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**BOTSWANA REVISED HEALTH SERVICES
DEVELOPMENT PROJECT
(633-0078)**

**FINAL PROJECT ASSESSMENT
(OCTOBER 20-30, 1986)**

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ABBREVIATIONS

CHN	Community Health Nurse
FHD	Family Health Division
FNP	Family Nurse Practitioner
GOB	Government of Botswana
HEU	Health Education Unit
IDM	Institute for Development Management
MFDP	Ministry of Finance and Development Planning
MLGL	Ministry of Local Government and Lands
MOH	Ministry of Health
MSCI	Medical Services Consultants, Inc.
NHI	National Health Institute
NORAD	Norwegian Aid
NU	Nutrition Unit
PID	Project Implementation Document
PP	Project Paper
REDSO/EA	Regional Economic Development Services Office/East Africa
RFP	Request for Proposal
UB	University of Botswana
UNICEF	U.N. Children's Fund
USAID	United States Agency for International Development
USAID/B	United States Agency for International Development of Botswana
WHO	World Health Organization

I. PROJECT SETTING

During the 1970's the Ministry of Health, in order to meet the goal of "Health for All by the Year 2000", shifted emphasis from the provision of hospital-based, curative-oriented services mostly provided in urban areas to accessible and available primary health care services in rural areas where 80% of the approximately one million Batswana live and work. Gradually, services have altered to reflect this approach with an emphasis on prevention and promotion of health.

To achieve this goal, Botswana has utilized her nurses on the front-lines of primary health care delivery. This continues a pattern of independent nursing practice begun at national independence when Botswana became a Republic in 1965. At that time there were no Batswana physicians. The limited medical care available was provided by a handful of expatriate medical missionaries practicing in the more densely populated areas.

Two obvious barriers impeding progress towards lasting Botswana health improvement seemed to be the critical shortage of physicians and the inadequate training of large number of nurses to fill this void. Because of the ever present shortage of physicians, nurses were required to make independent medical as well as nursing decisions when they staffed the wards. Nurses, the most numerous of the health care professionals as well as the most skilled cadre in Botswana, were chosen as the most appropriate cadre to operationalize the government's policy and take primary care services to the communities. Furthermore, nurses are known to have a long standing tradition of responding to great personal sacrifices, including working long hours under difficult conditions as well as suffering separation from husbands and children. Finally, nurses are appropriate as primary health care providers because of their appreciation of the psycho-cultural factors which impact upon health and illness and which, therefore influence the community-health system relationship.

Accordingly, nurses were posted to the rural clinics and health posts throughout the country. Even new graduates were required to work in remote areas because of the insufficient number of experienced nurses available to staff the newly built clinics. While these nurses had no specific preparation for their emerging roles in primary health care delivery, they did the best they

could. Indeed, nurses brought health services within the reach of most communities in the country. Once the goal of providing basic primary health care services to the majority of the population had been reached, the Ministry of Health began concentrating on upgrading the quality and appropriateness of the services rendered. Some nurses were frustrated by their lack of basic curative skills; others were feeling inadequately trained to assume leadership in the fields of both primary health care and community-based research. It became increasingly clear that traditional nursing education was no longer adequate preparation for the role of the nurse as it had evolved within the framework of the primary care system.

The MOH requested assistance in staffing and strengthening the Health Education Unit which was housed in temporary quarters with inadequate space, staffed too thinly for functioning effectively and efficiently in implementing a national health education program and in producing health education materials. The Health Education Unit needed a new facility, health education positions filled by Batswana and the capability developed to provide training to others in health education processes and techniques.

As in the case of health education, the MOH had requested AID assistance in staffing and strengthening a weak nutrition unit. Ongoing nutrition programs were supervised by the WHO Regional Nutrition Advisor who was absent more than half of the time covering his Southern Africa regional responsibilities.

II. PROJECT DESCRIPTION

A. Goals, Purpose, Outputs, Inputs

As was true with most developing countries, the initial emphasis of health services in Botswana was on hospital-based, curative care. Long before AID developed this project, Health Services Development, beginning with the Third National Development Plan (1973-78), the Government of Botswana (GOB) embarked on a long-term effort to establish a preventive/curative auxiliary of health services and to extend these services to rural areas. The Plan emphasized: (1) construction of health facilities in all communities of more than 500 persons; (2) training and appointing of health personnel to rural areas; (3) improving rather than expanding hospitals; (4) using hospitals for their appropriate role

and best use; and (5) accelerating the training of paramedical and auxiliary personnel.

Available records state that the goal of the project was: to reach the greatest number of people possible with the broadest level of health services which the GOB could afford, for the improvement of the level of health of the people, thereby ensuring a better quality of life. Human resource development was a central concern, and this meant an increase in the number and appropriateness of training health professionals.

The purpose of the Health Services Development Project was to increase the capacity of the Government of Botswana's Ministry of Health (MOH) to provide comprehensive health services to the people of Botswana, with an emphasis on the rural and semi-urban populations. Three major assumptions were considered critical to the achievement of the project purpose: (1) the MOH regards the provision of health services and the training of health workers as contributing to an improvement in the health status of the population; (2) the budget of the MOH and Ministry of Local Government and Lands (MLGL) will increase sufficiently to provide the recurrent funding necessary to support the project components; and (3) other donors continue to support complementary programs. Adherence to the first assumption is a basic tenet of the GOB and its pursuit has had influence toward the achievement of the project purpose. It is best illustrated by the listing of priorities in the Ministry of Health's sections of the Fifth and Sixth National Development Plans. Priorities one and two for both plans are: primary health care; and training and development of health personnel. The second assumption also has been maintained: "The Ministry of Health's expenditure on the recurrent budget increased steadily over the year 1981/82 - 1984/85. The increase was above the inflation rate." (A manual of Health Services, MOH, July 1984, p.41). And other donors are supporting other programs, especially, NORAD, the World Bank, UNICEF and WHO.

To achieve the above purpose, the GOB and USAID/Botswana sought five principal end of project (EOP) status objectives:

1. Nurses' training in Botswana would be reoriented so as to produce a nurse cadre effectively prepared to provide comprehensive health services to the target populations;

2. Family nurse practitioners, community health nurses, nursing service administrators and clinical specialists would be supervising primary health care workers and performing preventive and curative services;
3. Ninety percent of the health administrators required at the central, regional and local levels would be placed;
4. Preventive and promotive health services would be improved through health education; and
5. A national nutrition program would be established and operational.

To facilitate the achievement of these targets, the project was designed into four major components:

- Nursing for health services;
- Nutrition;
- Health administration; and
- Health education.

To enable the MOH to reorient nursing training, establish an operational nutrition program, train and institutionalize health administrators as a new cadre and improve health education, USAID agreed to provide seven principal inputs. These include: 1) Long-term technical assistance, the largest single input, was seen as essential to project success, and included OPEXers in family nurse practice, community health nursing, nutrition planning and nursing education; 2) Twenty eight participants were to be either sent to the U.S. or stay in Africa for study and certificates - twelve for diplomas and/or certificates - twelve for master's degree training and the rest for other types of training; 3) Commodities, the third largest input, included such items as vehicles, textbooks, learning resource center, teaching equipment and audio-visual machines. 4) Health workshops for FNPs and CHNs were designed to update their knowledge, provide a forum to discuss problems and issues related to their emerging roles, prepare practicing FNPs nurses and physicians for their role as preceptors and to prepare FNPs as community trainers.

B. PROJECT HISTORY

In 1978, USAID contracted with a multi-disciplinary team to design the PP for the Health Services Development Project. The team included outside consultants in nursing education, and health

administration and planning and direct hire AID officers, consisting of the Southern Africa Health Officers, and an engineer and project design officer from REDSO/ESA in Nairobi. The PP design was conducted in close collaboration throughout the effort with all MOH officials. Site visits to both GOB and Mission health facilities were arranged by MOH.

In addition to MOH and mission personnel, the PP design team contacted all donor representatives, the Director of the Nursing Council of Botswana, and the Director of the Nursing Examinations Board of Botswana, Lesotho and Swaziland in Pretoria. The PP design team was in Botswana from February 8 - April 14, 1978.

A draft PP was presented to the MOH on March 29. During the course of the PP design, two issues papers were prepared. The first was prepared to resolve issue based on the PID and initial discussion with MOH officials and other donor representatives. The second issues paper was prepared as a basis for discussion of the various project components with the MOH. Outstanding issues were resolved at a meeting on March 13 chaired by the Permanent Secretary of the MOH. These resolutions were included in the design of the project.

On April 10 a draft of the PP was delivered to the Regional Officer in Mbabane, Swaziland for comments and clearance. The team left a final draft PP, incorporating the Regional Office's comments for clearance to both the MOH and the Ministry of Finance and Development Planning. The GOB official request for AID assistance was cabled to AID/W by the Regional Office in Mbabane.

On September 26, 1979, AID's Administrator authorized the initiation of negotiation and execution of the Project Agreement. The grant agreement between the Government of Botswana and the United States of America for the Health Services Development Project was signed on September 28, 1978. After a six month delay in issuing the Request For Proposal (RFP), the contractor, Medical Services Consultants, Inc. (MSCI) was selected and by January 1980, the majority of the team was in Botswana.

1. Project Progress - January 1980 - September 1981

Actual AID technical assistance inputs for Nursing for Health Services included the provision of two Nurse Practitioner Educators, one Community (Public) Health Nurse, one Enrolled Nurse and one

Nursing Team Coordinator. One Health Education and two Nutritionists were provided to the health education and the nutrition components respectively. A project coordinator was also funded. Technical services were not provided to the Health Administration component of the project.

AID participant training inputs to date include eight long term participants trained in the fields of nutrition (B.S.), graphic design (diploma), health education (B.S.), psychiatric nursing (diploma), nurse practitioner (M.S.), public health education (M.S.), nursing administration (B.A.), and health planning (diploma). Many of these participants have returned to Botswana and are occupying positions on the staff of the Ministry of Health. In addition, twelve Botswana received short term training; seven certificates were awarded in health care administration and five certificates in nursing administration.

Project construction activities were completed and conform to those listed in the original project paper. Four vehicles were purchased for the project. Other commodities included teaching and audio-visual aids and equipment, physical assessment equipment, books and pamphlets.

At the end of the first operational project year, an evaluation was conducted. It concluded that progress toward the achievement of end-of-project conditions 1 (reorientation of nurse training) and 2 (nurses and specialist operational) was significant and likely to be reached by the project's completion. Progress towards the realization of EOP 4 (health services improved through health education) and EOP 5 (national nutrition program) was also proceeding satisfactorily. However, the local training program for health administrators was not advancing according to plan, indicating potentially serious problems in the attainment of EOP 3 (administration capacity). The evaluation recommended suspension of the training for the cadre due to a lack of clarification of appropriate roles, salaries and job descriptions for the graduates. The evaluation also noted that the technical assistance to the Nursing Program at the University of Botswana was not implemented. The University declined to accept the proposed Senior Nurse Educator candidate since it had reservations on her qualifications. This individual subsequently filled the newly created position of nursing team coordinator. Finally, the evaluation acknowledged problems of

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a lack of unity and clarity on the part of USAID/B and the Ministry of Health regarding the roles and functions of all parties involved in the implementation of the project.

These problems, accurately assessed by the evaluation team, increased in both proportion and momentum and culminated in AID's decision to suspend the contractor, Medical Services Consultants, Inc., in July 1981. Five members of the team left Botswana in the Fall of 1981. Three of those remaining in country were employed by the Ministry of Health and were funded from a non-AID source. The fourth was employed by the U.S. Peace Corps.

2. Revised Project Description - January 1983

The revised project proposed to continue assistance in each of the major categories designated in the Project Paper: Nursing for Health Services, Nutrition, Health Administration and Health Education. As a reflection of the progress made in some of these areas prior to suspension of the project, appropriate assistance had been reduced. Specifically, in the Family Nurse Practitioner (FNP) program, eight person years of technical assistance were originally scheduled over the four years; subsequently, in the revised project three person years were proposed over a two year period. In the Community Health Nursing program, eight person years originally were scheduled over four years; two person years were proposed over two years in the revised project. Two person years were slated for the Bachelor of Education (B.Ed.) Nursing program at the University of Botswana, a equivalent duration as that proposed in the Project Paper. The Enrolled Nurse program originally was scheduled to utilize the services of one U.S. nurse for four person years; assistance in this category has dropped. The Nutrition program was designed to receive eight person years over a four year period; two person years were proposed for the 1983-85 period. Health Education was to receive two person years of assistance over two years; no long term assistance was proposed. U.S. staff assistance to the Health/Nursing Administration program was not proposed in the initial project design, nor was it proposed in the revision. Finally, the Project Paper called for a project coordinator over two years. This was deleted.

A. Family Nurse Practitioner Program (FNP)

1) Technical Assistance - Long Term

The project was to provide two experienced Family Nurse Practitioner Educators, one for two years and the other for one year. The National Health Institute will assign a minimum of one additional fully-qualified Mbotswana FNP counterpart.

This three member FNP Tutor Team were to perform a variety of tasks related to the program. Rather than allocate specific tasks to single team members, it was envisaged that each would participate to varying degrees in all tasks, as to assure valuable feedback. Nevertheless, each Tutor was to have a different level of participation in the various tasks in order to maximize the efficiency of the Tutor Team.

2) Technical Assistance - Short Term

A three month consultation was scheduled to develop protocols for the diagnosis and treatment of various disease entities found in Botswana. In addition, short term consultations, not to exceed six months, were to be used in support on the FNP program.

3) Participant Training

Three nurse practitioners (six person years) were to be trained to the Master's Degree level. After the completion of training, these returned participants were to strengthen the indigenous resources of the National Health Institute (NHI) to enable it to develop the FNP training program without future expatriate assistance.

B. Post-Basic Community Health Nurse Program (CHN)

1) Technical Assistance - Long Term

The revised project was to provide one Community Health Nurse for two years to be stationed at the NHI. This person, under the direction of the Principal Tutor, was intended to work in association with a Mbotswana CHN counterpart. The expatriate CHN technician was to teach the CHN post-basic course, as well as the core courses which was to be taught in conjunction with the FNP program. The core course was to service approximately sixty students.

2) Technical Assistance - Short Term

Two person months of short term technical assistance were proposed to support the CHN training program.

3) Participant Training

Two Botswana (four person years) were to be educated to the Master's Degree level in the Community Health Nurse Program. One was to be designated as a NHI faculty member to teach in the CHN program upon returning from training. The other, to specialize in Community Mental Health, and after completion of training, to design and implement a national program in Community Mental Health.

4) Workshop Support for the National Health Institute

The revised project was to fund a limited number of workshops in Botswana in support of the objectives of the FNP and CHN programs. These workshops were to be for Botswana participants involved in the respective programs. Funds to secure the participation of external consultants in these workshops were included in each program.

C. Nutrition Program of the Family Health Division (FHD)
1) Technical Assistance - Long Term

The revised project was to provide one nutrition planner for two years. This technician would work with two professional Batswana to implement the activities of the Nutrition Unit of the Family Health Division of the MOH. The Motswana Director of the Nutrition Unit was to assist in nutrition planning, programming and in coordinating the various responsibilities of the unit. This included inter-ministerial liaison and management of data from the Nutrition Surveillance System. The second Motswana staff member was to devote a major portion of her time to teaching. The U.S. technician was intended to share in the Unit's teaching responsibilities and to provide support to planning activities when deemed necessary.

2) Technical Assistance - Short Term

Three person months of short term technical assistance were to be provided to support the Nutrition program. Additional consultations, not to exceed six months, were to be scheduled to fill the void created by one Motswana staff member who would receive short term Third Country training in Nutrition Planning.

3) Participant Training

Two Batswana (four person years) were to be educated to the Master's Degree level in Nutrition. Four to six person months of Third Country training were to be provided to a Motswana staff member for short term training in Nutrition planning.

D. Health Education Program of the Family Health Division
1) Participant Training

Two Batswana (four person years) were to be trained to the Master's Degree level in Health Education. One person year of long term training within Africa in the field of Graphic Design was also to be provided.

2) Travel Funds for Family Health Division

The revised project was to fund thirty person weeks of African travel to attend workshops and relevant meetings. This was intended to facilitate communications and the transference of experience between the Family Health Division in Botswana and comparable organizations and programs in other African countries. Short trips, one to two weeks in duration, were to be funded for a maximum number of Batswana within the Division. The advanced concurrence of the USAID/B Project Officer was required prior to the release of funds for each proposed trip.

E. Health/Hospital/Nursing Administration/Planning
1) Participant Training

Two Batswana (four person years) were to be educated to the Master's Degree level in Health Services Administration/Planning. Short term training (thirty person months) was to be provided to five Batswana to attend an advanced diploma course offered in Africa in the field of Nursing Administration.

The project was to fund the training of nine participants (seventy-two person months) in certificate courses in Health Administration and Nursing Administration at the Institute for Development Management (IDM). Prior to the allocation of funds to train these nine participants, a review of the IDM training program in Health Administration/Nursing

Administration would be undertaken by the GOB and USAID/B to ascertain the viability of the program. The review would include the following: (1) examine the appropriate role of the health administration cadre, internal and external to the institutional setting; (2) determine the need for a reorganization of the curriculum to eliminate existing overlaps; (3) review the means for strengthening the organization and management of community health care; (4) and examine non-conventional procedures for evaluating student performance. In addition, the degree of professional interaction with other members of the health service system and the terms of service following receipt of the IDM certificate were identified as problematic by the 1981 project evaluation. These issues were to be thoroughly examined prior to a commitment to, and implementation of, the training activities.

2) Travel Funds for Health/Hospital/Nursing Administration

The project was to fund a maximum of eight person weeks of travel within Africa to permit Botswana presently engaged in Health, Hospital or Nursing Administration to attend workshops, seminars or conferences on administration and liaise with professionals involved in similar work. Advance concurrence of the USAID/B Project Officer was to be required prior to the release of funds for each proposed trip.

F. B.Ed. Nursing Program - University of Botswana
1) Technical Assistance - Long Term

The project was to provide one Nurse Educator for two years. This professional share responsibilities with other faculty members for curriculum development and teaching. Approximately twenty students over the life of the project, were to receive training under this program. Technical assistance for the B.Ed. Nursing Program was scheduled to commence after an agreement had been reached between the MOH, the Ministry of Finance and Development Planning (MFDP) and the University of Botswana to reinstate the Board of Studies Commission. This Commission was to proceed to resolve outstanding issues on curriculum, student selection and interactions between the University program and other parts of the health workforce development system. Upon resolution of these issues, a letter from the MFDP requesting activation of this project activity was to be sent to USAID/B. All appropriate University, GOB and USAID/B officials were then to meet to discuss the structure of the University of Botswana's program and the role to be played by U.S. technical assistance. This was scheduled to occur prior to USAID/B funding long and short term technical assistance and participant training.

2) Technical Assistance - Short Term

Six person months of short term technical assistance were to be provided to the University program pending satisfactory resolution of the above issues.

3) Participant Training

One Botswana (two person years) was to be educated to the Master's Degree level in Clinical Psychology pending satisfactory resolution of the above issues.

G. Commodities

Under the original project, commodities were procured through the USAID/B contractor. The revised project was to provide additional commodities if justified by the participant units involved in the project. No commodities however, were to be procured prior to a thorough review and accounting of those commodities already received, including their present disposition. A consolidated list of items required for all the programs included in the project was to be drawn up and presented to the USAID/B Project Officer in advance for concurrence. Sufficient funds to purchase commodities were included in the project's budget.

3. Administrative Arrangements

A. Selection and Placement of Operational Experts (OPEX) Technicians

All long-term technicians recruited under the project were to fill GOB supernumerary positions. They would hold regular MOH job titles and sign GOB employment contracts. Under the OPEX arrangement, AID was to supply funding for the appropriate reimbursement of U.S. technicians overseas.

The existing contractor selected by USAID/B to implement OPEX arrangements under the Southern Africa Manpower Development Project (633-0069) was to backstop this project in most customary respects. Advertising the positions was the responsibility of the contractor, as well as preparing short-lists of the three most qualified candidates for each position. Selection of OPEX staff to serve in the project was to be the joint responsibility of AID and the GOB. The project was to fund a trip to AID/Washington for GOB officials designated by the MOH Permanent Secretary to participate in the interview and selection process of the OPEX staff.

The Project Technicians (OPEX) occupy houses constructed under the project or suitable housing provided by the GOB. The contractor pays the OPEX staff the customary allowances and reimbursable expenses in addition to salary supplements provided in the overall agreement.

B. Selection and Placement of Participant Trainees

Selection of participants was to be in accordance with customary practice of the GOB/MOH. USAID/B was to approve all nominations, both long and short term, prior to arranging placement of the participants. In order to permit timely selection of candidates, curriculum vitae and academic transcripts of all proposed participants were to be submitted to USAID/B no later than January 1983.

C. Lines of Authority, Supervision and Communication

All OPEX staff were required to sign the standard GOB Employment Agreement. This governs their adherence to GOB policies and their use of normal Ministry channels of communication. Direct supervision of each OPEX staff member was designated by the Directors of the appropriate units. In the event that problematic issues were to arise during project implementation, resolution was to take place within the framework of GOB regulations and procedures

III. NATIONAL HEALTH INSTITUTE

A. Counterparts and Participant-Trainees

The first group of beneficiaries fell into two groups: participant trainees and the counterparts of American OPEXers in the National Health Institute (NHI), the University of Botswana (UB) and the Health Education Unit (HEU). The vast majority (9 out of 11) of the participant trainees sent to the U.S. for further education have returned to appropriate units or institutions. At the present, they all are playing significant educational and technical leadership roles. Seven are tutors at the NHI, one occupies a nurse education position at UB, and one a public health nutritionist in Nutrition Unit at PHD. Two of the original eleven participant-trainees remain in training institutions in the U.S. Both were required to enroll in more basic science and technical courses than anticipated due to a change in their major fields of study at the Master's degree level from majors achieved at the bachelor's degree level. Part of this successful record of achievement goes to the Botswana officials who selected the trainees, but also to the high individual motivation of the trainees and the seriousness with which they pursued their studies. In addition, the educational environment in Botswana and the U.S. were also important. Higher educational attainment was encouraged by superiors. All nine of the trainees were already in professional careers in the MOH or at the UB prior to overseas training. All of the participant-trainees had first degrees. They knew exactly what educational goals they wanted to achieve and, based on past university experience, how to proceed in the pursuit of their academic goals.

All the former trainees that the Regional Health/Population Development Officer (RHPDO) interviewed for this evaluation felt that the universities they attended were first-rate institutions.

All, but one, felt that the universities' courses of study were appropriate and relevant to their jobs back home. The exception was due to the fact that one university did not have a concrete, fully structured program, with a permanent faculty in the required area of study. Therefore, the participant was forced to select appropriate courses from a variety of sources and from part-time faculty. All of the former trainees felt that the educational experience in the U.S. gave them new and different perspectives and that the exposure enhanced their academic performance and subsequent careers. Most of the trainees seemed to have had a fairly positive image of American universities before leaving Botswana. However, several returned with unfavorable attitudes toward America and American universities due to encountering perceived incidents of racism and the lack of experience of some universities in accommodating international students, especially students from Africa.

Because the majority of former trainees departed for training late in the project, they had very little or no transition period working with the American OPEXers. However, the American OPEXers' local counterparts were in place and provided the transition from training back to the working environment. Both local counterparts and former trainees all felt that missing this opportunity to work with American OPEXers after beginning training in the U.S. was unfortunate and should be avoided, if possible, in future participant training endeavors.

The present leadership roles played by trainees and counterparts suggest that the project had a significant impact on the development and current operation of the health training system and technical programs. The coordinators of the FNP and CHN components of overall health training at NHI were OPEXers' counterparts and trained under the project. Likewise, the heads of the HEU and the Nutrition Unit were counterparts and trained under the project.

B. Graduates and Students

The next group of beneficiaries were graduates taught by counterparts, OPEXers, and tutors funded under the projects. The project emphasized qualitative goals relating to curriculum development, teaching and practice. An estimated to students were taught during the duration of the project. The former students in turn have taught between ... and ... other health workers since graduating from NHI.

Both FNP and CHN graduates completed questionnaires as well as attended workshops designed to examine their current roles as primary health care providers and to explore issues relevant to their education and appropriate utilization within the health care system. The majority of graduates felt that their new roles were clear to them and becoming increasingly clear to their supervisors and co-workers. They felt that they were getting cooperation from other health workers in the system and were allowed increasingly to use their newly acquired knowledge and skills. Particularly significant is the fact that the vast majority of FNPs indicated that the task of patient consultation had remained the same but that their competence, independence and confidence had markedly increased as a result of their most basic training in the diagnosis and management of common primary health care problems.

Disturbing was the fact that many FNPs were frustrated in their new roles by the large workloads, lack of equipment, and lack of acceptance of their role preventing them from fully utilizing their skills. The graduates recommended that all health workers particularly physicians and Senior Nursing staff, be oriented to the role and functions of the FNP, and that their role within the health services system be further clarified at the administrative level. The MOH implemented the recommendations. Present perceptions of graduates and MOH officials are that FNPs now find their role better understood within the system and their ability to utilize their skills to diagnose and treat primary health care problems has improved. This has led to a more rewarding patient-provider relationship and role satisfaction for FNPs. During this evaluation, fairly consistent responses were received from MOH officials, tutors and graduates, which tended to ~~collaborate~~ ^{collaborate} these improved perceptions.

C. Impact on Curriculum, Curricular Materials, and Teaching

Even in the first months of the revised project, the various curricula at NHI were being reformed or newly designed. National curricula and syllabi for FNP and CHN training and teaching were developed, adopted, and tested early in the project. After being tested, these documents were further revised and are in use today.

The project's curriculum development philosophy was consistent with those within the MOH. Ministry of Health decision makers wanted curricula which addressed health problems and conditions in Botswana; which were competency-based; which emphasized problem-solving, the scientific method, the logical sequencing of materials; and which were designed for integration of related subject materials and disciplines. With these principles in mind, both programs at NHI and the University of Botswana went through at least four observable stages in the development or revision of various curricula: (1) on emphasis on relevance to Botswana's actual conditions; (2) attention to technological adaptation to Botswana's situation; (3) use of competency-based teaching and learning; (4) integration of subject matter and material; and (5) testing and revising.

In addition, through the project, specific teaching techniques were expanded to improve the learning process. Some of these were:

- Team teaching
- Small group teaching
- Large group instruction using audio-visual aids
- Individualized instruction with the use of the learning resources center

These techniques were accepted by local tutors who did not have any previous experience with their use. They are still being currently utilized.

IV. UNIVERSITY OF BOTSWANA (UB)

The project provided one nurse educator for 31 months. This OPEXer was assigned to the B.Ed. nursing program at the University of Botswana to share the curriculum development and design and teaching responsibilities with other faculty members in the program. However, on arrival this professional nurse educator was notified that the Head of the program was to leave for long-term training in the U.S. to study for a doctorate degree. Immediately, the OPEXer was requested by the University of Botswana to assume the position of Head of the Nursing Education Department until the permanent department head returned from participant training. Therefore, in addition to the original responsibilities of curriculum development and teaching, this added responsibility became part of the OPEXer's requirement for service.

To date the permanent head of the Nursing Education Department has not returned from studying in the U.S. When this AID-funded project terminated in August 1986, the GOB's request for a further extension for the nurse educator was not granted by USAID/B. Fortunately, the GOB was able to find another donor, the Kellogg Foundation. Therefore, the same AID-funded nurse educator will remain at the university for an additional fifteen months. It is vitally important that the permanent head of the nursing education program at the university complete her studies and have a period of overlap with the former OPEXer funded under this project and now funded by the Kellogg Foundation.

As required by the Project Agreement, one Motswana was educated to the Master's degree level. In addition, another nurse educator received a master's degree funded by the BFAST project, another USAID/B project designed for overall participant training. The training for the two nurse educators has substantially improved the quality of the faculty in the program. When the permanent head of department returns from training with a doctorate degree, this will give the program a small nucleus of highly qualified university level faculty members, with educational qualifications respected by the University. However, the faculty as a whole is inexperienced. Of the three local faculty members, two have returned from school in the last two years. An additional faculty member is needed to maintain the program's present high standard of performance by students and the quality of its teaching. The former OPEXer is now teaching five classes, including all the courses in nursing administration. The university and GOB must now begin to find alternative approaches for the placement of an additional staff member either on a part-time or a permanent basis to reduce the teaching workload and to assist in teaching nursing administration.

In addition, to providing long-term technical assistance and participant training, the project supported four months of short-term technical assistance. A consultant from the U.S., in the field of nursing education, was made available to the university for one semester, January 1986 to May 1986. This consultancy provided additional assistance in reviewing and revising the nursing administration curriculum as well as some teaching in the same area.

The goal of the nursing education program at UB was to prepare tutors to be placed in teaching positions in the UB program, at NHI, in the enrolled nursing schools, and in the training programs for FNPs and CHNs. The program has surpassed this goal and, in fact, the UB program has now become a regional training program. Since 1984, a total of 36 students have graduated from the program. There are presently 62 students enrolled in the program with a breakdown by year, as follows:

--Enrolled this year	33
--Year 3	23
--Year 4	<u>6</u>
Total	62

The enrollment and graduate figures indicate that the education provided by the university program means that there is a demand for nursing educators in the region. It is expected that this demand will persuade educators to upgrade the curriculum in training institutions, and that will attract more high quality "0" level students to the nursing profession.

If the UB program is to continue to enroll students from other African countries in larger numbers, the following are needed: (1) upgrading physical facilities; (2) more faculty recruitment and training; (3) development of a regional library and resource center; and (4) enhanced ability to produce educational materials. The evaluator learned of SADCC interest in supporting UB as a regional training facility in nursing education and administration. This move is highly recommended and the needs assessment for such a project should be initiated immediately.

V. HEALTH EDUCATION UNIT (HEU)

The HEU has made significant progress since its inception just a few years ago. The MOH's policies and guidelines on health education has placed the HEU in a position to support all the Ministry programs. As a matter of fact, the MOH in Botswana has shown more true commitment to health education than any other country in the Southern African region which this AID health officer covers. This commitment is best demonstrated by the actual expenditure of funds for staff, transport and other recurrent costs.

Support from this AID-supported project assisted in strengthening ^{the} of HEU. However, there remains specific elements of the total program that need further strengthening if the unit is to respond to the MOH's intent, and to the requirement of the other health services delivery programs, such as MCH/FP, EPI, control of diarrheal diseases, nutrition and others. This mandate requires the most effective planning and management of limited resources, especially staff, and the most efficient use of limited time, by setting priorities. Under the project, since its revision, two Motswana were trained at the Master's level in health education. This has been a substantial addition to the unit with untrained, qualified professional staff. However, other staff require more training if the unit is to function at the professional level and with the high standards expected of it from other colleagues. Priority training needs appear to be in graphic arts, radio and mass media production and program planning and management, and an audio-visual equipment repair technician. This latter individual could be shared to assist other units in MOH which could use the repair technician's expertise.

In addition to training, the project provided funds for workshops and travel funds for a very limited number of trips to other African countries to compare Botswana's organization and program with others. The number of observations were too limited to be useful. This is due to the fact that an individual program is usually strong in one component of health education and not in others. Therefore, in order for a proper comparison to be made of how the total HEU could be structured and managed, more observations would be required.

One area to which the revised project did not provide assistance is in health education equipment procurement. This is one area where needed improvements must be made if the unit is expected to become more effective and efficient in staff use and effective in transferring knowledge, skills and attitudes to other health workers and particularly to the targeted Botswana populations.

The HEU seems to be performing a creditable job of programming work with the Regional Health Teams (RHT) by providing technical assistance to community, interdistrict and national seminars. Better planning and management of assisting with community mobilization efforts by supporting village volunteer groups is needed. Priority areas include working to strengthen those village

health committees which are not adequately functioning. One approach would be to support communication and technical assistance between "model village health committees" and non-functioning committees. The other priority area would appear to be in finding seed funds and in providing planning and management skills to start income generation activities. This area is critical for the long-term survival and expansion of these volunteer groups in villages.

Another area where the HEU could benefit from additional outside technical assistance, and thereby further strengthen the overall unit, is program planning and management. This is more urgent now since the former Acting Director of FHD, who also served as HEU, Head, has been promoted to the position of Acting Director, PHC.

Planning includes both strategic and operational plans. The strategic plan, which includes the broad strategies and resource requirements based on the goals and overall objectives of health education, is still in place. Operational planning, however, is where the major weaknesses lie and long-term technical assistance is most needed. This type of planning is where specific targets and activities, and resource requirements are set. Based on the objectives of each component of the total program, this planning would describe the activities within components and result in the specific job and resource requirements of each component. Some of the elements of these plans would need to be based on program research about the target audiences. Other elements would need to be field-tested for their acceptability and effectiveness in terms of communicating information, transferring skills, and modifying attitudes and practices.

VI. NUTRITION UNIT (NU)

In examining the policies, strategy and activities of the Nutrition Unit, it appears that the Unit needs further strengthening before its potential impact on the under-nourished population is realized. The main reason for this is that the unit has not systematically analyzed the specific problems of undernutrition and malnutrition or determined what strategies are potentially available to reduce nutrition-associated mortality and morbidity. Fortunately, the information base for strategy development is stronger in Botswana than most African countries. It appears that

the strategic or "big picture" orientation is pushed aside due to day-to-day activities of attending various food and/or nutrition meetings, teaching and meeting daily demands from other MOH's units. Therefore, this evaluator believes that the nutrition program approach in Botswana focuses too much on providers rather than on information which families will understand, accept and apply. Since the Nutrition Unit has not had time to reach maturity, it is not surprising that progress in management is uneven.

The Nutrition Unit was partially strengthened with inputs and technical assistance from the project. The training of two Botswana in nutrition, one at the Master's level and one at the Bachelor's level was significant in staffing the Unit with better qualified staff. Another participant trainee is now in the U.S. studying for a M.S. in nutrition. He is expected to complete the degree by 1987. The nutrition planner assigned to the unit for over two years as an OPEXer played a major role in assisting the Unit in the development of a simple, but effective information system. However, the information is not being fully utilized due to the lack of local personnel trained in data analysis and computer technology. This is a priority area for training of local staff. Also, the OPEXer extended the role of the Nutrition Unit in coordinating the nation's nutrition program, and not attempting to carry out all tasks. Although the OPEXer was able to improve and increase the teaching of nutrition through training programs for nutrition educators, not enough information and education was provided directly to families.

A different type of technical assistance is needed now based in part on the involuntary nature of building a country-wide nutrition program. The need for data to share with other ministries and groups and the need for mobilizing other organizations to take part in the overall program are high priorities in the start-up phase of a national nutrition program. The nutrition program in Botswana was designed mainly from the standpoint of immediate ^{nutritional} rather than long-term educational needs. Effective program planning must be based on a careful examination of both sets of needs and how they relate to each other. In some Botswana situations, education should be given a higher planning priority; in others, the reverse is true. Therefore, greater clarity is needed concerning the relative priorities given to these two objectives. Further ^{side} technical assistance could be productively used in this area.

The technical assistance provided under the project was helpful in expanding the unit's capability to deal with the nutritional side of the equation: nutritional data collection and analysis by computer; techniques of growth monitoring; representation on standing committees and working groups concerned with improving nutrition conditions; and teaching and training of health workers. Now the educational side of the equation needs to be substantially strengthened, while the nutritional side is readjusted and maintained. Arguments for strengthening the educational component are based on two observations: (1) long-term, sustained, improved nutrition status will only be achieved if the community involvement has been carefully planned and developed; and, (2) effective nutrition education can make an important contribution because what is learned by one generation has a significant bearing on the rearing of future generations and therefore on Botswana's future human resources. Food supplements and nutrition surveillance and growth monitoring which are an integral part of the nutrition program provide a valuable opportunity to make nutrition education efforts to mothers meaningful.

In order to assist in reorienting the Nutrition Unit and strengthening its service capability, there are several areas of priority needs: (1) long-term specific technical assistance in strategic program management, and (2) short-term training of key existing staff in training of trainer skills, teaching methodologies, communications and computer technology. These inputs, together with more experience on the job by existing staff, have the potential to greatly strengthen the Nutrition Unit.

VII. INSTITUTIONAL CAPACITY/SUSTAINABILITY

A key issue is whether the MOH as a whole and the units that were assisted and supported through the project have the capability to sustain effective training and service delivery efforts. This section will be divided to cover the two broad areas supported under the project: training institutions, which includes NHI and UB; and service delivery units, which include HEU and the Nutrition Unit.

A major goal for this project was to build the managerial and technical skills of host country individuals and institutions to continue to provide the services assisted under the project. Experiences with health development projects have shown that in the mid- to long-term, the success of both training and service delivery

projects will depend on the skills and commitment of local staff and the host country's potential at some point in time to sustain itself with decreasing resources, or no external technical or financial aid. The expectation for the near future is that the GOB will continue to require both external technical and financial assistance. This is reasonable due to the short period since independence in which the serious development of health services has been undertaken. Therefore, the key question must center about the commitment of the GOB to support the activities funded under the project and the degree to which these activities are becoming self-managed and self-financed.

Two indicators are discernable which are positive factors for sustaining project elements by GOB and MOH. The evaluator was constantly told that the early achievements of the project were substantial and that the GOB is fully committed to maintain the institutional impact of the project. One indicator of this commitment cited was that the Ministry of Health's expenditure on the recurrent health budget increased steadily over the year 1981/82-1984/85. The second indicator cited was the recent GOB organization and method review exercise covering the overall reorganization of MOH. It was stated that the primary purpose of this reorganization was to improve the overall performance and productivity within the MOH and provide better and more effective health services. As a result of the reorganization, two new departments were established that have direct responsibilities for the components covered under the project. These are now the Department of Health Manpower headed by an Undersecretary/Health Manpower and the Department of Primary Health Care Services headed by an Assistant Director of Health Services (primary health services). The training components of the project are the responsibilities of the first department and the health education and nutrition components of the project are the responsibility of the second department. These developments do appear to support GOB and MOH's commitment to sustaining the project's activities.

A. The Training Component (NHI and UB)

Notwithstanding the completion of this project in August 1986, the evaluator found a solid, well-organized training program at both NHI and UB. Curricula developed under the project were

still being carefully taught by the tutors who had gone to the U.S. for training. In addition to payment of salaries, the GOB has taken over all expenses of the project. This includes costs of continued in-country workshops and travel of the NHI tutors. Therefore, it appears that both NHI and UB have sufficient institutional capacity to plan, run and evaluate appropriate training programs. Although outside technical assistance and funds for training of tutors will be an on-going need, the training institutions are able, with decreasing assistance, to provide effective training programs. The GOB is able to recruit sufficient and qualified staff, train trainers, and design and develop curricula.

The specific areas in which additional donor inputs are needed to ensure sustainability of the high quality of the training institutions -- NHI and UB -- are:

- Long-term technical assistance in the areas of continuing education/staff development, training coordination, CHN tutor, nursing administration tutor and physical therapy.
- Short-term technical assistance to assist in developing the clinical reference manual.
- Commodities, including vehicles for students and tutor field work and preceptorships, video cassettes, educational materials and electro-acelate photocopying materials.

B. The Service Delivery Component (HEU and Nutrition Unit)

Both the HEU and Nutrition Unit are existing, functioning service delivery units of the MOH. Since their inception, these units have been strengthening their internal organization to cope with increased demand for their services at local, district and national level. The inputs from the project assisted in the continued efforts to make them comprehensive service units. Both units have full-time local heads and are building the type and number of staff needed for their effective and efficient operation. Although staff shortages have limited their overall effectiveness, much has already been accomplished in a relatively short-time period. There appears to be a high degree of institutional commitment from MOH to the Health Education and Nutrition Units. MOH leaders have shown during the life of the

project an expressed interest in these units. And, equally important, budget allocations are made by MOH to these units for the accomplishment of their objectives.

The areas where outside assistance will be needed in order for these units to expand to full capacity are:

1. Health Education

--Long-term technical assistance in program planning and management.

--Short-term technical assistance in educational material production

--Long-term participant training for qualified health educators.

--Short-term training for audio-visual operator and repair technician, graphic artist, and radio production.

--Commodities, health education and communication equipment.

2. Nutrition

--Long-term technical assistance in program planning and management, including computer skills

--Long-term participant training for one professional nutritionist

--Short-term training courses

--Commodities, including instructional materials.

VIII. MAJOR FINDINGS, CONCLUSIONS AND LESSONS LEARNED

A. Major Findings

1. NHI is providing relevant, quality training for health workers in Botswana. However, to maintain the motivation of the administrator and tutors at NHI, and to ensure continuity in the quality of the teaching and learning, resources should be found to keep the tutors workload in balance and to hire support staff to relieve tutors of conducting tasks not essential to the teaching-learning process.

2. The OPEX arrangement within AID is ideally suited for situations within the MOH where new innovations are being developed and tested, where local staff resources are initially limited and require participant-training before assuming broader responsibilities. Fuller commitment and support for making the

system work as well as the willingness to take on a variety of tasks by expatriates earlier in the life-of-the-project seem more likely when expatriates view themselves as operational experts rather than as technical assistance advisors.

3. The careful selection of participant-trainees, having positions already in place for their return and flexible support for the trainees while they are studying, in the U.S. are essential for success. In this project the trainees were already into their careers. They were selected for training based on their qualifications and the greater contributions they would make to various programs after completing further education. Most of the trainees completed their training in the required time span due to flexibility and support encountered while studying the U.S.

4. This project was highly successful because MOH officials and American OPEXers viewed themselves as being involved in adoption and use of innovative technology and processes. The manpower division of the MOH served as the policy and coordinating body; NHI provided the network for the development, adoption and diffusion of the educational innovations. This coordination was especially important in obtaining agreement on curriculum, continuing education, and placement of trainees.

5. The quality and coordination of continuing education will become increasingly important as the MOH expands both its training and service delivery capacity. The NHI may not be able to provide the type and frequency of continuing education activities needed to update the skills of graduates and respond to needs of the service delivery system. Coordination of training and service delivery occurs at the central level, but there is little evidence that it is as effective at the district level. It is believed that the expansion of training at NHI may well tax its technical and administrative capacity and overburden the talents of its fine and young staff.

6. NHI is a successful, valid and effective institution because it was established on universally agreed upon need in the country, is in great demand by its beneficiaries, and is focused on specific and immediate goals that are important to MOH. NHI is perceived by MOH management not only as having a training function, but also as having a catalytic role. The NHI component of the project has had sustained effects both on quality of the graduates it produces, on health training in Botswana, and also on the health care to the population it was intended to benefit.

7. Health education support to major components of the PHC program, such as MCH/FP, EPI, CDC, Nutrition (growth monitoring and nutrition education), has not kept pace with increased health services availability and population coverage over the past few years. HEU's overall planning strategy is inadequate, its management and administrative capacity strained, and its support to the regions and districts has shown signs of weakness. It is uncertain whether the HEU, without technical assistance in program planning and management and in information, education and communication (IEC), will be able to realize MOH's expectations and goals for itself.

8. The strictly nutritional aspects of the Nutrition Unit's total program, such as growth monitoring, data collection and analysis and health workers training, have been strengthened. Now the educational aspects, such as community and mother education, and program planning and management need further strengthening. Nutrition programs that encourage community participation, supplementation with eventual phase out of donated commodities, local production of foodstuffs, and a consistency between school feeding programs and/or growth monitoring and nutrition education will have the greatest educational and nutritional status impact in the long term.

B. Conclusions

1. The introduction of the new health cadres, CHNs and FNPs, into a health care delivery system does not automatically increase access to health services, improve the quality of health care nor improve health status for the target population. The contribution of new health cadres to the health development process depends on the level of development of the overall health system, the availability of policies mandating their utilization, and the acceptance of the cadre's new roles and functions by their co-workers. Of the supporting structures required to generate immediate benefits from training, the acceptance by coworkers is most critical.

2. The institution building objectives of the project included the strengthening of three specific units within the Ministry of Health: NHI, the Health Education Unit and the Nutrition Unit. These objectives were more firmly achieved at NHI because

more desirable levels of tutor staff have been attained. At the University of Botswana, GOB officials underestimated the duration of participant training required for the local head of the nursing education department to receive a doctorate degree. In addition, USAID/B terminated its funding support for the OPEXer which was acting head of the department during this period. Fortunately, another donor, the Kellogg Foundation, stepped in to provide funding for continuing the OPEX position.

Institution building objectives at the HEU and Nutrition Unit are only partially achieved. This project again demonstrates that institution building objectives in technical, delivery service units take longer to be achieved than in training units. This is due in part to the nature of the staff training from technical units which is usually heavily in favor of technical skills rather than organizational development and managerial skills. Also, in general, technical units have a more difficult job of retaining their technically trained personnel. The institution-building objectives at HEU and the Nutrition Unit were achieved, in part, through achieving the desired levels of master's degree training. But in certain areas, staff competencies have not yet been attained, particularly in comprehensive program planning and evaluation.

3. The sustainability of the various components of the project is closely linked to four factors: (1) to the success of the MOH in obtaining increased recurrent funds from the GOB, (2) to former participant trainees staying with MOH and in the positions for which they were trained to occupy, (3) to the willingness of AID and other donors to provide additional funds for participant trainees, and (4) to the strengthening of the continuing education function of MOH.

As the demand increases for training at NHI and the University of Botswana and for better health care and services provided by FNPs, and CHNs, Health Education and Nutrition Units, more staff will be required to meet these demands. Supporting services for supervision, transport, equipment and supplies will need to be increased. The GOB will have to provide additional funds for recurrent costs. Because participant training is an effective, least-cost strategy for institution-building and for sustaining donor funding, donors must be willing to provide additional funding support for training more local staff.

4. The impetus for a concerted national policy and strategy for improved health through the primary health care approach was initiated from the Ministerial level in MOH. The MOH has devised practical institutional arrangements in terms of technical, financial and community support from the central level down to the village level. The achievement of the training objectives and the progress made in the strengthening of two key technical units --HEU and Nutrition Unit -- under the project were successful in a large part because they constituted major tactics for achieving an agreed upon policy and strategy. In other words, MOH was fully committed to the activities implemented under the project.

5. The NHI component of the project has had the most visible impact to date. Access has been provided to nurses for post-basic training as family nurse practitioners (FNPs) and community health nurses (CHNs). Such training is in demand by nurses and valued by the MOH. This accessibility has resulted in significant changes in health services delivery patterns where FNPs and CHNs are located, and in improved quality of the health care given to the rural population.

C. Lessons Learned

Based upon the evaluation of this project, the following generalizations emerged which may be useful to other health project planners in developing and developed countries, USAIDs and AID/W:

1. Curricula for new teaching programs should be inclusive; a narrowly defined curriculum is unlikely to succeed if it does not take into account the curricula elements of the other teaching programs being taught by the same teaching institution.

2. Teaching curricula should be flexible and allow for feedback based on field research and provide for resources for revisions.

3. The role of the Nutrition Unit in the MOH is to coordinate much of the national nutrition program, not to attempt carry out all the activities and tasks.

4. Health education including varying degrees of information education and communication (IEC) is an overall strategy. Therefore, to develop a comprehensive health education program, six plans are needed:

- Management plan
- Financial Plan
- Training plan
- Promotion plan
- Distribution Plan
- Research plan

5. MOH has effectively demonstrated its capacity to strengthen both its training institutions and two of its service delivery units.

IX. RECOMMENDATIONS

The following recommendations are provided by the evaluator as further actions or steps needed to strengthen and sustain a highly successful MOH initiative in primary health care (PHC). The USAID-funded project was an essential and influential component of the total strategy. The project's contributions were key factors that led to the achievement of MOH's PHC goals and objectives at this stage of health development in Botswana.

1. It is essential for the continuation of overall PHC progress and the End of Project Status (EOPS) achievements that the following positions be established and filled with qualified, experienced individuals.

a. A continuing education/staff development tutor for FNPs and CHNs engaged in direct care. This coordinator would: assist the field staff to plan service training and orientation programs; expand the supervision of health practice; review nursing techniques used in the field; and encourage staff to assume more responsibility for preventive health care.

b. A training specialist coordinator is needed for ensuring that all training programs are essential and relevant to MOH's PHC strategy; that training coordination within MOH and with other departments and agencies is ensured; and that training content, training approaches and training sequences are relevant in providing the technical knowledge, skills and managerial and supervisory abilities needed in Botswana.

c. A CHN tutor with extensive experience in three major areas: (1) getting a new health CHN cadre fully accepted and integrated within the overall health system; (2) evaluating the field practice of CHNs in various settings and recommending and assisting in the modification of the curriculum based on the results of practice; and (3) integrating appropriate community health concepts, knowledge and skills in training activities for all health cadres

d. A coordinator for private nursing services development is needed to provide appropriate guidance for the private segment of the health system. MOH working in close cooperation with private nurses in joint training, in developing a referral system and keeping the private sector informed of health development and programs would substantially improve and expand preventive/promotive and curative services in the rural areas.

2. Adequate central government funding should be allocated to implement low-cost solutions to nutrition interventions and community mobilization in rural areas. If the local councils are

- expected to fund these activities, their budgets must be supplemented with sufficient funds for these purposes.
3. Short-term training should be arranged by MOH for one staff member in each of the health education and nutrition units in mass media production/program and instructional material development.
 4. Mid-term training should be arranged by MOH for at least one staff person in the nutrition unit in computer programming.
 5. Short-term training should be arranged by MOH for at least one staff in the health education unit in audio-video equipment repair.
 6. Health education is an essential part of any PHC program that is intended to change knowledge and practice. Without an effective, on-going program of health education, the end result may well be that the population over utilizes services but health beliefs and behavior may go unchanged. The health education and community mobilization aspects of PHC should be carefully planned and should be implemented well in advance of service expansion.
 7. In order to further strengthen the health education program, a long-term operational expert in health education is needed to improve the unit's planning, implementation and evaluation capacity.
 8. If the University of Botswana continues to enroll large numbers of students, additional tutors should be assigned to the university to reduce the workload of present tutors, thereby ensuring that the quality of program is maintained.
 9. MOH should develop a means to evaluate the changes in the health status of the community where FNPs and CHNs are employed.
 10. The proposed SADCC feasibility study of the Nursing Education program at the University of Botswana should be initiated immediately.

11. USAID/Botswana should seriously consider providing further assistance to health/population/nutrition (HPN) program in Botswana. The funding of any of the recommendations stated in this report would provide assurance that past project assistance will be institutionalized and sustained.

12. USAID/Botswana, the GOB and MOH should explore areas of HPN activities which would complement USAID/Botswana's agricultural and employment generation strategy.

APPENDIX A

PRINCIPAL PERSONS INTERVIEWED FOR THE REPORT AND PERSONS WHO ATTENDED DEBRIEFING BY THE EVALUATOR

- V.N. Ngcongco - Under Secretary
Health Manpower Development
Ministry of Health
- L.T. Letsetedi - Acting Principal Family Health Officer
Family Health Division
- W.G. Manyeneng - Acting Assistant Director of Health
Services - Primary Health Care
- K. Gasennelwe - Principal
National Health Institute
- C.N. Pilane - F.N.P. Programme Coordinator
National Health Institute
- D.S. Mositeman - Post Basic Community Health
Nursing Program Coordinator
National Health Institute
- W.S. Elliott - Project Development Officer
USAID/Botswana
- M. Edmondson - Technical Advisor, University of Botswana
- Dr. J. S. Moeti - Acting Principal Secretary
Ministry of Health