220.00	220.00
Duplicator (1)	600.00	600.00
Filing Cabinet (1)	80.00	80.00
Set of Pockets		80.00
Desk (2)	150.00	300.00
Chairs (4)	60.00	240.00
2 Man Tents (4)	60.00	240.00
Gas Stoves (5)	30.00	150.00
Sleeping Bags (10)	30.00	300.00
Stretchers (10)	15.00	150.00
Single Mattresses (10)	10.00	100.00
Cadac Gas Lights	22.00	220.00
Cookings Pots (10)	10.00	100.00
Mosquito Nets (10)	10.00	100.00
Camping Tables (5)	15.00	75.00
Cadac Gas Bottles (5)	15.00	150.00
Camping Chairs (10)	5.00	50.00
Axes (5)	10.00	50.00
Shovels (5)	8.00	40.00
Books		250.00
Miscellaneous		750.00
	Sub-Total	**$13,745.00**

Health Education: Continued	Estimated Unit Cost	Total
Nutrition:		
Books		500.00
Wall Charts, visual aids, teaching aids		200.00
Miscellaneous equipment and supplies		1,000.00
	Sub-Total	$ 1,700.00
	TOTAL	$31,815.00

ENGINEERING ANALYSIS

Introduction:

The offices of the Health Education and Nutrition Units of the MOH are overcrowded and do not allow the Units to conduct training activities. To provide for current and future space requirements, a new building is proposed for construction.

Housing for government employees and expatriate staff is in extreme short supply in Gaborone. The addition of U.S. Technical personnel will tax the supply of Government housing beyond this capacity to respond by four houses. It is therefore proposed that funds for the construction of four standard senior service houses (either the Shakawe or Courtyard type) be included within this project.

Design:

Preliminary designs for the building have been prepared by an architectural firm in Gaborone after discussions with MOH and project design personnel. The design is simple but practical (see attachment Annex K) and conforms with GOB policy for modest government buildings and conventional Botswana small building design. Final construction plans will be prepared by an architectural firm under the supervision of the Ministry of Works (MOW). USAID approval of final plans will be required.

The Botswana Housing Corporation (BHC) a parastatal government organization constructs, maintains and manages all government housing in Gaborone. They have developed complete plans and specifications for the various types, models and sizes to correspond to the grade and status of the intended occupant. The plans and specifications in the Shakawe and Courtyard houses have been reviewed and accepted by REDSO Engineers as suitable for AID technical personnel. Several units of both these models have been or are being constructed for AID project personnel furnished under other AID projects.

Construction Materials:

Construction materials will be standard for simple, single story structures in Botswana. The building will have concrete strip foundations, reinforced concrete floors, corrugated asbestos cement or metal roofing, concrete block or brick walls, ceiling insulation, fibre-board ceilings and metal window and door frames. All materials are available in Botswana, but most originate in the Republic of South Africa. A waiver for construction materials will thus be required, as will a waiver for construction engineering services. See Annex N for justification.

Site:

The MOH has selected plot number 3377 in the Mephato section of Gaborone for the site of the building. An existing health center occupies a portion of the site. The site has been set aside for health facilities on the Gaborone city development plan. The site is flat and covered with brush, weed growth and some trees. It has direct access to water, waste disposal and electrical services. Traffic access will be via a fully developed gravel road bordering one edge of that portion of the site selected for the new building.

The four proposed houses will be constructed on lots designated for house construction in a developed residential area where sewage, water, electricity and roads are available.

Cost Estimates

The MOW has recently awarded contracts for construction of small school buildings of similar design and standard as the planned health facility. The unit cost estimated for the health building has been increased by about 10% over the unit cost of the school buildings to reflect cost escalation pressures on small construction projects that the MOW ancitipates after the expected award, in the near future, of several large contracts in the Gaborone area. Escalation through the end of the construction is estimated at 25%. In Botswana, contractors bid costs are figured on the current unit prices of materials and labor. Any increases in material or labor costs during construction result in a higher payment to the contractor. The MOW estimates material cost escalation at 15% per annum and expects at least one statutory wage increase between now and the end of construction, sometime in the second half of 1979. The MOW cost estimates for the construction of the building are:

Building - 750m^2 at 230 P per m^2	131,100 P	
Air conditioners - 14 room units at 650 P each (12,500 to 15,000 BTUs each)	9,100 P	
Drainage Structures (gutters and downspouts)	1,000 P	
Water Connection	500 P	
Electrical Connection	1,000 P	
External Works (gravelling of carpark, fences)	2,000 P	
	144,700 P	
Contingency at 10%	14,470 P	
	159,170 P	
Escalation at 25%	39,800 P	
Total for Health Education and Nutrition Units	198,870 P or	$243,000

The BHC estimates that, if contract can be let by mid 1979, these houses (either model) can be built for $35,000 each. Contractors are presently mobilized in the area and could advantageously take on this construction. This price includes their estimate of inflation increases and approximate 10% for contingencies. Therefore, it is recommended that the following sum be included for construction of four houses.

4 Shakawe or Courtyard houses - @ $35,000	$140,000
Total for construction	$383,000

The cost estimates do not include furniture for the building. Furniture will be supplied the MOH.

Construction Contract:

Standard GOB procedures for tendering and award of contract will be followed. After USAID has reviewed and approved the final plans, the MOW will contract with a consultant quantity surveyor to prepare bills of quantities and tender documents. USAID requirements such as source/origin of materials and services will be stated in the Project Agreement to insure that these provisions are included in the tender documents. USAID approval of the documents will be required before tenders can be invited of prospective contractors. Tenders will be submitted to the GOB Tender Board with the MOW or BHC performing the tender analysis and recommending award. USAID review of the analysis and concurrence with the recommendation will be required before award can be made.

Implementation Schedule:

The time required for the various steps in the tendering and construction process for the health education and nutrition units is estimated as follows:

1. Preparation of final design plans	3 months
2. Preparation of tender documents and invitation for bids	1 month
3. Bid preparation	1 month
4. Bid analysis, recommendation and award	2 - 3 weeks
5. Construction	8 - 9 months
6. Maintenance period	6 months
Total	20 - 21 months

In addition, USAID review and approval at steps (1), (2), and (4) may add another month to the total time required.

Supervision:

Day-to-day supervision of the work will be performed by MOW staff or a

consulting engineer. Given the work load at the MOW, it is expected that the latter alternative will be utilized. USAID/Gaborone personnel and REDSO/EA engineers will also monitor construction progress periodically.

Payment Procedure:

It is anticipated that the fixed amount reimbursement (FAR) method will be utilized for funding the construction element of this project. With this method the Grantee will be reimbursed, subject to conditions included in the Project Agreement, the local currency equivalent not to exceed $383,000 for the completion of the construction of the Health Education and Nutrition Units and four technicians houses in accordance with the schedules, plans, designs and specifications approved by AID. To alleviate undue strain on operating budget of the GOB AID would look favorable upon a request for advances of up to 50% of the above stated amount. The balance would be claimed by the submission of proper documentation to AID, and final inspection and acceptance by AID Engineers. Detailed procedures for the FAR method of disbursement will be included in the Project Agreement. The GOB will be responsible for any costs that AID cannot finance and/or that exceed the $383,000 budgeted in this project construction.

Maintenance:

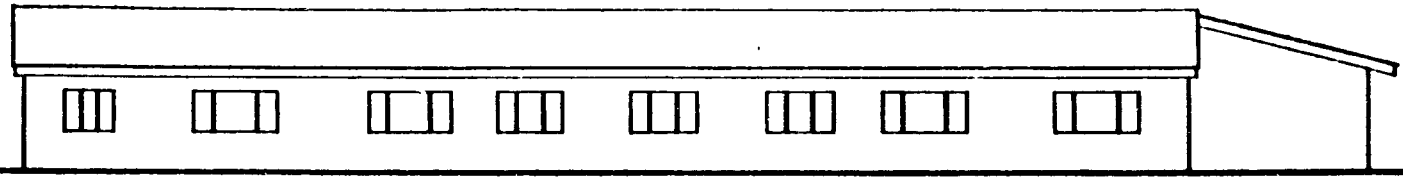
The construction contractor is responsible for all necessary repairs to the building for a six month period following completion of construction. When that period is over, the GOB finances maintenance out of the MOW's budget for maintenance of all government buildings.

Prior AID Experience:

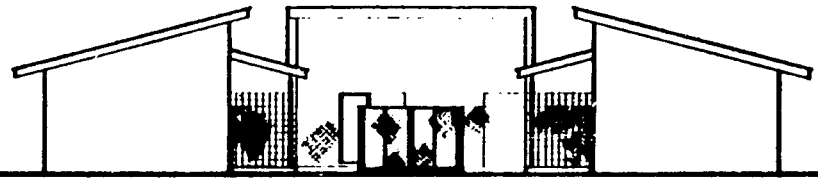
USAID has and is financing construction of a number of technician houses and grain storage warehouses in Botswana. It is soon to finance offices that will be part of a new Ministry of Agriculture headquarters building. Current unit costs for these construction activities range from 160 Pula per square meter for houses, to 300 Pula per square meter for centrally air-conditioned office buildings. The unit cost of 230 Pula per square meter estimated for the health building compares favorably with these costs given the relative degree of sophistication in its design.

611(a) Requirements:

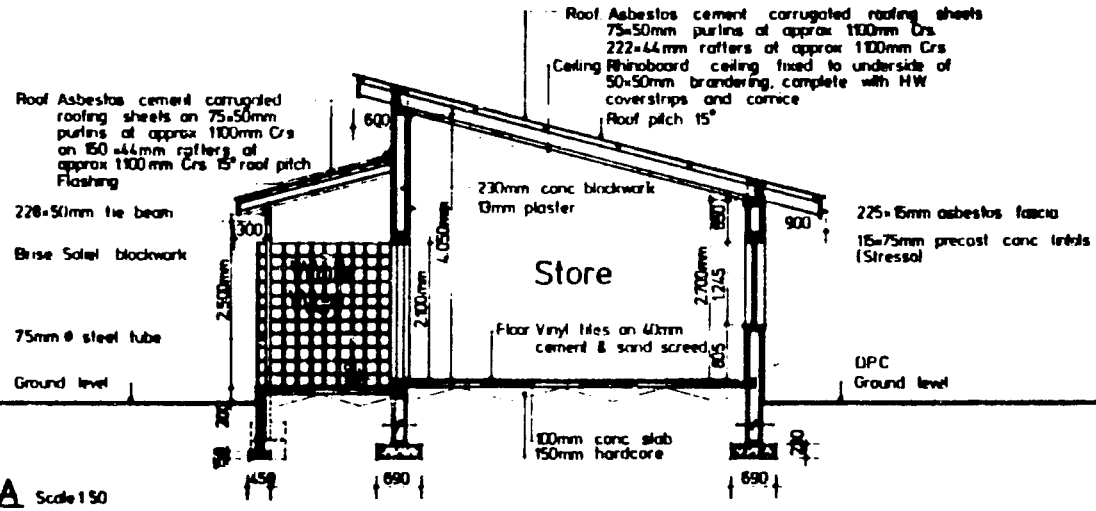
REDSO/EA engineers have reviewed the proposed design, site, contracting procedures, supervision, maintenance and implementation schedule, and consider the planning done by the MOH, MOW and the BHC to be sufficient, technically sound and acceptable. The construction cost estimates are believed to be reasonable and firm. Therefore, the project meets the 611(a) requirements of the FAA Act of 1961 as amended.



Side Elevation



Front Elevation



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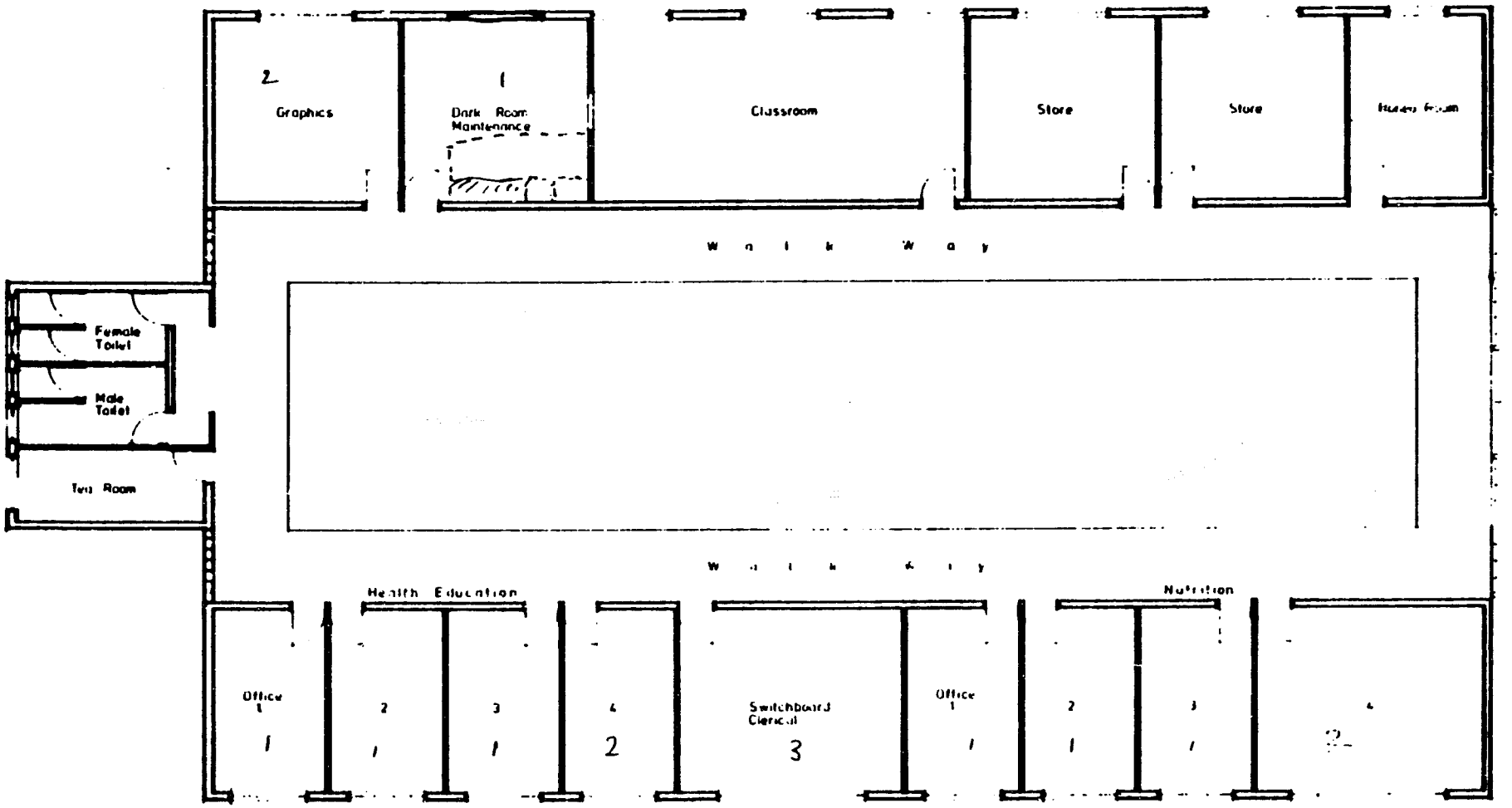
2
Graphics
1
Dark Room
Maintenance
Classroom
Store
Store
Walk Way
Female Toilet
Male Toilet
Tea Room
Walk Way
Health Education
Nutrition
Office 1
1
2
1
3
1
4
2
Switchboard
Clerical
3
Office 1
1
2
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3
1
4
2

Plan

ANNEX L

PROPOSED POSITION DESCRIPTIONS

Administrative Officer (Health)

The Administrative Officer (Health) is Head of Department and has the overall responsibility for the administration of Council health services. Specific duties include the following:

1. To advise the Council Secretary, in cooperation with the Regional Health Team, on all policy matters affecting health services in the Southern District.

2. To anticipate health service needs in the District and work with the Planning Officer, the Regional Medical Officer, and the District Development Officer to meet these needs.

3. To organize Council health services in line with the National Development Plan, i.e. give priorities to rural areas which have received poor services in the past.

4. To work closely with the Regional Medical Officer in order to coordinate Council and Government (and Mission) health services.

5. To gather information and make reports on various aspects of health services as requested by Council Secretary, Government Ministries, and other interested persons.

6. To represent the Health Department in meetings at the local, regional and national levels as required.

7. To formulate a staffing plan which makes the most efficient use of limited health personnel, in cooperation with the Council Senior Nurse and the Regional Medical Officer, and give advice on the allocation of staff.

8. To draw up budget estimates for the Health Department in cooperation with the Planning Officer and the Regional Medical Officer.

9. To order furniture and equipment from Central Medical Stores, and in cooperation with the Stores Foreman, keep control of supplies to all health facilities, and their inventories.

10. To ensure the proper use of Health vehicles, for Health purposes only.

11. To keep expenditure control, commitment ledger, relying on the day-to-day accounting assistance of Council Treasury.

Senior Council Nurse/Nursing Sister

The Senior Council Nurse or Nursing Sister has overall responsibility for the supervision and coordination of Council nursing staff, including Family Welfare Educators. In administrative matters she is subordinate to the Administrative Officer (Health), although in fact the two must cooperate closely if the Department is to run smoothly. In medical matters the Senior Council Nurse/Nursing Sister is supreme. Her duties include the following:

1. To allocate staff to health facilities in the District, i.e. she is responsible for all postings and transfers in Southern District.

2. To recommend promotion, to grant leave (annual and special), and to handle personnel matters relating to the medical staff.

3. To advise the Administrative Officer (Health) on all matters affecting health services in the District, especially those affecting the medical staff.

4. To oversee the functioning of District Clinics, including the staffing, scheduling, types of services offered, and the maintenance of adequate stocks of drugs and medicine, including extension services and supplies. All those duties shared with the District Clinics Staff Nurse.

5. To do consultation at District Clinics, time permitting, and extension clinics according to schedule, shared with District Staff Nurse.

6. To visit health posts and clinics in the District in order to supervise staff and give advice on health services being offered. Liaison with Regional Health Team on these matters.

7. To advise Village Development Committees on the selection of Family Welfare Educator candidates, to interview those candidates and select the most promising ones for training. (Shared with the Regional Public Health Nurse.)

8. To represent the Health Department in meetings, as requested by the Administrative Officer (Health) or the Council Secretary.

ANNEX M

INITIAL ENVIRONMENTAL EXAMINATION

Project Location:	Botswana
Project Title:	Health Services Development
Project Number:	633-0078
Life of Project:	FY 1978 - FY 1983
IEE Prepared By:	Stafford Baker, REDSO/EA

Environmental Action Recommended: Negative Determination

Concurrence:

Date: June 27, 1978

Ted D. Morse
Acting Regional Development Officer

Assistant Administrator's Decision

Date: 7/7/78

1. DESCRIPTION OF THE PROJECT

The Health Services Development Project has four components that are intended to increase the capacity of the GOB to provide comprehensive health services to people throughout the country. The four components and their functions are:

Nursing Education - Nurse educators to staff local training facilities will be prepared in a University level, in-country training program introduced by the project. A diploma course will also be developed to train nurse practitioners and public health nurses in-country. The graduates of the program will provide the staff for existing understaffed health facilities throughout Botswana.

Health Administration - Health and hospital administrators will be trained at the Institute for Development Management (IDM) and in the U.S. for positions in District Councils, District Hospitals and as health planners, health administrators and statistical assistants with the Ministry of Health (MOH).

Health Education - An in-country training program will be developed to prepare health educators for positions with Regional Health Teams. Trained Batswana will fill all positions in the health Education Unit of the MOH. Planning and training capabilities of the Unit will be improved. A facility for the Health Education Unit and four houses for technicians will be constructed in Gaborone.

Nutrition - Nutrition research will be conducted, and results will be incorporated into a national nutrition program developed by project technicians and counterpart staff. Project-trained Batswana will eventually fill all the positions in the Nutrition Unit of the MOH. Offices for the Nutrition Unit will be located in the same facility constructed for the Health Education Unit.

The building for the Health Education and Nutrition Units will be constructed on a site reserved for health facilities on the master plan for the development of Gaborone. A health center has been constructed and is operational on part of the site. Water, waste disposal and electrical services exist on the site. The portion of the site selected for the new facility is bordered on one side by a fully developed gravel road that provides direct access to one of the major paved roads in Gaborone. Technician houses will be constructed in a developed residential area where water, sewer, electricity and roads are installed and available.

The Health Education/Nutrition facility will be a conventional, singlestorey structure similar to most small school and office buildings throughout Botswana. It will have concrete strip foundations, reinforced concrete floors, concrete block or brick walls, corrugated metal roofing, ceiling insulation and fibre-board ceilings.

II. DISCUSSION OF IMPACTS

A. Land Use - Most of the personnel who will work at the new facility will be simply transferring from the other MOH offices in Gaborone. The effect of staff on total water, waste disposal and other requirements for services will be minimal. Water supply will be from the Gaborone city system which is supplied by a reservoir and dam approximately 2 kms from the city center.

The site for the building is covered with brush and weed growth with some large trees. The Gaborone Town Council prohibits development where removal of trees over six inches in diameter is necessary. The size of the site allows the building to be placed in a position where all large and most smaller trees can be saved. The sites are flat so that site preparation will require no alteration in the natural slope or drainage patterns.

The Health Education/Nutrition site has been set aside for health facilities on the master plan for development of Gaborone. All roads for traffic access to the site are fully developed. Provisions for parking are included in the construction plans for the new facility.

B. Water Quality - Erosion is not a problem in the flat area of the sites. Rain water drainage structures are included in the construction plans for the new buildings. Water disposal will be handled by the existing waste disposal system of the city, a water-borne aerobic system with two separated pond complexes. There are no water bodies in or near the sites.

C. Atmospheric - There are no pesticides or use of pesticide planned in the project. Construction of the buildings will generate noise and dust, normal for construction activities. Vehicle traffic to the completed facility will be minimal.

D. Natural Resources - Water will be supplied to the buildings by the existing city system. Resources that have a significant ecological role are not committed in any way by the project.

E. Cultural - The construction activities will not alter any physical cultural symbols. However, the project activities that assist the GOB in providing increased health services may result in some changes in traditional health practices in Botswana. Furthermore, health education can be expected to alter for the better traditional

sanitation practices that are detrimental to personal health as well as the natural environment.

F. Socio-economic - The project will provide for the advanced training of State Registered Nurse Midwives already employed by the MOH. This training will enable the MOH to perform its own training of health personnel in-country rather than in out-of country training programs. Graduates of advanced training will qualify for salary increases. The training offered will generally better prepare health personnel to perform their existing duties. However, improved health services may shift the population away from traditional village healers.

G. Health - While the purpose of the project is to improve health services in Botswana, it will not accomplish this through impacts on natural environments or ecosystems.

H. General - There are no international, controversial or larger program impacts on the environment as a result of project activities. The design of the health buildings compliment other small government and residential buildings in Gaborone.

III. RECOMMENDATION FOR ENVIRONMENTAL ACTION

Project activities have little or no impact on the environment. The construction of the health building and additional houses will follow environmentally sound guidelines for site development set b the Gaborone Town Council. It is believed that the project will not have a significant effect on the environment, and, therefore, a Negative Determination is recommended.

DETAILED JUSTIFICATION FOR WAIVERS AND APPROVALS

I. Waivers and Approvals Required

A. A procurement source and origin waiver from AID Geographic Code 941 to Code 935 for procurement of construction materials and six project vehicles; and a waiver of the requirement of Section 636(i) of the Foreign Assistance Act to permit procurement of project vehicles from non-U.S. source and origin.

B. Approval to deviate from the policy expressed in AID Handbook 11, Chapter 2, which limits employment of third country nationals for AID-financed construction to 20% of the non-local work force.

C. Waiver of policy set forth in AID Handbook 1 Supplement B to permit procurement of construction services and related maintenance/repair services from firms whose nationality is from countries included in AID Geographic Code 935.

II. Justification for Source and Origin Waiver for Construction Materials and Project Vehicles.

A. Summary Waiver Information

Cooperating Country:	Botswana
Authorizing Document:	PP
Project:	Botswana Health Service Development
Nature of Funding:	Grant
Description:	Construction materials for office and houses $287,000, 5 passenger vehicles, 1 mini-bus ($60,000)
Approximate total value	$347,000
Probable Source:	South Africa or United Kingdom

B. Discussion and Justification

Construction Materials

The cost of construction materials to be used on the construction of the houses and office building is estimated at $287,000 i.e. 75% of the total cost of construction. Although it is not expected that all materials will be procured from South Africa, a waiver is requested for the full estimated cost. This is necessary because the fixed amount reimbursement method will be used, making the distinction between procurement sources difficult, if not impossible.

It would not be practical to purchase U.S. items in the small quantities needed when private dealers in Botswana are equipped only to service and repair equipment made in South Africa and the U.K. Moreover, considering shipping costs and small quantities involved, U.S. delivered prices would substantially exceed prices for comparable items procured in South Africa. The long lead time required to procure from the U.S. could also delay project implementation if construction of the office was delayed. Additionally, sources for electrical equipment, plumbing materials, fixtures, etc. do not exist in Code 941 countries, most of whom import these items from South Africa or the U.K.

Vehicles

This project requests approval to purchase vehicles of local source but of Code 935 origin. The vehicles are five passenger vehicles and one mini-bus. Vehicles will be used by AID-financed technicians and consultants and by the Government of Botswana counterparts assigned to these technicians. A Waiver is requested for the procurement of vehicles of Code 935 origin based on (1) the lack of repair capability (both in parts availability and in mechanic skills) and (2) safety hazards for the AID-financed technical staff resulting from driving lefthand drive vehicles.

OSARAC has encountered several problems with U.S. manufactured vehicles procured under other on-going projects in Botswana. The Central Transport Office of the Government of Botswana, which has vehicle maintenance responsibility, has serious problems in securing repair parts for U.S. manufactured vehicles. The office also has no mechanics who understand or have experience in any component area of the U.S. vehicles, i.e. engine, running gear, transmission, axles, transfer case or body. The result is that these vehicles have remained "deadlined" for extensive periods of time and, when released, repairs often promptly prove inadequate.

As a further problem, while noting that to date no accidents have occurred in Botswana, it is clear that improper driving position (i.e. left hand drive) of the U.S. vehicles in all Southern Africa locations is a genuine hazard. OSARAC has discussed this problem with representatives of U.S. manufacturers who state that production costs would be substantially increased for such a small lot order.

In addition to a procurement source waiver under AID Handbook 15, this action request requires a waiver under Section 636 (i) of the Foreign Assistance Act. Section 636 (i) limits AID financing to U.S. manufactured vehicles, but permits a waiver of this limitation "where special circumstances exist". According to the appropriate Conference Report, "special circumstances" are deemed to exist in "emergency or special situations such as a need for right hand drive or other types of vehicles not produced in the United States."

Based on the foregoing, we believe that "special circumstances" within the meaning of the legislative history do exist in this case and that a waiver to the U.S. vehicle requirement of Section 636 (i) is justified.

III. Justification for Deviation from Policy in AID Handbook Regarding Employment of Third Country Nationals (TCN's)

The contractor constructing the office building may require technical and supervisory services of TCN's to handle electrical, plumbing, and other design and installation since local expertise may not be available. As the total cost of construction will be only $217,000 plus $26,000 for design services, U.S. firms and personnel will not likely be interested in this work. Therefore, deviation from the employment policy in AID Handbook 11 to permit hiring of TCN's is considered necessary.

IV. Justification for Waiver of Policy Set Forth in AID Handbook 1 Supplement B to Permit Procurement of Services from Code 935 Firms

The need for this waiver is based on the following:

A. Since the total cost of construction will be only $383,000, U.S. construction and engineering firms are not expected to be interested in this work.

B. A sufficient number of qualified local firms operating in Botswana may be available to perform the required construction and design/supervision work and permit competitive procurement. However, a number of firms do not meet the new criteria defining "local firms" contained in Handbook 1 Supplement B, since many are either not incorporated in Botswana or do not have the required 50% local ownership. Since this is the case, this waiver is considered necessary to assure adequate competition and availability of services. Customary GOB contracting procedures will be used.

C. In addition, it is anticipated that some maintenance and repair services will have to be provided by local firms, many of which may also be owned by South African or other Free World interests.

D. No U.S. firms providing the required services are known to exist in Botswana.

BOTSWANA HEALTH

Country Checklist - See Botswana Agricultural Planning Project No. 690-0067

5C(2) - PROJECT CHECKLIST

Listed below are, first, statutory criteria applicable generally to projects with FAA funds, and then project criteria applicable to individual fund sources: Development Assistance (with a sub-category for criteria applicable only to loans); and Security Supporting Assistance funds.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? IDENTIFY. HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?

A. GENERAL CRITERIA FOR PROJECT.

1. App. Unnumbered; FAA Sec. 653(b)

(a) Describe how Committees on Appropriations of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than $1 million over that figure plus 10%)?

Congressional notifications will be prepared and sent forward in accordance with standard AID procedures

2. FAA Sec. 611(a)(1). Prior to obligation in excess of $100,000, will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

Yes. See Annex L for engineering analysis and the financial analysis in Section IV. of the PP.

3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

Certain revisions in nursing laws are now in process of being made to include Nurse Practitioner. No delays are foreseen.

4. FAA Sec. 611(b); App. Sec. 101. If for water or water-related land resource construction, has project met the standards and criteria as per Memorandum of the President dated Sept. 5, 1973 (replaces Memorandum of May 15, 1962; see Fed. Register, Vol 38, No. 174, Part III, Sept. 10, 1973)?

Not applicable

5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed $1 million, has Mission Director certified the country's capability effectively to maintain and utilize the project?

This is not a capital project.

A.

6. FAA Sec. 209, 619. Is project susceptible of execution as part of regional or multilateral project? If so why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. If assistance is for newly independent country, is it furnished through multilateral organizations or plans to the maximum extent appropriate?

This is not a regional project - AID is in the process of financing similar activities in Swaziland and Lesotho. Also described in PP many donors are contributing to development of Botswana's health sector.

7. FAA Sec. 601(a); (and Sec. 201(f) for development loans). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.

There will be no impact on international trade etc. Agricultural impact present to extent improvement of health if Botswana allows increased production.

8. FAA Sec. 601(b). Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

U.S. firms/constructions will be invited to contract for the work financed by the project.

9. FAA Sec. 612(b); Sec. 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services.

GOB will contribute approximately 26% of total project costs. See Financial Analysis section for breakdown.

10. FAA Sec. 612(d). Does the U.S. own excess foreign currency and, if so, what arrangements have been made for its release?

No.

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

This is an SA grant.

a. FAA Sec. 102(c); Sec. 111; Sec. 281a. Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production, spreading investment out from cities to small towns and rural areas; and (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions?

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b. FAA Sec. 103, 103A, 104, 105, 106, 107. Is assistance being made available: [include only applicable paragraph -- e.g., a, b, etc. -- which corresponds to source of funds used. If more than one fund source is used for project, include relevant paragraph for each fund source.]

(1) [103] for agriculture, rural development or nutrition; if so, extent to which activity is specifically designed to increase productivity and income of rural poor; [103A] if for agricultural research, is full account taken of needs of small farmers;

(2) [104] for population planning or health; if so, extent to which activity extends low-cost, integrated delivery systems to provide health and family planning services, especially to rural areas and poor;

(3) [105] for education, public administration, or human resources development; if so, extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, or strengthens management capability of institutions enabling the poor to participate in development;

(4) [106] for technical assistance, energy, research, reconstruction, and selected development problems; if so, extent activity is:

(a) technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;

(b) to help alleviate energy problem;

(c) research into, and evaluation of, economic development processes and techniques;

(d) reconstruction after natural or manmade disaster;

(e) for special development problem, and to enable proper utilization of earlier U.S. infrastructure, etc., assistance;

(f) for programs of urban development, especially small labor-intensive enterprises, marketing systems, and financial or other institutions to help urban poor participate in economic and social development.

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(5) [107] by grants for coordinated private effort to develop and disseminate intermediate technologies appropriate for developing countries.

c. FAA Sec. 110(a); Sec. 208(e). Is the recipient country willing to contribute funds to the project, and in what manner has or will it provide assurances that it will provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or has the latter cost-sharing requirement been waived for a "relatively least-developed" country)?

d. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing?

e. FAA Sec. 207; Sec. 113. Extent to which assistance reflects appropriate emphasis on; (1) encouraging development of democratic, economic, political, and social institutions; (2) self-help in meeting the country's food needs; (3) improving availability of trained worker-power in the country; (4) programs designed to meet the country's health needs; (5) other important areas of economic, political, and social development, including industry; free labor unions, cooperatives, and Voluntary Agencies; transportation and communication; planning and public administration; urban development, and modernization of existing laws; or (6) integrating women into the recipient country's national economy.

f. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civic education and training in skills required for effective participation in governmental and political processes essential to self-government.

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g. FAA Sec. 201(b)(2)-(4) and -(8); Sec. 201(e); Sec. 211(a)(1)-(3) and -(8). Does the activity give reasonable promise of contributing to the development: of economic resources, or to the increase of productive capacities and self-sustaining economic growth; or of educational or other institutions directed toward social progress? Is it related to and consistent with other development activities, and will it contribute to realizable long-range objectives? And does project paper provide information and conclusion on an activity's economic and technical soundness?

h. FAA Sec. 201(b)(6); Sec. 211(a)(5), (6). Information and conclusion on possible effects of the assistance on U.S. economy, with special reference to areas of substantial labor surplus, and extent to which U.S. commodities and assistance are furnished in a manner consistent with improving or safeguarding the U.S. balance-of-payments position.

2. Development Assistance Project Criteria (Loans only)

This is an SA grant

a. FAA Sec. 201(b)(1). Information and conclusion on availability of financing from other free-world sources, including private sources within U.S.

b. FAA Sec. 201(b)(2); 201(d). Information and conclusion on (1) capacity of the country to repay the loan, including reasonableness of repayment prospects, and (2) reasonableness and legality (under laws of country and U.S.) of lending and relending terms of the loan.

c. FAA Sec. 201(e). If loan is not made pursuant to a multilateral plan, and the amount of the loan exceeds $100,000, has country submitted to AID an application for such funds together with assurances to indicate that funds will be used in an economically and technically sound manner?

d. FAA Sec. 201(f). Does project paper describe how project will promote the country's economic development taking into account the country's human and material resources requirements and relationship between ultimate objectives of the project and overall economic development?

e. FAA Sec. 202(a). Total amount of money under loan which is going directly to private enterprise, is going to intermediate credit institutions or other borrowers for use by private enterprise, is being used to finance imports from private sources, or is otherwise being used to finance procurements from private sources?

f. FAA Sec. 620(a). If assistance is for any productive enterprise which will compete in the U.S. with U.S. enterprise, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?

3. Project Criteria Solely for Security Supporting Assistance

FAA Sec. 531. How will this assistance support promote economic or political stability?

4. Additional Criteria for Alliance for Progress

[Note: Alliance for Progress projects should add the following two items to a project checklist.]

a. FAA Sec. 251(b)(1), -(8). Does assistance take into account principles of the Act of Bogota and the Charter of Punta del Este; and to what extent will the activity contribute to the economic or political integration of Latin America?

b. FAA Sec. 251(b)(8); 251(h). For loans, has there been taken into account the effort made by recipient nation to repatriate capital invested in other countries by their own citizens? Is loan consistent with the findings and recommendations of the Inter-American Committee for the Alliance for Progress (now "CEPCIES," the Permanent Executive Committee of the OAS) in its annual review of national development activities?

The project will improve on existing efforts of the GOB to integrate all its population into economic life of the country by increasing access of Botswana to health services.

5C(3) - STANDARD ITEM CHECKLIST

Listed below are statutory items which normally will be covered routinely in those provisions of an assistance agreement dealing with its implementation, or covered in the agreement by exclusion (as where certain uses of funds are permitted, but other uses not).

These items are arranged under the general headings of (A) Procurement, (B) Construction, and (C) Other Restrictions.

A. Procurement

1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of goods and services financed?	Standard AID practices will be applied.
2. FAA Sec. 604(a). Will all commodity procurement financed be from the U.S. except as otherwise determined by the President or under delegation from him?	Waivers have been requested see Annex
3. FAA Sec. 604(d). If the cooperating country discriminates against U.S. marine insurance companies, will agreement require that marine insurance be placed in the U.S. on commodities financed?	The Grant Agreement's Standard Provisions Annex will so require.
4. FAA Sec. 604(e). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity?	No such procurement
5. FAA Sec. 608(a). Will U.S. Government excess personal property be utilized wherever practicable in lieu of the procurement of new items?	Where applicable, inaccorance with standard AID policy.
6. MMA Sec. 901(b). (a) Compliance with requirement that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S.-flag commercial vessels to the extent that such vessels are available at fair and reasonable rates.	The Grant Agreement will so require.
7. FAA Sec. 621. If technical assistance is financed, will such assistance be furnished to the fullest extent practicable as goods and professional and other services from private enterprise on a contract basis? If the facilities of other Federal agencies will be utilized,	Yes.

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are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?

8. International Air Transport. Fair Competitive Practices Act, 1974

If air transportation of persons or property is financed on grant basis, will provision be made that U.S.-flag carriers will be utilized to the extent such service is available?

Yes, the Grant Agreement and contract for technical services will so provide.

I. Construction

1. FAA Sec. 601(d). If a capital (e.g., construction) project, are engineering and professional services of U.S. firms and their affiliates to be used to the maximum extent consistent with the national interest?

Source and origin for services is Code 941.

2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable?

Yes.

3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed $100 million?

Not applicable

Other Restrictions

1. FAA Sec. 201(d). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter?

Not a loan.

2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights?

Not applicable

3. FAA Sec. 620(h). Do arrangements preclude promoting or assisting the foreign aid projects or activities of Communist-Bloc countries, contrary to the best interests of the U.S.?

Yes, standard provision on the Grant Agreement

4. FAA Sec. 636(i). Is financing not permitted to be used, without waiver, for purchase, long-term lease, or exchange of motor vehicle manufactured outside the U.S. or guaranty of such transaction?

Waiver is being requested.

c.

5. Will arrangements preclude use of financing:

a. FAA Sec. 114. to pay for performance of abortions or to motivate or coerce persons to practice abortions?	Yes
b. FAA Sec. 620(g). to compensate owners for expropriated nationalized property?	Yes
c. FAA Sec. 660. to finance police training or other law enforcement assistance, except for narcotics programs?	Yes
d. FAA Sec. 662. for CIA activities?	Yes
e. App. Sec. 103. to pay pensions, etc., for military personnel?	Yes
f. App. Sec. 106. to pay U.N. assessments?	Yes
g. App. Sec. 107. to carry out provisions of FAA Sections 209(d) and 251(h)? (transfer to multilateral organization for lending).	Yes
h. App. Sec. 501. to be used for publicity or propaganda purposes within U.S. not authorized by Congress?	Yes

PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS

PART II

Country: Botswana

Project Name: Health Services Development
Project Number: 633-0078

Pursuant to Part II, Chapter 4, Section 533 of the Foreign Assistance Act of 1961, as amended, I hereby authorize One million six hundred and two thousand and two hundred and forty United States Dollars (1,602,240) (The "Authorized Amount") to help in financing certain foreign exchange and local currency costs of goods and services required for the project as described in the following paragraph.

The project will assist Botswana to provide comprehensive health services to, primarily, the rural and periurban population of Botswana. Technical assistance and participant training will be provided to upgrade and reorient Botswana's present nurse training efforts and develop a nurse cadre better prepared to provide comprehensive health services to Botswana. Additional related commodities and construction will be financed by the Grant.

I approve the total level of AID appropriated funding planned for this project of not to exceed five million, five hundred and thirty one thousand United States Dollars (5,531,000) (the "Grant"), including the funding authorized above, during the period FY 1978 through FY 1981. I approve further increments during the period of Grant funding up to $3,928,760 subject to the availability of funds in accordance with AID allotment procedures.

I hereby authorize the initiation of negotiations and execution of the Project Agreement by the officer to who such authority has been delegated in accordance with AID regulations and Delegations of Authority subject to the following essential terms and covenants and major conditions; together with such other terms and conditions as AID may deem appropriate.

(a) Source and Origin of Goods and Services

Except for ocean shipping, goods and services financed by AID under the project shall have their source and origin in the Cooperating Country or in countries included in AID Geographic Code 941, except as AID may otherwise agree in writing. Ocean shipping financed under the Grant shall be procured in any eligible source country except the Cooperating Country.

(b) Covenants

The Grantee shall covenant, substantially, as follows,

(1) The Grantee will provide, on a timely basis, all required counterpart and participant trainee personnel and will assure that participants trained under this project will be assigned, upon completion of training, to positions within the Government commensurate with the nature and level of their training. The Grantee's normal bonding requirements will be made applicable to those trained under the project.

(2) The Grantee will make adequate housing available to the AID financed technical assistance personnel that cannot be accommodated in present or projected U.S. constructed housing.

(c) Waivers

Based upon the justification set forth in Annex O of the Project Paper, the following waivers to AID regulations are herehy approved:

(1) The requirement under Handbook 1 Supplement B that commodities procured with Grant funds by countries included on the U.N. list of relatively least developed countries have their source and origin in AID Geographic Code 941 is waived to permit the procurement of approximately $287,000 of construction materials which have their source and origin in countries included on AID Geographic Code 935. Exclusion of procurement of these construction materials from Code 935 countries would seriously impede attainment of U.S. foreign policy objectives and the objectives of the foreign policy objectives and the objectives of the foreign assistance program.

(2) The requirement under Handbook 15 that vehicles procured with grant funds have their source and origin in the U.S. is waived to permit the procurement of six project vehicles and spare parts at an approximate cost of $60,000, which have as their source and origin countries included in AID Geographic Code 935. Exclusion of procurement of the project vehicles from countries in Code 935 would seriously impede attainment of U.S. foreign policy objectives and the objectives of the foreign assistance program. Special circumstances exist which justify waiver of the requirement of section 636(i) of the Act.

(3) The requirement under Handbook 1, Supplement B, that services procured with Grant funds by countries included on the U.N. list of relatively least developed countries have as their nationality countries included in AID Geographic Code 941 is waived to permit the procurement of construction, related maintenance and repair and engineering services from firms having as their nationality countries

included in AID Geographic Code 935. Exclusion of procurement of these services from Code 935 countries would seriously impede attainment of U.S. foreign policy objectives and the objectives of the foreign assistance program.

(4) The requirement expressed in Handbook 11, Chapter 2, which limits employment of third country nationals for AID-financed construction to 20% of the non-local work force is waived.

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ANNEX Q

SUMMARY OF PROJECT IMPACT

Botswana Health Services Development

(633-0078)

The Botswana Health Services Development Project (BHSD) 632-0078, has been designed to assist the Government of Botswana (GOB) Ministry of Health (MOH) to implement a long term plan to eradicate and control the major causes of morbidity and mortality and to improve the level of health through the delivery of health services to the population of Botswana.

The leading causes of morbidity and mortality in Botswana are Tuberculosis and other respiratory diseases, gastrointestinal diseases, venereal diseases, conditions related to child birth and pregnancy, measles and malnutrition in infants and young children.

Control and eradication of these diseases and conditions requires a comprehensive (curative and preventive) health service delivery scheme. The project focuses on curative care for treatment of active disease and on preventive measures which include, not only immunizations, but also health and nutrition education.

In Botswana, the MOH carries the overall responsibility for planning, implementing and supervising health services as well as the training of health personnel. The MCH also has direct responsibility for nine hospitals, eight of which serve as the highest referral point in the eight medical regions, and for health centers located in periurban areas. Health facilities located in towns and rural districts are administered by the Ministry of Local Governments and Lands (MLGL). The MLGL facilities include clinics, maternity wards, and health posts, which are the basic primary health care facilities in the health system.

The MOH has established an overall system for the delivery of comprehensive health services descending from the regional hospital level to the more remote and outlying health posts. Physicians* are located in regional hospitals and visit regional rural facilities on a routine basis. Registered nurse/midwives

*There are only 75 physicians in Botswana, and only 15 of these are Botswana citizens.

(RN/M) and their auxiliaries, the Enrolled Nurses (EN) and the Family Welfare Educators (FWE), who are primary school graduates with 11 weeks of health training, carry out all routine health care at periurban and rural facilities.

With the assistance of Norwegian aid, the MOH has constructed rural health facilities below the hospital level in each medical region. These facilities would be accessible to 80% of the population of Botswana, but are not effective and fully operational due to the lack of trained staff.

Although the basic institutional structure for national health care is being developed, to operate the facilities as planned the MOH requires a quantum increase in personnel with additional skills to provide curative and preventive services. Nurse practitioners are needed to serve as physician extenders in rural health centers and clinics providing curative care. Public health nurses will be attached to the facilities to direct and supervise preventive services. In addition, programs in health and nutrition education are needed in rural areas to improve sanitation, encourage use of medical facilities, and to teach the population fundamental nutrition to improve health. The MOH, at present, has no field based public health educators or nutritionists to direct and implement these activities. There are also no nurse practitioners and only eight public health nurses.

Botswana has no training programs for nurse educators and must depend on third country training. There are few places available to Botswana for such foreign training which, in any event, is much more costly than in-country training and often lacks relevance to Botswana conditions. Therefore, a program awarding degrees in nursing education must be established in Botswana to expand and diversify nursing and other paramedical training.

To permit nurses to function as planned, the MOH also will establish health administrator positions. The administrators will assume non-nursing tasks now being carried out by nurses. The result will be more effective health delivery through more efficient, specialized administration and freeing-up nurses for more productive work in health care for which they are qualified.

The BHSD Project contains four components directed at the major constraints to improved health and health care in Botswana and responds to the GOB request. The components are as follows:

1. Nursing Education - The project will train 60 Nurse Practitioners (NP) capable of diagnosing and treating the common diseases of Botswana and 60 Public Health Nurses (PHN) to

supervise the preventive health services delivered in rural areas. In addition, the project will assist in the development of a Bachelor of Education program at the University of Botswana and Swaziland for the training of qualified nurse tutors.

The UBS program will graduate 8 tutors per year to be placed in teaching positions in the UBS program, in the basic nursing school, in the four enrolled nurse schools, and in the training programs for nurse practitioners, public health nurses and family welfare educators. During the life of project, 16 tutors will be graduated and 16 additional tutors will be enrolled. This program will permit the MOH to organize training programs on a planned basis.

The 60 NPs trained under this project, will be assigned to health centers and clinics serving as physician extenders. Currently, there are 89 health clinics and 8 health centers, each requiring NP staffing which indicates the importance of this training being continued after the project assistance completion date.

The 60 PHNs, a new specialty for Botswana, will be attached to Regional Medical Teams, health centers, and clinics to supervise the rural health care delivered by ENs and FWEs.

The project also provides technical assistance to review the EN curricula for greater relevancy to rural health conditions. ENs will be required to staff each of the 180 health posts and will provide curative services that complement the preventive and promotive services of the FWEs.

2. Health Administration - The project will train 32 health administrators (HA) to serve on district and town councils. The HAs will be responsible for the logistical requirements of rural health services (supplies, transport, communication and personal administration), and will assume the non-nursing duties currently being performed by nurses that detract from efficient nursing care.

3. Health Education - The project will train public health educators and assist the MOH in developing a national health education plan to enable Botswana to educate the population in prevention of disease and promotion of good health practices. This project also will permit the MOH to train Regional Health Educators to work with personnel in primary health care programs and to support special campaigns in disease prevention and control.

4. Nutrition - The project will train nutritionists, assist the MOH to establish a functioning nutrition unit and develop a national nutrition program. Malnutrition is increasing in young

children. The malnutrition appears to be caused by a number of factors, which are more fully discussed in the PP. The shift of population from rural to urban areas, which are increasing markedly in number and size, is also resulting in changes in dietary habits for all ages, as people begin to use more processed foods. The MOH needs to collect information on traditional dietary patterns, determine areas of deficiency and develop educational programs in nutrition for the public. Attention must be given to improving infant and child nutrition and to treating malnourished children. The development of a national nutrition unit and the training of personnel for the unit, will assist the MOH to determine nutritional needs and develop educational programs encouraging the population to use nutritious, inexpensive foods locally available. The Project Paper at pp 43-48 contains a detailed discussion of the project's health support components.

The nursing, health education and nutrition components, while separate at the national level, will converge at the primary health care level through the EN and the FWE. An FWE is trained in health education and nutrition and is in direct contact with the rural people. She is taught to recognize health problems and to teach hygiene and good nutrition. The EN will serve as the FWE referral point for people requiring health care. The EN, through a revised curriculum, will also receive training in health education and nutrition so that she too will teach preventive care. The effective functioning of the EN and the FWE at the primary care level as nurse extenders should meet the health needs of a large percentage of the population of the typical community.

With the rural health posts, clinics, and periurban health centers staff with appropriately trained personnel, the MOH will have the capacity to treat the major health problems within each community and to implement prevention programs. The availability of health workers in the community will improve the MOH's capacity to control and eradicate tuberculosis, the leading cause of death and disability in Botswana. Treatment of tuberculosis requires long-term, regular care that is difficult to maintain without local facilities and follow-up personnel. This project will provide the personnel to offer treatment in the local facilities and the public health nurses and FWEs with the capacity to follow-up. Treatment of the other major health problems, such as gastrointestinal diseases, venereal diseases, and conditions related to childbirth and pregnancy also require close regular medical supervision and follow-up.

Through the extension of health services to the rural communities, the MOH should be able to substantially reduce the incidence of the major causes of death and disability by 1990.

PERMANENT SECRETARY: 5273
ENQUIRIES: 5205
TELEGRAMS: FINANCE
REFERENCE: FDP 42/4/17 II (4)

ANNEX R

REPUBLIC OF BOTSWANA

MINIST OF FINANCE & DEVELOPMENT PLANNIN
PRIVATE BAG 00
GABORONE
BOTSWAN

25 July 1978

Mr. R. Friedline,
AID Representative,
USAID.,
P.O. Box 90,
GABORONE.

Dear Bob,

HEALTH SERVICES DEVELOPMENT PROJECT

A USAID project paper design team recently spent about two months in Botswana preparing, in conjunction with the Ministry of Health, a proposal for a health services development project for USAID support. After several drafts the Government has agreed to the components and functions of the proposed project and we now formally request USAID to support this project.

The project will have four functional components and a project administration unit. The inputs requested of USAID include

(a) nine long-term technicians, a project coordinator and forty-five (45) man-months of short-term consultant services;

(b) US participant training for fourteen (14) Batswana (long-term) at diploma, B.Sc. and M.S. levels and for a further four (4) Batswana in short-term training;

(c) support for in-country training of two hundred (200) Batswana;

(d) construction of a central health education/nutrition unit and of four houses for technicians; and

(e) commodity and other costs support.

Each of the project's functional components is necessary for the effective and efficient provision of basic health services. These components are as follows:-

1. Nursing Education, whose objectives are

- to develop and introduce curricula for two one-year diploma courses for the in-country training of Registered Nurses/Midwives to function as nurse practitioners and public health nurses;

- to train Batswana to teach the nurse practitioner and public health nurse courses;

- to revise and introduce the Enrolled Nurse training curriculum;

PERMANENT SECRETARY: 5273

ENQUIRIES: 5365

TELEGRAMS: FINANCE

REFERENCE:

REPUBLIC OF BOTSWANA

MINIST. OF FINANCE & DEVELOPMENT PLANNIN

PRIVATE BAG 00

GABORON

BOTSWAN

- to assist in teaching and the curriculum development of the Bachelor of Education (Nursing) programme being offered at the University College of Botswana;

- to train Batswana as nurse educators for localisation of all teaching posts in the B. Ed. (Nursing) programme;

- to initiate curriculum and programme planning as a basis for possible future transition to degree (B.Sc.) in nursing;

- to train Batswana nurse administrators for senior nurse administrative posts at central, regional and district levels.

2. Health Administration, whose objectives are

- to support the training of Batswana health administrators for senior posts in the Ministry of Health, hospitals and District Councils;

- U.S. participant training for Batswana in health planning and statistics.

3. Health Education, whose objectives are

- to develop and introduce a national health education plan;

- to develop and introduce an in-country training programme for health educators;

- to construct facilities to serve as the headquarters of the Health Education Unit;

- to train Batswana to fill senior and specialist health education positions in the Ministry of Health

4. Nutrition, whose objectives are

- to expand nutritional research and analysis as inputs into nutrition programme planning;

- to develop and introduce a national nutrition plan;

- to develop and introduce an in-country training programme for nutritionists;

- to train Batswana to fill senior nutritionist posts in the Ministry of Health;

- to construct facilities to serve as the headquarters of the National Nutrition Unit.

PERMANENT SECRETARY: 5273
ENQUIRIES: 5.85
TELEGRAMS: FINANCE
REFERENCE:

REPUBLIC OF BOTSWANA

MINISTRY OF FINANCE & DEVELOPMENT PLANNING
PRIVATE BAG 00
GABORONE
BOTSWANA

We believe that the objectives of the project's four components are consistent with our plans to improve the health status of the population and to train Batswana to direct the development of our health services. In support of this project the Government will designate counterparts, and participants for long and short-term training, and ensure access to equipment and teaching and office facilities.

The Project Paper gives details of the various components, functions, inputs, outputs and costs. Except for a few minor points still under discussion, which do not affect the objectives of the project, we accept the Project Paper as presently formulated.

We therefore request USAID to approve the project for implementation as soon as possible. We look forward to your reply.

Yours sincerely,

M.L.O. Stevens
for/PERMANENT SECRETARY

cc: P.S. Ministry of Health
Director of Personnel