

4/3/81

APPROVED PROJECT PAPER

6900062 per D. Blane, Project Officer

PD-AAI-588

AGENCY FOR INTERNATIONAL DEVELOPMENT **(1)**

PROJECT PAPER FACESHEET

1. TRANSACTION CODE **A** A. ADD
C. CHANGE
D. DELETE

2. DOCUMENT CODE **PP**
3

3. COUNTRY/ENTITY **Swaziland - OSARAC**

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8. ESTIMATED FY OF PROJECT COMPLETION
FY **[83]**

9. ESTIMATED DATE OF OBLIGATION
A. INITIAL FY **[77]** B. QUARTER **[2]**
C. FINAL FY **[82]** (Enter 1, 2, 3, or 4)

10. ESTIMATED COSTS (\$000 OR EQUIVALENT \$1 -)

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. TOTAL	E. FX	F. L/C	G. TOTAL
AID APPROPRIATED TOTAL	900	300	1200	3051	1249	4300
(GRANT)	(900)	(300)	(1200)	(3051)	(1249)	(4300)
(LOAN)	()	()	()	()	()	()
OTHER U.S. 1.						
2.						
HOST COUNTRY		377	377		1593	1593
OTHER DONOR(S)	53	100	153	1755	100	1855
TOTALS	953	777	1730	4806	2942	7748

11. PROPOSED BUDGET APPROPRIATED FUNDS (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY <u>77</u>		H. 2ND FY <u>78</u>		K. 3RD FY <u>79</u>	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
(1) PH	501	510		1200		592		1189	
(2)									
(3)									
(4)									
TOTALS				1200		592		1189	

A. APPROPRIATION	N. 4TH FY <u>80</u>		O. 5TH FY <u>81</u>		LIFE OF PROJECT		12. IN-DEPTH EVALUATION SCHEDULE MM YY [17 79]
	P. GRANT	Q. LOAN	R. GRANT	S. LOAN	T. GRANT	U. LOAN	
(1) PH	606		614		4300		
(2)							
(3)							
(4)							
TOTALS	606		614		4300		

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 **George T. Eaton**

TITLE **Acting Regional Development Officer**

DATE SIGNED MM | DD | YY

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

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Swaziland Health Manpower Training

Project No.690-0062

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I. Summary and Recommendations

A. Recommendations

Authorization of a grant not to exceed \$4.3 million including the following waivers and approvals:

1. A procurement source and origin waiver from AID Geographic Code 000 (U.S. only) to Code 935 for procurement of construction materials.
2. Waiver of the source and origin requirements (U.S. only) of FAA Section 636 (i) to allow the purchase of two project vehicles and one project bus from AID Geographic Code 935.
3. Approval to deviate from the policy expressed in AIDTO Circular A-466 of June 27, 1975, which prescribes a maximum period of five years for project life.
4. Approval to deviate from the policy expressed in AID Handbook 11, Chapter 2, which limits employment of third country nationals for AID-financed construction work to 20 percent of the non-local work force.

B. Description of the Project

1. Scope of Project

This project has been designed to institutionalize a permanent Swazi training capacity, train nurses and other auxiliary health personnel and help develop the necessary planning/administrative capability to expand the delivery of preventive and curative health services to the Swazi population especially in the rural areas.

The construction of a training facility (Institute of Health Sciences), the preparation of Swazi nurse tutors as faculty and the implementation of a program of study for students of nursing in the facility will result in an annual output of 20 new Swazi nurses who are prepared to deliver promotive health care, preventive services as well as curative services throughout the country. In addition, other types of health personnel will be trained in the same training center with common classes for some courses, i.e., for health inspectors, laboratory assistants and other essential categories of paramedical personnel. The program of study will utilize rural settings for teaching and learning, as well as the urban setting of the training institute.

For all categories of non-physician health personnel there will be a modification of training to reflect an increased component of

public health, disease prevention, nutrition, maternal and child health and family planning. Additionally, the basic program for the training of registered nurses will include skills in history-taking and interviewing, physical diagnosis and the medical management of the more common illnesses which do not need referral to a physician. Thus, all paramedical personnel will employ health maintenance and disease prevention skills in their work. Registered nurses will be able to help meet the curative and preventive health care needs of the people in rural areas and to give supervision and direction to the nurse assistant and to provide a backup to the activities of the rural health visitor.

Graduates from the Nursing Program will specialize in a fourth year of training to become Public Health Nurses, Midwives or Nurse Practitioners. Public Health Nurses will function not only in Health Centers and clinics but also in the school health programs, nursery schools, teacher training schools, and in day care centers for the children of working mothers. All graduates will be taught to collaborate closely with women's organizations, farmers training centers and with extension workers and social welfare officers in an effort to bring health education and health care to every part of the population.

In planning and administration, the project will provide and help to develop the necessary expertise for the GOS to plan and consolidate the availability of its health resources to achieve a unified national health program effort and a more equitable distribution of health services among the majority, especially the poor of the traditional sector.

Generally, the project will:

- (a) provide a Swazi cadre of adequate and qualitatively trained health personnel;
- (b) develop the necessary health planning and administrative Swazi personnel, an important prerequisite for the effective participation in, and control of, the health sector by Swazis;
- (c) help reduce foreign control and the dependence on expatriate personnel consistent with the Ten-Year Plan which provides for the localization of technical and professional health personnel depending on the rate at which Swazis can be adequately trained to replace expatriates;
- (d) give priority to the development of preventive health care services the benefits of which will be much more widely spread among the rural population as a whole;

- (e) extend the provision of most health services through such other types of health personnel as doctors since it is expected that the doctor/population ratio is expected to fall slightly (from 1:8,200 to 1:10,000 by 1980);
- (f) reduce the need for non-medical practitioners (medicine men) through the extension of health services and health education to the outlying rural areas;
- (g) provide an outreach extension program to the Swazis who live in widely dispersed individual family homesteads;
- (h) provide a better organized system of servicing the rural areas through the establishment of Rural Health Services Administrators;
- (i) assist in the development of a statistical compilation and analysis capability to enable more effective planning in the health sector;
- (j) improve and modernize general hospital administration practices.

2. Scope of Inputs

The estimated cost of the total inputs is approximately \$7.7 million. The proposed AID contribution represents 55 percent of the total. Other donors will contribute 24 percent and the GOS will finance the remaining 21 percent of the total input cost. (Note: This does not reflect the real GOS percentage contribution since, as requested, GOS input costs were based on constant Emalangeni. The realistic provision of an inflation factor would have increased the GOS input cost by approximately \$600,000 rendering GOS contribution equivalent to 27 percent of the total project cost or about 51 percent of the proposed AID financial input cost. Thus, the real percentage of the GOS contribution complies with Section 110(a) (25% contribution) of the FAA of 1961 as amended. (See Financial Analysis Section III.B.)

Specifically, this AID project will provide 21 1/6 person/years in technical assistance, 22 person/years of participant training, 4 person/years of third country training support, commodities and materials for the physical construction of a training institute and three staff houses. Other donors will contribute 18½ person/years of technical assistance, 5 person/years of participant training and the construction of a related health center.

The GOS will provide the necessary technical assistance administrative support, salaries for Swazi project personnel, participant training support, commodities and other contributions such as A&E services, land and the training institute's operating costs. In conjunction with other donor contributions, the project will assist the GOS in financing the foreign exchange and local currency requirements to carry out the estimated 6½ year health personnel training and administrative capability development program. The magnitude of the proposed AID project inputs, the GOS and other donor contributions to the project are as follows:

PROJECT INPUTS AND COSTS

		<u>(000's of U.S. Dollars)</u>
<u>AID</u>		
I.	<u>Technical Assistance</u>	2,544
	A. Long Term - 5 TAs - 19½ P/Y	
	B. Short Term - 2 TAs - 1 2/3 P/Y	
II.	<u>Participant Training</u>	359
	A. Long Term - 9 P/Trainees - 22 P/Y	
	B. Short Term - 8 P/Trainees - 4 P/Y	
III.	<u>Commodities</u>	91
	A. Instructional Aids	
	B. 3 vehicles	
IV.	<u>Construction</u>	1,219
	A. IHS Bldg. Complex	
	B. 3 Staff Houses	
	Total	4,213
	Percentage	55.0
<u>GOS</u>		
I.	<u>Administrative Support</u>	274
II.	<u>Salaries & Wages</u>	557
III.	<u>Participant Training Support</u> (Third Country - U.S. - U.K.)	120
IV.	<u>Commodities</u> (Furnishings & Supplies)	147
V.	<u>Other Costs</u>	495
	A. Land	
	B. A&E	
	C. IHS Operating Costs - 5 years	
	Total	1,593
	Percentage	21 1/2

1/ The real GOS contribution is approximately 27% of total project costs. See Financial Analysis.

Project Inputs & Costs (Continued)

(000's of
U.S. Dollars)

OTHER DONORS

I.	<u>Technical Assistance</u>	1,695
	A. U.K. - 3 TAs - 12 P/Y	
	B. WHO - 1 TA - 4 5/6 P/Y	
	C. IDM - 2 TAs - 1½ P/Y <u>1/</u>	
II.	<u>Participant Training</u>	60
	A. U.K. - 2 P/Trainees - 5 P/Y	
III.	<u>Construction</u>	100
	U.K. - Rural Health Center	
	Total	1,855
	Percentage	24
	TOTAL PROJECT COST	7,661
	PERCENTAGE	100

1/ Institute of Development Management in Botswana

3. Implementation

The Ministry of Health will have the principal responsibility for organizing and carrying out the various project activities. The Ministry of Works will also play an important role in the construction of the project's physical facilities. As the recipient of the Grant, the Ministry of Finance will also participate through the timely budgeting and disbursement of project funds as required and in accordance with established procedures.

The curriculum, teaching and training program will be implemented by technical assistance personnel in accordance with specified terms of reference. The AID funded technical staff that will implement this segment of the project will be provided through an AID contract with a U.S. institution. (See Annex V, A through V, H) for TA Job Descriptions). The institutional personnel will provide the professional expertise to develop a curriculum; formulate and help implement a health personnel teaching program; develop continuing programs for education of health professionals, team learning opportunities, incountry faculty training, regional health conferences and research; establish adequate evaluation procedures for the overall teaching and incountry training programs; be responsible for the accreditation of incountry training and for the placement of selected nurses within the contract institution to undertake the additional academic training required for their Bachelor of Science Degree in Nursing Education. The implementation of this phase will be supported by other donors who will provide TA expertise in health inspection, Psych/Mental Health, Public Health Midwifery Education, as well as participant training.

The planning/administration phase of the project will also be implemented by technical assistance personnel. The AID TA technicians in administration and statistics will be included within the institutional contract if such expertise is available within the contract institution. Otherwise, they will be contracted separately through PIO/T's by AID/W. These personnel will be responsible for developing regional hospital and rural health services, institutional and administrative systems and provide guidance and on the job training for their respective counterparts.

Public Health Planning activities will be implemented by a TA Health Planner to be provided by the U.K.* He will receive support through the professional functions to be performed by the U.S. TA Health Statistician. These two TA positions in planning and statistics will eventually be filled on a permanent basis by two Swazi Counterparts who will be trained in the U.S. for this purpose.

The third country training program for Swazi Hospital Administrators and Rural Health Services Administrators will be implemented by the Institute of Development Management in Gaborone, Botswana.

* On board as of October 1976

Guidance and support will be provided by the U.S. TA Hospital Administrator and Rural Health Services Administrator.

The construction phase will be implemented by the Ministry of Works and will be contracted under established MOW regulations and procedures with local firms that qualify under AID criteria. There will be two separate construction contracts, one for the institute facilities and one for the three staff houses. Final selection of contractors will be subject to AID approval. MOW will provide construction supervision and REDSO Engineering will inspect the construction phase periodically.

During OSARAC/GOS discussions, agreement was reached with the GOS to use the FAR method of disbursement for the above construction components with a provision for AID advances to alleviate undue strain on the GOS operating budget. (See Annex X.)

Commodity procurement from the U.S. (see Annex IV-A) will be handled directly by AID and the procurement of other commodities (see Annex IV-B) required by the institute (furnishings and supplies) will be handled by the Ministry of Public Health.

The AID inputs of professionally qualified educators and administrative expertise, combined with participant training and other donor inputs within the specified time frame, are expected to lead to the projected outputs: establishment of a functioning Institute of Health Sciences, development of the necessary training capacity and creation of an adequate health personnel training program as well as a trained and experienced planning/administrative staff.

These accomplishments will assist the GOS in improving health services and expanding their coverage, particularly in the rural areas, so that at least 85 percent of the population resides within five miles of an adequately staffed clinic. There is reasonable assurance that this goal will be eventually accomplished inasmuch as the project was designed to develop a Swazi cadre of non-physician health care providers who will be equipped to deliver curative, preventive and promotive health care services to the Swazi population, with special emphasis on those rural areas where health care delivery is lacking or is inadequate. The project will also develop the necessary logistical, managerial, planning and administrative capability to support the coordination, integration and promotion of preventive and curative services so that scarce resources are harnessed for the optimal delivery of health services to the majority of the Swazi population.

4. End of Project Status

By the end of the project the GOS will have the capability to train nurses and other health auxiliary personnel to help meet the nation's health personnel requirements as well as the necessary trained and experienced Swazi personnel to plan and administer the nation's Public Health services with greater efficiency. The end-of-the project status will be as follows:

1. 20 nurse practitioners have graduated (4 YR Training and placed).
2. 85 nurse practitioners enrolled and attending regular classes.
3. 10 Pre-nursing students being taught and prepared for advanced nursing courses.
4. 14 Health Inspectors have graduated (3 YR Training) and placed.
5. 15 Health Inspectors enrolled and attending regular classes.
6. 6 continuing education courses held.
7. 15 Team Learning Opportunities held.
8. 3 Conference conducted.
9. 5 Research Projects held.
10. Regional Hospital Administrator systems established.
11. Rural Health Services Administrator system established.
12. A Health Statistical System established within MOH.
13. A Health Planning System Developed.
14. Complete evaluation each academic year of IHS Curriculum and Courses given.

C. Summary Findings

The existing division of the Swazi environment into a traditional (Swazi/Nation) and a modern sector (foreign) has resulted in a maldistribution of the nation's income and services in favor of the latter and in a consequent dualism that permeates the economic and political system of the nation. This dualism extends into the health sector and is responsible for the contradictions and inequities within the health sector.

This project addresses the nation's main constraints and has been developed to assist the GOS in providing the necessary training for the type of professional and technical personnel that is required in the field of health. Implementation of the project will help to: (1) provide health and administration personnel requirements (2) reduce the dualism that exists in the health sector by establishing a foundation for the development and adoption of adequate policies necessary for the planning and administration of the health sector by the Swazi nation; and (3) provide the avenue for the decentralization of health activities for the benefit of the majority.

The project is consistent with the DAP's concern regarding the need for assistance to provide needed health services to a greater proportion of the Swazi population as well as AID's new direction to help the rural poor of the underdeveloped countries. It clarifies the initial issues raised in the DAP as well as those resulting from the ECPR review of the PID and the PRP. (See Annex III and VI). The project was designed on the basis of studies undertaken by AID financed consultant services, the GOS Ten-Year Development Plan and the recommendations of a consultant team provided by AID/W consisting of one expert in Nursing Education, one in Curriculum/Evaluation and one expert in Planning/Administration.

As described the project is technically feasible, financially sound and ready to be implemented. It is socially sound in that it will have a favorable impact on both the traditional and modern Swazi environments and its positive effects will cut across the economic, social and political customs of the nation. It is also economically sound in terms of the qualitative benefits it will produce and the cost effectiveness of the project strategy. An initial environmental assessment shows that the overall impact of the project on the environment will be beneficial since trained personnel will be deeply involved in disease control and environmental sanitation. (See Annex IV p.14). Furthermore, the discharge of any deleterious elements by the institute or any of its facilities that would have a detrimental effect on the environment are not envisioned in this project. In addition to the above, the project meets the requirements of Section 611 of the FAA Act of 1961 as amended. The detailed analysis of each of the above subject components are briefly discussed below to show the adequacy of project strategy, design and feasibility.

This health program will provide the institutional structure required to train health personnel and develop the necessary supporting administrative systems required to extend health services coverage to the majority of the Swazi population. The strategy is to develop a Swazi training health capability to produce adequately trained health personnel, develop a decentralized health service system and provide the necessary planning and administrative mechanisms to support and foster the extended coverage of health care services particularly to the rural areas.

The training capacity and production of trained personnel were designed to meet the annual health personnel requirements as projected in the Ten-year Development Plan. The training techniques were based on a generally accepted and proven technological and educational methodology tailored to meet local conditions, optimize results and fulfill the needs of the target population.

The number of TA technicians to be provided through AID and other donors is the minimum required to develop the institutional structure needed to meet the GOS health personnel requirements. Furthermore, these technical assistance staff specialties were selected for those particular fields where constraints for the development of trained health personnel and of an administratively coordinated and extended Swazi Public Health Service were most acute.

The project appears to be financially sound. This is based on a careful evaluation of individual input costs and a aggregate cost and financial analysis. The project cost estimates were based on the prevailing input unit costs. An inflation factor was added to reflect the inflationary trend of the cost of living index of the respective areas from which commodities and technical assistance will be procured as well as the comparable index of those areas where expenditures will take place, such as external participant training.

The engineering and construction costs were prepared by an A&E consultant firm with extensive background experience in the design and construction of hospitals and training institutions. (See Annex IV). The cost estimates were analyzed by MOW, which acknowledged their firmness. They were also reviewed and analyzed by REDSO Engineering which concluded that the cost estimates were reasonable, the calculations accurate, and as a consequence complied with the requirements of Section 611 of the FAA of 1961 as amended.

All of the cost data were incorporated in the proposed financial plan which is considered adequate and firm and reflects the financial soundness of the project.

Socially, the project meets AID criteria inasmuch as the ultimate beneficiaries are the poor inhabitants of the rural areas. There are no cultural constraints to the project due basically to its apparent and positive effects on the traditional and modern environment of the nation. The project will also contribute significantly to the role of women since primarily women will be trained as nurses. They will play an important and prestigious role as primary providers of modern health care and, as such, will be regarded as a major force in development.

While it is difficult to quantify the economic benefits attributed to better health care and to use the standard benefit-cost analysis to determine the economic justification of the project, there are developmental advantages to better health care that can be expressed

in qualitative terms. Such benefits can be analyzed and comparatively assessed in view of the cost effectiveness of the project. The economic soundness of the project is established by the following facts: the ultimate beneficiaries will be Swaziland's low income rural people; an improvement in the population's health status will have a positive effect on the nation's productivity in the long run; while the project may increase survival and increase pressure on the limited land base in the short run, by reducing infant and child mortality it will effect attitudes leading to lower fertility in the long run since in developing societies family size relates directly to expectations of child survival; the project will induce and create additional employment; and by using the proposed "physician extender" approach, it will provide the most cost effective means toward achieving the GOS goal to expand health services to the rural areas.

D. Resolution of Project Issues

All of the issues raised during the preparation of the proposed project have been resolved to the satisfaction of OSARAC, the design team and the host government. The basic issues raised related principally to: 1) construction supervision; 2) compliance with Section 611(a) of the FAA; 3) utilization of FAR procedures; 4) environmental assessment; 5) use of OPEX mechanism for TA; 6) other donor commitments; 7) evaluation; 8) composition of long-term training; 9) family planning; and 10) composition of AID TA. Each of the above issues were dealt with and resolved as shown below in their consecutive order.

1. Construction and supervision will be handled by the Ministry of Works in accordance with GOS established procedures and criteria. Final designs, construction contracts and provision of adequate supervision are subject to AID approval prior to any disbursement for the construction phase of the project (see Annex IV and X).

2. As indicated in the Financial Analysis Section and Annex IV, the capital cost estimates were based on the evaluation of an experienced A&E consultant firm. An independent evaluation by MOW and a thorough review and analysis by REDSO Engineering concluded that the cost estimates were reasonable and the calculations accurate and as a consequence, complied with the requirements of Section 611(a) of the FAA.

3. An agreement was reached with the GOS to use the FAR method of disbursement for the project's construction components as outlined under AID disbursement procedures and Annex X.

4. Environmental assessment questions raised in the PRP are addressed in Section III.A and in the last pages of Annex IV. The impact of the project on environment will be minimal and no elements are envisioned that would be detrimental in any way to environment.

5. The OPEX mechanism for the provision of TA is not called for. Due to the project's complexity, its institutional development nature, and the need for periodic short-term assistance, an institutional contract is recommended.

6. Other donor commitments as addressed in the Financial Analysis Section appear to be firm. The U.K. health planner came on board in October 1976. The U.K. instructors are being included in the U.K.'s regular programming procedures for the provision of U.K. technicians. To date, these programming procedures have produced a regular and reliable flow of technicians. The WHO technician is also on board. All that remains is to arrange for a continuation of that position beyond 1979. The IDM in Botswana has confirmed its contribution through the proposal outlined in Annex VII. According to GOS, the U.K. Health Center has been financed and is expected to be completed within one year. Thus, some donor inputs are on board and others are firmly on track. In addition, the other donors have been party to and are aware of the contents of this project paper and have copies.

7. The evaluations to be conducted are outlined in the Evaluation Plan (Section IV.B). To acquire an early understanding of the project's implementation progress and to resolve any problems which may arise during the early stages of the project, it was considered essential to undertake the first external independent evaluation after the second year of the project. An internal project review and evaluation will also be performed annually by the contracted institution, MOH and OSARAC.

8. The composition of long- and short-term participant training was tailored to meet the requirements of the project as finally designed. The results, including the rationale and approach selected, are presented on pages 58 and 59, as well as on pages 60-62 under Alternatives.

9. The host government has a positive family planning policy and family planning technology will be an integral part of this project. The MCH/FP training component of this project will help to complement and advance the work in family planning now being carried out by the host government with the assistance of WHO.

10. The composition of the proposed U.S. TA's resulted from further investigations by the consultant team which required slight modifications as compared to the PRP proposal. This was due to the availability of other donor expertise, the need to establish a rural health services administrative system and the need to strengthen and improve the hospital administrative system as well as national health planning.

II. Project Background and Detailed Description

A. National Characteristics and Constraints

The basic determinants of health conditions and the constraints that inhibit their improvement are lodged within the social, economic, and political structure of the nation. Therefore, this structure, in the Swaziland context, is described below in order to provide a better understanding of the setting from which these basic determinants emanate.

The Kingdom of Swaziland is a landlocked country surrounded by South Africa and Mozambique. It has an area of about 6,705 square miles and is divided into four distinct geographical areas, the highveld, middleveld, lowveld and Lubombo Plateau. In 1975 the population, which is increasing at an annual rate of about 3%, was estimated at 510,212, most of which (80-85%) reside in the rural areas. Europeans and non-Africans comprise about 3.5%^{1/}

While the Swazi economy is relatively diversified, it is dualistic in nature and acutely divided between a modern sector, comprised largely of foreign-owned activities, and the traditional sector, or Swazi nation land.

More than 40% of the nation's land (arable, range and forestry) is under individual tenure farm, mostly held in freehold or concession leases by non-Africans. A concentrated effort is being made by the Government to repurchase this land for the use of its own people. The remaining land comprises Swazi nation land which is held in trust by the King of the nation. This land is communally held and is distributed to local chiefs for the use of their respective communities.

In 1972/73 there were 791 individual tenure farms (largely foreign-owned) averaging about 972 hectares each for a total of 769,361 hectares, or 44.5% of the total land-use area (1,727,156 hectares). This sector accounts for about 60% of the total agricultural sector output. Sugar is the main crop of the individual tenure farm holdings which also produce cotton, citrus, pineapples and forestry products. These commodities represent a significant portion of the nation's exports.

The rest of agriculture consists of about 38,809 small scale Swazi nation farms averaging close to three^{2/} hectares or with a total land holding area of about 106,559 hectares^{2/}. The Swazi land holdings produce mainly subsistence crops such as maize, groundnuts, sorghum, beans and potatoes. Close to 70% of the population resides on this Swazi nation land.

1/ Based on 1966 Census.

2/ Based on 1971/72 data. Comparable data for 1972/73 not available.

Livestock represents a significant element of the agricultural economy, however, its full potential as a contributing factor to the wealth of the nation has been inhibited by sociocultural beliefs. Cattle has traditionally represented evidence of Swazi wealth and prestige and is generally kept to portray such representation. This tradition has hampered the potential development of the livestock industry as an important source of national income and has adversely affected a more intensive and greater utilization of rangeland. In 1974 there were an estimated 607,366 head of cattle. During the same year about 32,000 head died, 55,000 were slaughtered and only 10,000 were exported. As a result of Government's efforts to diminish traditional taboos that affect the nation's welfare, recent developments show a trend toward greater commercialization of livestock and related products. The production of meat and meat products increased by about 25% between 1971/72 and 1973/74.

In foreign commerce Swaziland has enjoyed a favorable balance of trade. The visible and favorable balance between 1970 and 1974 ranged from R 8.1 million and R 32.9 million.^{3/} Exportable commodities are principally produced by the modern sector of the economy. Exports have increased from R 50.4 million in 1970 to R 119.6 million in 1974. The principal exports in 1974 were sugar (38.7%), woodpulp (26.2%), iron ore (10.3%), asbestos (4.8%), wood and wood products (4.5%) and citrus fruits (3.7%). Imports have followed a similar upward trend, increasing from R 42.7 million in 1970 to R 88.8 million in 1974. The main imports in 1974 consisted of machinery and equipment (24%), manufactures (27.7%), petroleum and petroleum products (11.9%), chemicals (11.3%), food and live animals (8.4%) and beverages and tobacco (4.3%).

The transport system consists of 2,590 kilometers of road, of which 196 kilometers are paved, 220 kilometers of single line railway and a small international airport which cannot accommodate commercial jet liners. In 1974 there were 17,169 non-government vehicles licensed for use and 1,087 licensed for Government use.

The Gross Domestic Product (GDP) was estimated at R 100.1 million in 1972/73 with a per capita GDP of R 216.00^{4/} although the per capita cash income in the traditional sector has been estimated at nearest to U.S.\$45.00. It has been estimated that the agricultural sector contributes about 36% and manufacturing 15% to the GDP, which has been increasing at the rate of 7% annually in recent years.

Government revenues have reflected the economic progress of the nation since independence (1968) and have increased from R 10.4 million in 1968/69 to R 22.5 million in 1972/73 and were estimated at R (E) 40.8 million^{5/} in 1974/75. Customs and excise taxes account for about 49%, and income tax for about 29% of the Government current revenue. Expenditures have generally been below current revenues,

^{3/} The Rand is used as the then accepted currency. The national currency (Emalangeni) was not introduced until 1974.

^{4/} GDP given at factor cost.

^{5/} GOS Economic Review - 1974.

providing an annual budget surplus for capital investment. Expenditures have increased from R 15.1 million in 1970/71 to R 31.2 million in 1974/75. About E 2.5 million of the annual expenditures are allocated to Health.

The nation functions under a dualistic government system. Government is under the administration of the King who is advised by a Cabinet presided over by a Prime Minister and a traditional Swazi National Council composed of Swazi chiefs. The latter make all decisions with respect to the nation's land for local administration. Swaziland is divided into four districts with their respective commissioners being appointed by the Central Government. Manzini and Mbabane have municipal governments.

Despite the economic progress that has taken place in Swaziland since independence, the nation's potential development is hindered by such factors as maldistribution of income, illiteracy (70%), lack of skilled manpower and dependence on non-Swazis for administrative functions. The main constraint is the dualism that permeates the entire economic, political and social structure as well as the shortage of technical and professional manpower. About one-half of the administrative and technical positions and almost 60% of the skilled positions in the economy were held in 1973 by expatriates.

The provision of professional and skilled manpower is hindered by inadequate professional level of teachers. For example, one-third of the primary teachers need additional training; about 20% of the secondary teachers are untrained, and about 50% of secondary teachers are expatriates, with about 25% turnover. Their short-term training periods do not allow the majority of expatriates to become thoroughly familiar with the social environment which is most important in making their teaching input effective. In addition, there are about 125 expatriate health workers. About 45 work for Government, 35 for religious missions and 45 for the industrial and private sectors.

The existence of a dual political and economic system in Swaziland is also responsible for contradictions within the health sector. The static, curative nature of the health delivery system is a Western model, superimposed on a country which requires rural sanitation and outreach programs. The maldistribution of services in favor of the urban (European) area is yet another illustration of the inappropriateness of an imported system. Swazi customs and traditions have tended to impede progress in the area of family planning and nutrition, agricultural policy is not designed to meet national nutrition and health needs, and manpower problems are acute at all levels.^{6/}

^{6/} Syncrisis: The Dynamics of Health, Botswana, Lesotho and Swaziland, U.S. Department of Health, Education and Welfare - May 1975.

The future of the nation depends upon its ability to train its own professional and skilled manpower and to facilitate their entry into the nation's administrative structure so that it can play a greater role in the determination of its own policies for the betterment of the economic, social and political welfare of its own people. This project addresses the nation's main constraint and has been developed to assist the Government in providing the necessary training to the type of professional and technical manpower that is required in the field of health. It will help to (1) reduce the dualism that exists in the health sector; (2) provide the avenue for the decentralization of health activities; and (3) help establish a foundation for the development and adoption of adequate policies necessary for the administration of the health sector by the Swazi nation.

B. Health Status

1. Determinants of Health

(a) Health Problems

Swaziland has a healthy climate, generally fertile soil and adequate rainfall, and underground water. Despite these national attributes, the economic growth of the nation as a whole has bypassed the lowest economic group which reside in the rural areas and mostly in Swazi nation land. These people suffer from illnesses which are caused by poverty, lack of nutritious foods, ignorance of good dietary practices, poor sanitation, contaminated water supplies and uncontrolled communicable diseases. Furthermore, the distribution of health services is highly skewed, with hospitals, doctors and nurses concentrated in the urban areas. About 17% of the population residing in the urban areas receive most of the available health services both preventive and curative.

While the health statistics for Swaziland do not provide a detailed breakdown of the distribution of diseases, it is clear from the information available that a large proportion of the illnesses could be prevented by relatively simple interventions. The evidence indicates that major causes of morbidity are diseases of the digestive system and respiratory tract. Malnutrition, parasitic disorders, and venereal diseases are prevalent. Certain controllable communicable diseases, particularly tuberculosis, malaria, measles, and increasingly bilharzia, are very common. Accidents are a major cause of inpatient admissions, and birth injuries occurring during unsupervised deliveries, frequently result in mental disease as shown in the following table:

TABLE 1
OUTPATIENTS AT GOVERNMENT AND MISSION HOSPITALS
FIRST AND REATTENDANCES 1974

<u>Disease Group</u>	<u>1974</u>	
<u>FIRST ATTENDANCES</u>	<u>Number</u>	<u>Percentage</u>
1. Infective and Parasitic	10,301	7.5
2. Neoplasms	241	0.2
3. Endocrine, Metabolic + Nutritional	2,797	2.0
4. Blood and Blood Forming Organs	1,187	0.9
5. Mental Disorders	1,562	1.2
6. Nervous System and Sense Organs	7,434	5.4
7. Circulatory System	2,864	2.1
8. Respiratory System	29,012	21.2
9. Digestive System	31,348	22.9
10. Genito-Urinary System	10,927	8.0
11. Complications of Pregnancy, Childbirth and the Puerperium	7,107	5.2
12. Skin and Subcutaneous Tissue	7,214	5.3
13. Musculoskeletal System and Connective Tissue	3,960	2.9
14. Congenital Anomalies	199	0.1
15. Causes of Perinatal Morbidity and Mortality	877	0.6
16. Symptoms and III-defined Conditions	9,205	6.7
17. Accidents Poisonings and Violence	10,740	7.8
Total First Attendances	136,985	100.0
Reattendances	86,301	
TOTAL	226,286	

SOURCE: (Annual Statistical Bulletin, 1975)

(b) Population at Risk

The target population at risk is primarily women and children because of their relative vulnerability to prevalent health problems. Furthermore, the sex ratio is approximately .9 (males: females)--with more than 18% of the males of working age outside the country. In addition, a significant number of males remaining in Swaziland, are serviced by industrial health facilities.

(c) Causes of Death

According to available information (1971), the main causes of mortality are: (1) tuberculosis; (2) gastroenteritis; (3) nutritional and parasitic disorders; (4) accidents (poisoning and violence); (5) cardiovascular; (6) upper respiratory tract infections; (7) malignant neoplasms; and (8) obstetrical/gynecological complications.

(d) Growth Rate

The current estimated annual population growth rate is around 3% (although informal sources indicate that it is probably somewhat higher). A population census will be conducted in August, 1976, which will provide updated figures. And, a UNFPA advisor is currently attempting to introduce a vital registration system in selected pilot areas.

The birth rate is one of the highest in the world, estimated at 50/1,000. One estimate puts the crude death rate at 24/1,000 and infant mortality at 168/1,000.

2. The Delivery System

(a) Distribution

Although more than 80% of the Swazi population lives in rural areas, mostly in individual homesteads occupied by extended families, with very little tendency toward nucleation, approximately 85-90% of the population lives within 7 or 8 miles of a health facility. The MOH capital improvement plan indicates that by 1985, 80-90% of the population will live within 5 miles of a clinic.

The coverage, while extensive, is nonetheless qualitatively inadequate. About 25% of births are institutionalized and it is estimated that only 15% of children under five are seen at government clinics. The defaulting rate among TB patients is high, and all follow-up has been put into abeyance, pending completion of the BCG vaccination campaign by the National Tuberculosis Control Unit. Environmental sanitation programs suffer from a lack of funds and a shortage of manpower. Family planning is still at the nascent stage

(the 1973 estimates were: 2,650 users). And health and nutrition education is limited by the lack of auxiliary staff.

In terms of both curative and preventive care, the inequities are marked. The Mbabane-Manzini corridor contains about 16% of the population and 60% of hospital beds, 62% of doctors, and 55% of nurses. Furthermore, as hospital outpatient services (which exclusively provide curative care) comprise approximately one-third of all outpatient attendances, the nation's outpatient services are heavily weighted against the rural population.

(b) Administration

The health services are administered by the Ministry of Health, with the prototype Anglo African organizational structure. The Minister of Health is a political appointee, and is ultimately accountable for decisions taken by his ministry. The Permanent Secretary is the senior civil servant, and the Chief Medical Officer, also a civil servant, is the highest professional post. The Senior Medical Officer is responsible for preventive services, the Chief Nursing Officer for nurses, the Chief Health Inspector for sanitarians, and so on.

Although 35% of general hospital beds are operated by religious missions, and almost 30% of doctors (excluding those in private practice) work for private industry, there is comparatively little ministry control of extra-governmental services. There has been some coordination with the missions, which now operate almost as many rural units as government, but the private industrial health delivery network exclusively services its employees (with interdependency occurring only when industrial patients utilize government or mission hospitals-- on a fee-for-service basis).

(c) Organization

There are 11 general hospitals, with 1,100 beds altogether, and 2 specialized hospitals for mental and tuberculosis patients, with a total of 400 beds. The population/bed ratio is about 400/1. Preventative services are offered at Public Health Centers and rural clinics, and by the categorical vertically administered services.

At present there are 4 Health Centers at or near hospitals in Mbabane, Manzini, Hlatikulu, and Siteki. Another one is planned for Pigg's Peak, and 4 will be built in the rural areas over the next decade (of which one will belong to a mission).

There are close to 60 clinics, mostly situated in the rural areas. About half of these are run by Government, and most of the others, by the missions as indicated in Table 2.

Government clinics do not have beds. They are operated by a staff nurse, with the help, in some cases, of an auxiliary nurse, and are supervised by medical officers from the hospitals, and public health nurses from the Public Health Centers. Approximately half of the mission clinics have maternity beds (usually 4). A few health posts, serviced by mobile units, are operated by Public Health Centers, and by the missions.

Categorical services include: the public health inspectorate, a tuberculosis control unit, a malaria and bilharzia control program, school health services, and a nutrition project. All government units are serviced by Central Medical Stores, and by the main laboratory in Manzini.

TABLE 2

HEALTH SERVICES

Swaziland - 1974

<u>Provider</u>	<u>General Hospitals/Beds</u>	<u>Bedded Clinic/Beds</u>	<u>Non-Bedded Clinics</u>
Private Industry	1: 70	3: 6	6
Missions	2: 422	14: 60	4
Government (General)	5: 608	- -	30
(Specialized)	(2: 400) ^{7/}		
TOTAL	8: 1,100	17: 66	40

SOURCE: Syncrisis: The Dynamics of Health, Vol. XIII

(d) Health Personnel

Nurses provide the bulk of primary care, although doctors still see all outpatients in both government and mission hospitals. (The population/physician ratio is 8,200/1.) Most of the nurses are fully qualified, including midwifery skills. A new cadre of auxiliary nurses is being trained by the Good Shepherd Mission Hospital, and a pilot project to prepare rural health visitors is about to begin. Ultimately it is planned that there will be one visitor for every 40 homesteads-- trained in basic preventive health skills.

^{7/} Constitutes part of the 608 total

TABLE 3
MEDICAL AND NURSING REGISTER: MID-1974

	Total Active	Citizens ^{5/}	Non- Cit.	Employer			
				Govt.	Mission	Ind.	Priv.
Doctors	53 ^{2/}	7	46	20	10	12	11
Dentists	5	1	4	1	0	0	4
Pharmacists	8 ^{3/}	1	8	2	0	1	5
Lab. Technicians	8	3	5	5	3	0	0
Radiographers	8	2	6	6	1	1	0
Physiotherapists	3 ^{3/}	1	3	2	0	0	1
Public Health Insp.	6	4	2	6	0	0	0
Other Paramedicals	7 ^{4/}	0	7	3	0	1	3
Nurses ^{1/}	410	375	35	310	80	-	20 -

-
- 1/ Includes all matrons, sisters and staff nurses who may be either "registered" or "enrolled" as well as 18 auxiliary nurses.
- 2/ There are another 6 registered doctors who are inactive and 11 others who are not based in Swaziland.
- 3/ Plus 1 other inactive practitioner.
- 4/ Two occupational therapists and 1 optometrist, sanitarian, chiropodist, toxicologist and dental mechanic.
- 5/ Of the 19 citizen doctors and paramedicals, 15 were employed by Government, 2 doctors and 1 dentist were in private practice and 1 doctor was not active in medicine.

SOURCE: Gish Report (Table 5).

3. Training - Present Status

(a) In-Country

Training of health professionals in Swaziland is presently being carried out chiefly by MOH, religious groups and by other donor agencies. Physicians, Nurses, Health Inspectors and specialized nurses (public health, nurse tutor, orthopedics) are also being trained abroad. There is little evidence of coordination of training programs.

A detailed description of health professional training programs and a summary chart follows.

(b) Ministry of Health

(1) Enrolled Nurses Program

The Ministry of Health is conducting a program to upgrade enrolled nurses to R.N. status. This program, now in its third year of operation, is expected to phase out in two years. Approximately 25 enrolled nurses (individuals with 2 years of training and some work experience) participate each year. The faculty consists of 2 nurse tutors, plus one clinical instructor. Students receive 2 hours of didactic instruction per day. The rest of their time is spent on the wards at Mbabane Hospital.

The course of studies is one year in duration. In fact, many students require more than one year of study because they are unable to pass the external examination (50% of the first class passed the examination; 8% of the second class passed the examination).

Enrolled nurses have completed approximately 9 years of primary education and usually have attained the Junior Certificate (J.C.) before they studied nursing.

The instructors indicated that learning resources were few and that transport was lacking for purposes of allowing students to work in rural health centers and clinics. Although an attempt is made to rotate students through the clinical services, such rotation is sometimes impossible.

(2) Village Health Visitors

A Public Health nurse trained in India, Israel and the U.S. (Meharry) described the rural health visitor training program now being finalized to the consultant team that designed this project and explained that the curriculum for this program has been developed, will be taught in Seswathi and that a Public Health

nurse will conduct the training. It is anticipated that 40 people, both men and women, will be selected for the first class. The District Chief will select individuals for training based on established criteria.

Four weeks of basic training in public health, nutrition, maternal and child health practices is planned. This basic training will be followed by one week of practical experience followed by one week review of problems and procedures. A follow-up program is also planned.

(c) Religious Groups

(1) Raleigh Fitkin Memorial (Nazarene)

The Raleigh Fitkin Memorial Hospital and Nursing School has been training nurses for 50 years, primarily to staff the hospital and the 17 health clinics which the church operates in rural areas. Some Nazarene graduates are employed by MOH and the private sector. Training is traditional and hospital-oriented.

The School with a faculty of seven tutors (one clinical) presently enrolls 74 students--28 in year 1; 16 in year 2; 17 in year 3 and 13 in year 4. In order to enroll, students must have completed their J.C. (9 years of education) and have passed an entrance examination. Students must be 18 years old to qualify. While more than half of the students drop out before completing the course, no clear indications could be found to explain this high rate of attrition.

(2) Good Shepherd Hospital and School (Catholic Church)

The Good Shepherd Hospital and School in Siteki trains three groups of 12 students each in an 18-month Nurse Assistant course of studies. The students study both patient care and public health nursing. To qualify students should have completed 7 years of education and be 17 years of age or more. A preliminary examination in English and arithmetic is administered as well as an aptitude test.

Since its inception in 1974, the school has trained 55 Nurse Assistants. Only 2 or 3 students have dropped out of the program, an attrition rate of 4%. The school has a forward looking faculty anxious to collaborate with the planned MOH Nurse Practitioner Program.

The curriculum includes a five-week Public Health rotation. Students also conduct home visits, where they conduct health education programs. Special seminars are conducted in the field. Students also work at Mankayane Hospital. Graduates of the program are not utilized properly in some instances. The Director reports that in Hlatikulu some graduates have been used as cleaners in health centers and clinics.

TABLE 4

SUMMARY OF HEALTH PROFESSIONS TRAINING COURSES SWAZILAND

<u>School & Site</u>	<u>Category of H. Professional Trained</u>	<u>Entrance Requirements</u>	<u>Duration of Training</u>	<u>Number of Students Enrolled</u>	<u>Faculty Size (Full time)</u>	<u>Sponsoring Agency</u>
Raleigh Fitkin (Manzini)	Nurses	9 years (J.C. exam) 18 yrs old minimum	4 years	84 (4 years)	7	Nazarene Church
Good Shepherd (Siteki)	Nurse Assistants	7 years exam 17 yrs old minimum	18-20 mos.	36 students (3 groups)	10	Catholic Church
Enrolled Nurse (Mbabane)	Nurse	Enrolled Nurse 9 years (J.C.)	1 year	25	2	Ministry of Health
Village Health Worker (Rural area)	Village Health Worker	Literature Seswathi Chosen by Chief	6 weeks	40 (projected for first course)	?	Ministry of Health
Health Assistant (Mbabane & Rural area)	Health Assistant	9 years (J.C.) Aptitude test Interview	1 year	28 (2 groups)	2	W.H.O.

(d) Other Donors - WHO: Health Assistant Program

A Sanitarian/Tutor has developed and implemented a program to train health assistants to assume public health responsibilities in rural areas. He has trained 28 students in 2 programs since 1974. Candidates for the course should possess the Junior Certificate (9 years of education). An aptitude test and an interview is given candidates. Although all students in the first program were male, half of the new group will consist of females.

The curriculum includes 6 months didactic work and 6 months practical training in the field. The curriculum includes the following: first aid, communicable diseases in Swaziland, vector control, rodent control, housing sanitation, food hygiene, water supply, collection and disposal of household refuse, sewage, sanitary surveys and health education.

A program to upgrade Health Assistants to Health Inspector status is planned. After working for five years, Health Assistants may be allowed to enroll in a two-year program to become Health Inspectors. They will receive local qualifications only.

The Health Assistant Program is expected to phase out in two years.

4. Training Requirements (Based on Ten-Year Health Development Plan 1975-1985)

According to the Ten-Year Health Development Plan, the following professional personnel (Table 5) will need to be trained to meet the Government's health manpower requirements. With the exception of Medical Officers and specialists, the manpower training requirements do not take into consideration the requirements of Missions and the private and industrial sector.

Table 5

HEALTH PERSONNEL TRAINING REQUIREMENTS

<u>Category</u>	<u>No. Required</u>	<u>Average Annual Output Required (Training)</u>
1. Medical Officers (Including Specialists)	73 ^{1/}	7 to 8
2. Registered Nurses (Including Matrons and Sisters)	195 ^{2/}	19 to 20
3. Auxiliary Nurses	156 ^{2/}	16
4. Health Inspectors	19 ^{2/}	2
5. Health Assistants	103 ^{2/}	11
TOTAL	546	55

1/ Includes Government, Mission and private.

2/ Government requirements only.

5. Future Developments

Swaziland presently has a respectable though less than adequate infrastructure of public and private rural clinics. Furthermore, the Government has succeeded in obtaining support from the U.K. and the African Development Bank (ADB) for extension and renovation of the system of physical facilities for health care in rural areas. Specifically, six public clinics are planned for development over the next several years and have their funding assured. It is anticipated that additional private mission clinics will also be constructed. The Ten-Year Plan for the health services also calls for the development of three "rural health centers" which would hold an intermediate position in the health care hierarchy between the clinic and the hospital. They will be primarily centers for preventive health care activity, though provision will be made for curative care as well. These centers are to be staffed by nurses, public health inspectors, and pharmaceutical, laboratory and dental assistants, and would have a doctor present on a scheduled basis.

The Ministry is also examining means for improving the work of the hospitals in order to better serve a broader spectrum of the populace. Attention is now focusing on improved management and administration of hospital health services. Moreover, with the restrictions imposed on the MOH recurrent budget by the Ministry of Finance, priorities will shift from the previously heavy investment in hospital and curative services toward a more cost effective program focused on preventive services and rural health.

The manpower requirements of the redirected and improved health services system are also being addressed by the MOH as previously noted. The Government is presently conducting a one-year in-country training course for rural health assistance; eight students have completed the training to date. The MOH is also preparing a program to train a cadre of approximately 800 "rural health workers."

These and other indicators lend force and promise to the rural-focused health sector policy and strategy outlined in the current national development plan. Particularly in the area of the training of Swazi health personnel, however, the MOH faces serious obstacles to progress in operationalizing a more efficacious health services program. The training of professional health manpower, performed largely by private mission institutions or abroad, is both inadequate in terms of numbers and inappropriate in terms of substance. Such training is

incapable of providing the manpower necessary to plan, organize and operate a comprehensive integrated rural health delivery system with a preventive focus. A significant number of Swaziland's nurses will have to take charge of rural units, and the nursing curriculum should be revised accordingly. It must include a much more substantial element of public health work, as well as being designed so as to prepare these nurses to function for much of the time in a more independent fashion than is customary in hospital practice. If such a curriculum can be brought into effect within the next two years, there will be sufficient output of the "new" nurses to assure at least one for each rural facility by 1985. These nurses should be able to give direction to the auxiliary nurses, rural health workers and other rural health staff who will work under their supervision.

The emphasis upon attention to health personnel requirements is consistent with the broader conclusion that the primary impediment to the attainment of the country's development objectives is its severely limited pool of qualified indigenous manpower in all fields, particularly, at the middle level managerial and technical levels. With the expansion of preventive health services (while maintaining adequate hospital coverage) and the expected deterioration in the doctor/patient ratio, the need for more nurses and auxiliary personnel becomes apparent.

However, there are serious inadequacies and drawbacks in the training of Swazi health personnel as presently performed. The Government does not operate a nurse training school; Swaziland is probably the only Commonwealth African country without such a public facility. All training of registered nurses and nurse auxiliaries is carried out privately by the Nazarene and Catholic Churches, with a few exceptions where training has been received in South Africa. Thus, MOH is greatly handicapped in its ability to control and coordinate health manpower development.

TABLE 6

Recurrent Budget Projections

Ministry of Health 1974/75 and 1984/5

(R 000's)

	<u>1974/5</u>	<u>1984/5</u>
Mbabane Hospital	657	780
Hlatikulu Hospital	361	496
Pigg's Peak Hospital	85	160
Mankayane Hospital	73	132
Nhlangano Hospital	44	52
Matsapha T.B. Hospital	53	59
Matsapha Mental Hospital	90	123
TOTAL HOSPITALS	1,363	1,802
%	60	44
Rural Clinics	171	470
Rural Health Centers	0	174
Public Health Centers	65	120
Rural Health Visitors	0	160
School Health Service	0	40
Public Health Inspectorate	44	144
T.B. Center	49	56
Malaria & Bilharzia Center	99	164
Lab. Services	47	77
Central Medical Stores - Admin.	63	102
H.Q. Admin. & Grants to Missions	374	676
Training	0	90
TOTAL RURAL	912	2,273
%	40	56
TOTAL BUDGET	2,275	4,075

TABLE 7

Percentage of Breakdown of MOH
Recurrent Budget Items 1974/5 to 1984/5
(Selected years - % of Total Budget)

<u>Category</u>	<u>1974/5</u>	<u>1977/78</u>	<u>1980/81</u>	<u>1984/85</u>
	%	%	%	%
All Government Hospitals	59.9	52.1	48.1	44.2
Rural & Preventive Services ^{1/}	18.8	25.6	28.9	32.6
Training, Adm. & Grants to Missions ^{2/}	21.3	22.3	23.0	23.2
TOTAL %	100.0	100.0	100.0	100.0

1/ Includes rural clinics; rural and urban health centers; rural health visitors; school health services; public health inspectorate; T.B. center and malaria and bilharzia center.

2/ Includes Lab. services; central medical stores; H.Q. administration and grants to Missions and training.

C. Project Development (History)

1. DAP

The proposed project is consistent and in accordance with the DAP's concern regarding the GOS need for assistance to provide needed health services to a greater proportion of the Swazi population. In 1974, the DAP pointed out that the GOS Second National Development Plan indicated that the greatest needs for health services were those of the young and the inhabitants of the rural areas; that there was an urgent need to reorientate priorities in order to develop the health field away from conventional institutional facilities centered on urban areas and toward different kinds of programs which might be less costly and more closely geared to the preventive aspects of health. In this manner, a wider impact could be achieved on the health problems of the rural population at large. The Plan discussed the implications of such policies in terms of improved standards of public health, maintenance of present levels of curative services while improving their standards and distribution, and creating a situation within which a substantial moderation in the rate of population growth could be achieved within a reasonable period. Four priority areas for development were singled out:

- a. expansion of preventive services in the rural areas;
- b. improvements in the quality and distribution of basic institutional facilities;
- c. development of health education; and
- d. expansion of training programs.

In discussing curative services, the Five-Year Plan professed the belief of Government that: 1) over the Plan period, large-scaled hospital developments could not take priority over essential improvements in the preventive services; and 2) in a rural economy the benefits from hospital developments tend to be quite narrowly concentrated among the urban population.

The Plan contained relatively few proposals for health manpower training. Insofar as doctors were concerned, it was stated that almost as many Swazi medical students were already studying abroad as the country would be able to absorb by 1980. The major new direction for training appeared to be the possibility of "setting up a small training center to provide pre- and in-service courses for Public Health Inspectors, Health Assistants and Public Health Nurses."

A number of general considerations needed to be taken into account in weighing the prospects for progress toward GOS objectives in the health sector. With regard to planning and the allocation of resources, it was noted that the Second Plan's health chapter was a commendable, if somewhat esoteric, effort to formulate and rationalize a feasible national health program designed to serve a broad spectrum of the populace. However, its principal shortcomings were the lack of elaboration on major details of implementation and in the underlying ambiguity regarding preventive vs. curative priorities. The Plan noted correctly that the primary impediment to progress in the health area was the very limited reservoir of qualified manpower. It recognized the magnitude of resources required to train professional staff and the need to concentrate on training at sub-professional levels. Once again, however, scant attention was given to even the broad outlines of an action plan for training.

2. PID

The PID continued to point out that in the absence of extensive preventive and promotive health care activities, a continuing heavy load of illness in the subsistence sector was inevitable. In addition, the PID noted that although Swaziland possessed relatively highly developed hospital services, these catered principally to the urban populace and had shown little ability to alter the incidence of major diseases or to improve general health in the rural areas where 80% of the populace resides. Moreover, it was estimated that the Government's four urban public health centers (associated with public hospitals) and 30 rural clinics were reaching not more than 15% of the country's under five population with preventive health care services. The problem was to bring prevention-based health services to the people rather than waiting for the sick to come to urban areas for curative care.

The Ministry of Health (MOH) indicated its determination to undertake a major redirection of the public health services in order to address this problem. The findings and recommendations of an AID-funded health consultant to the GOS ("Planning the Health Services of Swaziland" prepared July 10 - September 15, 1974, by Oscar Gish) were largely accepted by the MOH and provided the basis for the Ministry's preparation of a Ten-Year Plan for health sector development as indicated in the Introduction of the Ten-Year Plan which states:

"This Plan is intended to establish the long-term framework for the development of Government health services in Swaziland, and to lay down the major components of the Ministry of Health's investment and recurrent budget programmes, and manpower requirements for the next ten years. As such, it will form part of the kingdom's national development plans for this period.

Many of the proposals are based on the report of Mr. Oscar Gish, a health planning consultant provided by the U.S. Agency for International Development. However, a number of modifications

and additions have been made to these original proposals, and the final plan has been prepared as a result of consultations between the Ministry of Health and the Ministry of Finance and Economic Planning."

Previous recommendations and the undertaking of the Ten-Year Plan confirmed the GOS support for a reoriented health services delivery program emphasizing preventive care and focusing on the requirements of the rural population.

The Gish report recognized manpower deficiencies as a key constraint in the interdependent health system and recommended that priority attention be directed to the need for expanded and more relevant training of field health personnel both professional and auxiliary. The report also recommended the development of a government training institution and curricula for this purpose.

- The above recognition was based on the following problematical elements:

- a. The MOH lacks influence over training curricula and the substantive aspects of training programs. Present training is conventional, conservative and oriented toward curative health care in the context of the hospital; serious difference in philosophy exist between the GOS and the mission training institutions.
- b. The MOH cannot at present exert direct influence over the mix of training for the health sector.
- c. The MOH requires an opportunity to provide greater inservice training and field support if rural health services are to be expanded and improved.
- d. The Nazarene school for registered nurses is not producing nurses in numbers sufficient to accommodate both public and private institutional needs.
- e. Although the MOH is determined to operate its own training and field support institution, it lacks the capital finances and personnel resources to do so without external assistance.

As a result, the PID recommended that AID assist the GOS to improve the health of Swaziland's population by participating in its efforts to reorientate its health services toward improved and expanded preventive care for rural people. It proposed that assistance be provided to the GOS in instituting/expanding government training of field health personnel, including the construction of a health training center and to provide the government with added expertise in health planning, administration

and statistics. The anticipated life of the project proposed in the PID was five years and the total cost was estimated at \$2.8 million. The GOS proposed to finance \$0.9 million and AID was requested to provide \$1.9 million. The construction cost of the training center was estimated at \$750,000. However, during the AID/W PID review, it was strongly indicated that the building costs were probably undercosted and could be double the estimate given in the PID (See Annex VI)

3. PRP

The PRP was prepared and presented to AID/W in December of 1975 and represented the results of extensive discussions held with the GOS and a thorough analysis of the available reports and information regarding the health status of Swaziland. However, the PRP was mostly based on the firm action taken by the Government to achieve the health sector objectives as initially developed in the Second National Development Plan and further developed and refined in the Ten-Year Plan for the Development of Health Services.

While the total project costs and the GOS/AID contributions could not be developed with any degree of precision during the PID stage, a more reliable estimate was provided in the PRP subject to finalization at the PP stage. The total cost of the project was revised from the original PID estimate of \$2.8 million to \$3.8 million. This was due to an increase in the provision of AID technical assistance (\$500,000) and the amount to be contributed by other donors (\$595,000). The contributions proposed for the financing of the project were: (1) AID - \$2.4 million; (2) GOS - \$0.8 million; and (3) other donors - \$0.6 million.

The PRP clarified several of the issues raised during the PID review and left others to be clarified during the PP stage. The PRP was approved (see Annex III) by ECPR on December 23, 1975, with instructions to OSARAC to proceed to the PP stage of project design and provide a resolution to the issues raised at the ECPR Meeting.

In general, the issues health with such factors as (1) supervision during construction; (2) Section 611 (a) of the FAA; (3) utilization of the FAR procedure; (4) environmental issues; (5) other donor participation; (6) evaluation procedures; (7) long term training; (8) family planning and; (9) scopes of work as appropriate. These issues have been clarified in this paper.

Based on the PRP approval and the official request for financial assistance (see Annex II) from the GOS, OSARAC proceeded to develop a final project paper (PP). For this purpose OSARAC requested the services of a consultant team with experience and expertise in the field of health. AID/W provided the services of three consultants that met the above criteria, i.e., one expert in Nursing Education; one expert in Curriculum/Evaluation and one in Planning/Administration.

The project, as designed, was based on the recommendations of the above mentioned consultant team. In addition, the project design was in accordance with the GOS requirements to implement its health development objectives and encompassed a coordinated input from the principally related GOS governmental agencies.

D. Description of the Project

This project will assist the GOS in meeting the health manpower goals established in its Ten-Year Development Plan. It will help to finance the foreign exchange and local currency costs required for a Health Manpower Training Program, a coordinated administrative system and the physical construction of a training center. In order to provide a clarified detailed description of the project, a narrative explanation of the logical framework (see Annex I) is presented, starting with the goal and terminating with inputs.

E. Logical Framework Narrative

1. Goal

The project goal is to assist the GOS in improving health services and expanding their coverage in the rural areas as outlined in the Ten-Year Development Plan. This project has been tailored to help the Government develop a cadre of non-physician health care providers who will be equipped to deliver curative, preventive and promotive health care services to the Swazi population, with special emphasis on those rural areas where health care delivery is lacking or inadequate.

Under the Ten-Year Development Plan the GOS, with external assistance, will undertake the provision of additional clinics, health centers as well as additional bed capacity to existing hospitals. This effort, however, is aimed basically at the expansion of medical services in the rural areas. Whereas, 85 to 90% of the population lives as far as 7 or 8 miles from a clinic, the provision of additional clinics and health centers will narrow this distance gap so that by the end of the proposed plan 85 to 90% of the population will be within five or less miles from a clinic. The goal of expanding health service coverage will be considered to have been achieved when at least 85% of all inhabitants live within five miles of a clinic and the clinics are adequately staffed.

Verification of progress toward this goal will involve comparison of population distribution, clinic locations and staffing.

To accomplish established goals, the Ten-Year Plan indicates that the basic staffing pattern of each clinic will be as follows:

Two registered nurse/midwives
One auxiliary nurse
One health assistant

According to the plan, most of the clinics will have a small (probably 3 bed) maternity unit; the nurse/midwives will, therefore, be able to provide prenatal, delivery and postpartum services, making good use of their midwifery skills. Nurses at rural clinics will also be called upon to diagnose and treat the health problems of patients.

The addition of essential nurse practitioner skills to their present areas of competence would enable them to deal more competently and confidently with problems which they are now forced to diagnose and treat without having been trained to do so. The basic nursing curriculum program of this project has been designed to provide nurses with such training and skills.

Other elements in support of the GOS Goal include the training of some auxiliary nurses at Good Shepherd Hospital for the rural clinics with financial support from the MOH. Health Assistants are also being trained by the MOH, with most of the teaching done by a WHO sanitarian. Twelve students completed the first one-year course, which began in 1974, and the program is continuing. Health Assistants, working under the supervision and direction of health inspectors and clinic and health center nurses, will work in disease control (e.g., TB and malaria) and environmental sanitation. Their training is predominantly practical and field oriented, but future health assistant students will spend a specified period of time at the training facility proposed in this project.

Verification of the composition and preparation of clinic staffs will involve studies of personnel, pay records, as well as internal and external evaluations which will be undertaken.

Adequate supervisory and logistic support is also a prerequisite to goal accomplishment and to obtain the full benefits of well-trained rural health personnel. Supervision must be a supportive function, rather than punitive, and must be seen as such if tasks are to be successfully delegated to trained health personnel. Logistical support, particularly where drugs and supplies are concerned and where facilities are relatively isolated, has similar importance to the efficient functioning of the system. Progress in these areas will be assessed periodically through field visits, interviews with staff, inventories, and reviews of records, with focus on the rural clinics.

Improvements in rural health services, and particularly adequate training of health workers to meet Swaziland's specific needs, will make it possible for most health problems to be prevented and/or dealt with at the local (homestead, village, or rural clinic) level. However, some patients will always need to be referred for diagnosis or treatment. This is now the practice in serious cases. The adequacy of the responses of referral facilities receiving patients from rural facilities, as well as the appropriateness of the referrals, will be evaluated on the basis of information obtained from outpatient and inpatient records and through tracer studies.

Acceptance and use of promotive, preventive and curative services by the people will be essential to achieve the widespread health improvement proposed under the GOS goals. Utilization and attitude studies as well as health statistical data will provide means of ascertaining problems and success in this area. Such analysis will be undertaken for this purpose as well as to provide the basis for remedial action.

Goal Assumptions - Based on discussions held during the preparation of the PP, other donor funds for capital costs of health system development and for technical assistance are likely to continue to be available. Funding for six new rural clinics and one (possibly two) health centers is already assured. Other donors are encouraged by the existence of the official GOS Ten-Year Plan, which outlines the overall system to which their donations would contribute, and aside from the contributions indicated in this paper, they are continuing to explore other avenues for additional contributions.

According to MOH sufficient GOS funding of recurrent costs of the system has been practically assured by the official approval by the Council of Ministers of the Ten-Year Plan, which is based on 6% annual increase (in real terms) of the MOH budget. Caution will need to be exercised in making any changes which would increase recurrent costs substantially. While additional positions will be required to carry out and maintain the project as designed, the MOH has verified their essentiality and has indicated that they will be accommodated within the recurrent budgets.

The present outpatient charges do not seem to present, for most Swazis, a serious obstacle to utilization of health services as witnessed by the consultant team in the rural areas. If they were raised in order to increase revenues, however, problems could arise. According to MOH, there are no plans for such increases.

The MOH, hospital administrators, doctors, and other professional health workers are likely to provide the needed supervision, support and delegation of responsibility to health personnel at all levels. Delegation of diagnosis and treatment functions to nurses, as a matter of necessity, is already common in rural areas. High level support in the MOH, aided by a series of workshops and conferences to be held at the proposed institute of Health Sciences (I.H.S.) to explain and discuss changes being made, will help assure full support of all professional health personnel.

MOH officials fully support this project and realize that the personnel trained (at all levels) will need to be placed and used appropriately. Arrangements for the placement of trained personnel have already begun.

The health personnel trained under the project will be adequately prepared for work in rural areas. This will reduce the anxiety and discomfort due to lack of preparation which some health

workers say makes them dislike and avoid rural assignments. Orientation and training will be geared toward rural services and the trainees will receive indoctrination in the rural area clinics and regional health centers during their training period.

The Nurse Auxiliary Training Program at Good Shepherd Hospital is fully coordinated with MOH plans and activities and will provide trained personnel to help carry out the MOH Health Program. Relationships between the MOH and the hospital are excellent. No problems are foreseen in this area. Training personnel at the hospital have indicated a willingness to change their program as plans for this project are developed in order to help meet the total national requirements for health personnel.

Many rural people have readily accepted and are already accustomed to health services from non-physician personnel of the MOH, and no serious difficulties are expected from extending the use of the health personnel to be trained at the Health Sciences Institute.

In summary, the provision of additional clinics and health centers; the availability of adequately trained and sufficient health personnel to staff these facilities; the provision of an adequate supervisory and logistic support and the acceptance of health services from non-physician personnel by the rural population will facilitate the expansion of health service coverage to within five miles of a clinic for the majority of the rural population as projected in the Ten-Year Development Plan.

2. Purpose

The purpose of the project will be to (1) train nurses and other health auxiliary personnel; (2) institutionalize training capacity and (3) strengthen planning and administration of MOH health services. By EOP, enrollment and attrition figures should indicate that (a) IHS production of graduates has been established to match the annual quantitative requirements and employment capacity projected in the ten year plan; (b) a permanent IHS faculty is training students who fulfill criteria set for evaluation of their skills and knowledge at each stage of their training to assure adequate preparation for the assumption of their professional duties and (c) the MOH planning and administration functions required for implementation and appropriate revision of the ten year plan are being carried out adequately and with due consideration of needs and available resources.

Due to the nature of the project and for clarification purposes this segment (purpose) of the project will be dealt with under (1) training (nurse and auxiliary personnel) and (2) administration (including planning).

(a) Training

As indicated in Table 5 the health trained personnel manpower requirement for the ten year plan was estimated at 546 by the MOH. This represents an average annual training output requirement of about 19-20 registered nurses/midwives; 16 auxiliary nurses- 10-11 health assistants and 7-8 medical officers.

Auxiliary nurses and doctors will not be trained at the Swaziland Institute of Health Sciences. To meet the other requirements for health personnel the flow of students/trainees into and through the Institute has been initially ^{designed} along the lines shown in Table 8.

TABLE 8

IHS TRAINING PROGRAM

<u>YEAR</u>	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>
Courses/Student Enrollment	43	70	96	113	110
Pre-Nursing	10	10	10	10	10
Nursing 1	25	25	25	25	25
Nursing 2		20 ^{1/}	20 ^{1/}	20 ^{1/}	20 ^{1/}
Nursing 3			20 ^{2/}	20 ^{2/}	20 ^{2/}
Nursing Specialized) Courses) ^{4/}				20 ^{3/}	20 ^{3/}
Health Inspection 1	8	8	7	5	5
Health Inspection 2		7 ^{5/}	7 ^{5/}	6 ^{5/}	4 ^{5/}
Health Inspection 3			7 ^{6/}	7 ^{6/}	6 ^{6/}
Health Assistants ^{7/}					

- 1/ Allowance for attrition of 5 from initiating class
- 2/ Third Year Graduates
- 3/ Additional Specialized course - 4th year graduates - Final Graduation
- 4/ Other specialized courses for health personnel to be developed
- 5/ Allowance for attrition of one from initiating class
- 6/ Graduation
- 7/ To be developed to provide 1 to 3 months training at IHS.

During the first year of instruction ten Junior Certificate level students will begin a one year pre-nursing course and Twenty-five students will begin the first year of a three year basic nursing course with a fourth year of specialization. In addition, a class of eight health inspector trainees will begin the three year course for their profession. The same pattern will follow during ensuing years and instruction will continue through the third year of basic nursing for each initiating class. In the fourth year of operation, specialized courses will be offered in one of the following four areas: Family Nurse Practitioner, Public Health/Midwifery, MCH/FP, or Psyc/Mental Health to the graduates of the three year basic course and the Institute of Health Sciences will be on a fully operational basis.

In addition to Nurse and Health Inspector training the IHS will also program short courses for health assistants, possibly for village health workers, as well as in-service training and workshops for all categories of health personnel as may be required, i.e. :pharmacy assistants and dispensers, dental technicians, laboratory technicians and laboratory assistants. It will also develop and undertake continuing education programs for health professionals, establish special medical team learning opportunities, conduct conferences and provide instruction on health research studies and implementation thereof.

Based on the initial design of the project, a total of 168 pre-nursing, nursing and health inspector students will have been enrolled and participated in the Institute's academic training program by the last year of the project.^{8/} The nursing program will have graduated 20 nurses, dropped 20 (attrition) and 95 (10 pre-nursing) will be attending regular classes. This is based on the assumption that all pre-nursing students will qualify after their first year of training for the ensuing advanced training course(s). Based on this assumption, it will mean that a minimum annual recruitment of 15 additional trainees will be required for each following academic year. However, any attrition of pre-nursing students will increase the recruitment requirement by an equal amount.

Of the 33 Health Inspector trainees, 14 will have graduated, 4 dropped (attrition) and 15 will be attending regular classes. This program will provide all of the Health Inspector requirements outlined in the ten year plan by the end of 1983. The program will then be phased down and tailored to meet future requirements.

Experts in training methodology agree that learning objectives should be predetermined and that criteria for deciding whether trainees have attained the objectives should be present. The IHS faculty and TA personnel will use such approaches in the training and educational programs. This will make it possible to determine whether the testing methods used were appropriate and adequate, and whether the students were being prepared successfully for competent job performance.

Since preparation of competent health workers to meet the health service needs of the people is the reason for the existence of the health training faculty, such an assessment of student performance should constitute a fair test of faculty performance. It might be argued that admission of an unusually inept group of students might make even a good faculty appear to be performing inadequately. Such an argument will be met by reviewing students' previous performance and any available aptitude test results. Such efforts would probably be unnecessary, however, if students were found to perform inadequately in one or a few courses, in which case a specific reason for such discrepancies will be sought in order to correct the deficiencies through remedial action.

The training program and enrollment will thus be established to match the annual requirements for health personnel as indicated in the ten year plan. However, the output of nurse practitioners will not begin to meet the annual requirements until the end of the sixth year of the project. This is due to the initial requirement of two years for physical construction of the institute and four years of instructional training. However, during the two year construction period all of the training requirements will be developed in order to commence training right after the physical construction is completed. Since the nurse training output as scheduled above will not provide the necessary annual requirements during the first six years of the project, there is sufficient flexibility and student capacity (140 - 150) to increase the number of nurses that can be trained during and after the life of the project. However, during the development of the project, it was not considered prudent to initiate the training program with more trainees than scheduled due generally to the logistical pains of growth encountered by a new organizational entity, necessary recruitment of trainees, curriculum development, the testing of such curriculum design and the required effort to establish a well coordinated educational and training system. Nonetheless, by the end of the seventh year^{9/} of the project 40 Nurse Practitioners will have graduated and thus will suffice to meet the needs of the new clinics to be established during the ten year plan period. This will provide additional health services to the rural areas as projected in the ten year plan.

Thus, the IHS will be in the process of producing trained Nurse Practitioners and other auxiliary personnel. The provision and training of Nurse Tutors coupled with the careful development and implementation of curricula will serve to institutionalize the IHS training capacity for the GOS (MOH). With the help of the training program and resultant trained health professionals to Staff Rural Clinics and Health Centers, an improvement of the GOS (MOH) health services and an expansion of coverage in the rural areas will be accomplished.

The means of verifying the training component of the project will be accomplished through an established and continuous evaluation system which has been incorporated as an important element of the project as discussed in another part of this paper. In essence, it will involve a review of the IHS enrollment and attrition data and projections of production of graduates; a review of testing methods and results of evaluations of students' skills and knowledge against predetermined objectives and criteria.

(b) Planning and Administration

While the resources presently available to the MOH are inadequate to meet the total health needs of the nation, the effort to deliver public health services is somewhat commendable. There is a relatively widespread network of clinics, supported by a multiplicity of services, with reasonably good communications for hospital referrals. More rural health units are being built and, with the addition of a government directed, prevention oriented institute for training of health personnel, as well as the introduction of outreach workers ("rural health visitors"), the capability of the health delivery system to provide effective community based health care, will be greatly expanded to meet the health needs of the nation.

During the development of the project the MOH recognized that, in order to maximize these resources, in terms of reaching an ever increasing proportion of the population, a cadre with managerial and analytical skills would have to be developed. The introduction of efficient procedures at all levels can release scarce personnel from administrative responsibilities so that they can devote more time to direct service activities. Regional coordination of the numerous separated health related activities will promote the integration of preventive and curative services and result in a more cost effective utilization of resources. The capability for monitoring and evaluating the system, once institutionalized, will strengthen supervisory and planning roles both in the field, and at Ministry level.

It was recognized in the DAP that a primary impediment to the attainment of the country's development objective was the existing but severely limited pool of qualified indigenous manpower in all fields, and in particular, at the middle managerial level. Presently, most administration in the field is done by doctors, nurses, sanitarians or other health workers. There is a lack of coordination that reflects the rather compartmentalised functions of both stationary and mobile units which altogether comprise the health delivery system.

Given the style of community based health care for which service personnel will be trained in the new Institute, it is crucial that they be provided with the backup support of a good planning and managerial staff. Medical officers must be freed to attend to referred patients, and to assist with on the job training of nurse practitioners. Nurses, in cooperation with other members of the health team, should direct their energies toward community health services. All health related activities concerned with a given population base (including those conducted by the hospital), should be coordinated so that scarce

resources are harnessed for optimal delivery. Therefore, management specialists must be obtained for key posts in the field.

There are now two apparently competent, but inadequately trained hospital secretaries^{10/} at Mbabane and Hlatikulu, who carry the burden of hospital administration, as well as provide what assistance they can to the rural clinics serviced by those hospitals. The administrative function in a hospital, is a full time, and specialized job. The administrative responsibility for the regional areas should be a great deal more than the sparse logistic support which these hospital secretaries can provide, once they have taken care of internal hospital problems, which tend to take precedence as they are closer at hand.

Therefore, it was considered essential to the project to prepare two categories of managerial personnel to assume responsibilities in the field: 1) Hospital Secretaries (or Hospital Administrators) and 2) Rural Health Service Administrator/Planners - who will provide administrative and planning support for all health related activities within their respective catchment areas.

In addition to developing an administrative infrastructure in the field, it was also considered necessary to provide technical assistance and training in order to produce Ministry level competence in the areas of health statistics and planning. National health planning should be the kingpin of the administrative function. Currently this responsibility is carried out jointly by all senior level personnel within the Ministry. It must be centralized in order to rationalize the present delivery system, as well as development planning in the health sector.

Reliable information is essential for the supervision and planning of MOH activities, as well as for direct service and project evaluation. Without such data, it is not possible to analyze the services supplied in relation to the needs, or even the logical demands of the community. A statistical data base is essential for rational health planning and supervision of personnel, as well as allocation of other resources. Furthermore, well trained personnel can utilize a simple but clear data base on patients to enhance patient care.

The GOS currently does not have a specialist health statistician and requested that a TA be included in the project to design, introduce, and monitor a health information system. Concurrently, a Swazi will receive participant training, followed by counterpart experience, and be prepared to assume this post by E.O.P.

The TA health statistician will participate in the planning process, in that he will analyze statistical data and produce requisite information for evaluation purposes. However, with respect to more

^{10/} The Hospital Secretary, in Commonwealth countries, is an administrative officer assigned to a hospital or Hospital Administrator.

formalized planning activities a national health planner/economist has been recruited for this purpose through another donor agency. AID's only assistance in this area (planning) will be participant training for a Swazi who will ultimately occupy one of two projected Ministry level health planner posts.

Verification of the planning/administration component of the project will be accomplished through review of MOH plans, planning activities, plan implementation, and administration/management, especially regarding the rural health infrastructure. The TA Health Statistician will play a major role in this process. He will collect baseline data on the delivery of preventive health services, the placement of trained personnel, the supply of drugs, and other key indicators of resource utilization. In addition, an independent review will be carried out by an evaluation team and it should provide the necessary information required for verification purposes.

(c) End of Project Status

As described above, the project purpose, to train nurses and other auxiliary personnel, institutionalize training capacity and strengthen planning and administration of the MOH health services, will have been accomplished by the end of the project. Accomplishment of the purpose is supported by the end-of-the-project status (EOPS) which shows the following achievements at such time:

1. 20 nurse practitioners have graduated (4 YR Training) and placed.
2. 14 health Inspectors have graduated (3 YR Training) and placed.
3. 85 nurse practitioners enrolled and attending regular classes.
4. 10 pre-nursing students being taught and prepared for advanced nursing courses.
5. 15 Health inspectors enrolled and attending regular classes.
6. 6 continuing education Courses held.
7. 15 Team Learning Opportunities held.
8. 3 Conferences conducted.
9. 5 research projects held.
10. Regional Hospital Administrator systems established.
11. Rural Health Services Administrator system established.
12. A Health statistical system established within MOH.
13. A Health planning system Developed.
14. Complete evaluation of IHS Curriculum and Courses given each academic year.

There will also be a large number of trained health assistants. However, the number and period of training will be determined by MOH during the life of the project.

(d) Assumptions

High level MOH support of the project and official acceptance of the ten year plan provides assurance that sufficient funds will be made available for this project, for recurrent costs and that the faculty and personnel trained for and under the project will continue to be used in appropriate positions. Furthermore, it appears that sufficient numbers of suitable candidates for training appear to be available. The number of applicants for nurses training has been increasing, a trend which the Planning Office and MOH expect to continue. In addition, discussions with MOH, Ministry of Finance and Planning Office officials indicate that new positions for planning, administration and management personnel will be established as required and that GOS funds will be available for new and upgraded positions.

3. Outputs

(a) General

The outputs which provide a direct linkage to and are necessary for accomplishment of the project purpose consist of (1) the establishment of a functioning Institute of Health Sciences; (2) the development of the necessary training capacity and an adequate training program and (3) the availability of trained and experienced personnel in health services and in planning/administration. The magnitude of outputs indicated at the end of this section shows the direct linkage between outputs and purpose.

(b) Functional Institute of Health Sciences

The first output, a fully functioning Institute of Health Sciences is essential to the fundamental improvement of Swaziland's health services and to obtaining the full benefits of the other project outputs and, as a supporting element, provide the pre-requisites for the fulfilment of the project purpose. The indicator, which is the completion of the physical construction and a fully equipped facility will be accomplished during the first two years of the project. This will be verified through the review of contracts and records of construction, installation and testing and regularly scheduled site inspections.

(c) Adequate Training Capacity and Training Program (Curriculum)

The second output is the development of the necessary training capacity as well as an adequate training program.

A key factor in the success of the entire project, in terms of improvements in health services, will be the appropriateness of the curricula and the training programs. It is essential that these be designed to prepare students to competently perform the tasks which their jobs will require. The assignments of tasks to jobs must in turn be made only after a careful review of service needs and planned personnel availability in the various facilities to which workers will be assigned. Such considerations have already been initiated. They have led to the changes in staffing patterns outlined in the ten year plan and to the adoption of the basic approaches to training discussed in the present proposal. For example, the MOH decision to include essential nurse practitioner skills in the basic nursing curriculum reflects acknowledgement of the fact that physicians will not be continuously present at the rural clinics, that curative services will continue to be provided by nurses, and that specific training should be provided so that such services will be more effective. Much more detailed and systematic study of such problems will be required in order to provide a solid basis for the full job and task descriptions upon which training decisions will depend.

Furthermore, the Nursing Examination Board of Botswana, Lesotho and Swaziland sets requirements for registration of nurses and midwives which are incorporated into Swaziland law. In working out the IHS curriculum, this will be taken into consideration to assure that local needs are fully met without violating the accreditation standards already in force in Swaziland. It should be borne in mind that the creation of a national health training facility by Swaziland's MOH represents a rare opportunity to institute patterns of health services which are fully appropriate to the country's needs.

The basic curriculum for the new Nurse Practitioner Program will be planned and developed during the first two years of the project while the physical facility is being constructed. To accomplish the preparation of an adequate and suitable curriculum, a team consisting of two Swazi nurse/midwives with preparation and experience in public health nursing and two experienced Swazi nurse/tutors will be selected. Assigned to work with this group, which will be called the Basic Curriculum Design Nucleus, will be one U.S. Curriculum Design Specialist, two U.S. Nurse Educators and a British Nurse Educator. The Curriculum Design Specialist will teach workshops on curriculum and evaluation and instruction methods and assist in each component of the works. In this manner he^{or she} will complement the expert skills of the Swazi and TA Educators. In addition to the preparation of an adequate basic curriculum, the curriculum nucleus will develop other specialized tasks. It will plan and devise student remediation courses. Since it is anticipated that some entering students may have deficiencies in math, English and Sciences, a one year pre-nursing track will be developed. Thus, students participating in the remediation program will begin their first year of formal nurse practitioner training during their second year of studies.

The selected team will also plan and develop a 4th year specialized curriculum. After the first class of students complete the basic curriculum (3 years) a decision will have to be made whether to include all or part of them in the specialized 4th year curriculum opportunities. With the assistance of the curriculum specialist, the TA nurse educators and subsequent instructors who have returned from participant training abroad, the specialized fourth year curriculum will be developed in the third year of instruction. The same systematic design procedure applied to the initial basic curriculum will be applied. The fourth year curriculum will be devised to allow nurse practitioners to specialize in selected areas as may be required by the MOH to meet the demand for health services in the rural areas. A specialized track will be developed in Public Health/FP, midwifery, MCH and Primary care.

During the first two years of instruction, the programmed curriculum will be taught by the same selected team (Curriculum Nucleus) that designed the basic curriculum. This will provide continuity as well as establish a direct link between curriculum development methodology and actual teaching practice. It will also facilitate the evaluation of the curriculum and teaching practices at the end of each year by the same team in order to make the necessary curriculum revisions or adjustments in teaching practices.

During the third year of instruction the basic curriculum will be taught by half of the original team but will be supplemented by other instructors who will have returned for this purpose from participant training. In the fifth year of instruction the teaching program will be taught by a full Swazi faculty of nine tutors with the assistance of only one TA. The Swazi faculty members will have been selected and trained as necessary for this purpose. The areas of teaching competence required will, of course, depend on the content of the teaching program. However, the content of the teaching program will have been revised and improved to meet the requirements of faculty and students at the end of each instructional year. Thus, by EOP the Swazi IHS faculty will be ready to continue with a full and adequately designed teaching program without further technical assistance.

(d) Other Training Activities

The IHS will also plan and develop continuing education programs, team learning opportunities, faculty training programs and conduct regional conferences on health and related activities, as the need for these instructional activities arise or become necessary for the efficient functioning of the IHS.

(1) Continuing Education Program

A continuing education program will be developed for a range of health professionals in order to introduce and provide

indoctrination with respect to the goals and concepts of the IHS nurse practitioner program. The program will orient administrative personnel, hospitals and other health facilities regarding nurse practitioners capability and competence in public health primary care nursing, etc. so that the newly learned professionals can be adequately placed and utilized properly. Courses will be offered to Swazi nurses and other health professionals to build upon their acquired skills and to develop new skills, knowledge and attitudes in such areas as psychology/Mental Health, Public Health, etc.

(2) Team Learning Opportunities

Inasmuch as the responsibilities and objectives of the selected teams will be varied and complex, team learning sessions or opportunities will also be developed. Under this program workshops and seminars will be conducted so that members of the health team will study and work together to carry out common project objectives. Joint programs will be held with nurse practitioners, nurse auxiliaries, health assistants health inspectors and rural health visitors to allow the members of the team to solve problems together and become informed of each others competency. Focus would also be placed on skills, knowledge and attitudes in such areas as public health MCH and FP for which all members of the team are responsible. The team learning opportunities will be scheduled on an ad hoc basis. However all the necessary preparations should be completed during the first year of instruction.

(3) Faculty Training

A faculty training program will be developed to teach the faculty in-country by means of workshops, seminars, formal courses and on the job training as well as abroad by formal courses at a University. This will be particularly required for those who will be trained abroad in order to qualify for such training. In-country faculty training will include many positive aspects. Health professionals working in Swaziland know the health problems of the people, the circumstances under which health care is delivered, the resources and constraints of the system. Because of this familiarity they will be able to prepare students more effectively.

The need to perform a given task on the job is an incentive to the learner. The faculty training program will provide feedback on performance as well as reinforcement and direction. Nurse tutors will not only be taught to collect, analyse and interpret base line data, to design courses, to develop test instruments and to use modern instructional methods, but they will also have an opportunity to utilize their training by performing those functions at the Institute for Health Sciences.

Short workshops and services for faculty will increase their knowledge of the subject matter and teaching competency. Subject matter skills can also be increased by asking local physicians, nurses, laboratory technicians and UBS faculty to participate in faculty training. It is especially important to build upon the English, mathematics, nutrition, social science and basic science skills of the Swazi faculty.

However, nurse tutors need to be certified (achieve an earned B.Sc. degree) as well as be trained to perform on the job. Whereas these two requirements need not be antithetical, in effect they often are. Degree programs overseas may require students to study subjects irrelevant or at least not of high priority to students from the developing countries.

The consultant team recommended that a degree program be arranged in the U.S. for Swazi nurse tutors which will maximize both incountry training and training abroad. This would entail a University which, based on examinations and other performance indicators, could provide credit toward an advanced degree for incountry training.

(4) Regional Health Conferences

The IHS will also function as a focus for the development of health policy and health planning for Swaziland and possibly Botswana and Lesotho. Regional conferences involving a range of administrators, health professionals and consumers can be held in order to address themselves to problems including health manpower training, planning specific community health services, administration, etc. Such regional conferences will also be scheduled on an ad hoc basis with the anticipation that the first one can be held during the second year of instruction.

(5) Research

A research program will also be established in order to achieve a continuously developed sound teaching program and to evaluate the established approaches to teaching. Research activities will be undertaken to assess the results of the entire manpower training program and determine whether the objectives are being met and whether the training program can be replicated.

(e) Planning/Administration

The third output will consist of trained and experienced health sciences planners and administrators.

A minimum of four trained and experienced hospital secretaries (i.e. Hospital Administrators) will be required to provide the necessary administrative services required by the project as designed. Initially, they will work for 6 months in their respective hospitals (Mbabane, Hlatikulu, Pigg's Peak, and Mankayane), in cooperation with the TA/Hospital Administrator, who will be resident at Hlatikulu, but who will rotate to the other three hospitals.

Subsequently, they will begin a 24-week training course conducted by the Institute of Development Management^{11/} in Gaborone, Botswana. The course will be divided into 3 segments, over the period of 1 year. Therefore, during the interim between segments, trainees will have supervised and will have had on-the-job experience under the guidance of the TA/Hospital Administrator.

Finally, at the end of training, there will be 18 months of cooperative efforts with the TA, in which uniform management procedures for all hospitals will be further refined and put into operation.

A minimum of 4 persons will also be required as Rural Health Services Administrators. They will probably be located in Hlatikulu, Pigg's Peak, Mbabane and Mankayane, although that is subject to modification by the MOH. These individuals will have been identified and given on-the-job training by the TA/Rural Health Services Administrator during his first 18 months in Swaziland. Subsequently, they will also receive 24 weeks of training by the Institute of Development Management, broken into 3 segments, and interspread with on-the-job experience.

Finally, at the end of training, they will have 18 months of counterpart experience with the TA.

One health statistician will also be recruited and trained to work in the MOH. An individual, who is currently working in the Office of Statistics, has been identified by GOS for this purpose. He will take the Certificate in Statistics at UBLS (equivalent to the British Institute of Statisticians: Part I), and be ready for participant training in 1978. Upon return, he will be placed and fully employed within the MOH.

One senior health planner will also be recruited and trained to work at Ministry level. A UBLS graduate will be identified for Master's level participant training. The health planner, who is to be trained, will not have the opportunity to work with project TA's, but will move into an ambiance of rational and efficient planning practices which will, in part, at least have been created by project assistance.

11/ The Institute of Development Management (IDM) is supported by the Canadian International Development Administration (CIDA), the Ford Foundation and the Norwegian Agency for International Development (NORAD).

The indicators will be verified, in the first instance, by determining that candidates have completed training and acquired the appropriate qualifications. While gross indicators will be measured largely subjectively, the evaluation of individual performance will be planned in cooperation with the TA's, given the design of this project. All of the posts for which candidates in planning administration will be prepared, are to be defined in detail by the TA during the first 6-12 months of the project. Therefore, the expectations for trainees will have to be related to the specific job tasks by them.

It is assumed that TA's will also develop detailed descriptions of job tasks, which will be in accordance with MOH goals and operational procedures; and further, that GOS will establish new posts as recommended (i.e.: Rural Health Services Administrators).

It is also assumed that candidates already identified (2 Hospital Secretaries and 1 Health Statistician) will continue to be available, and that another will be selected on schedule.

In addition, it is assumed that the Institution of Development Management, in cooperation with AID and GOS, will conduct suitable training courses, which result in qualifications acceptable to Establishment and Training (GOS), and that appropriate courses will be identified for candidates who are expected to go abroad for training.

(f) Magnitude of Outputs

Based on the above, the magnitude or quantifiable indicators of the outputs by the end of the project are as follows:

- (1) Construction of the physical facility completed.
- (2) The furnishings and necessary equipment installed.
- (3) An appropriate curriculum developed.
- (4) Nine trained and experienced Swazi Nurse Tutors are teaching regular classes.
- (5) At least two continuing Education Courses have been taught annually from 1980 on.
- (6) At least five Team Learning Experiences have been conducted annually from 1980 on.
- (7) At least one regional conference has been held annually from 1980 on.
- (8) Replicable Course designs have been accomplished for each course.
- (9) Four Swazi Health Administrators trained.
- (10) Four Swazi Rural Health Administrators trained.
- (11) One Health Planner trained.
- (12) One Health Statistician trained.

(g) Linkage to Purpose

The magnitude of the above outputs is considered adequate to accomplish the purpose and achieve the projected end-of-project status. The establishment of a physical and functioning Institute of Health Sciences with an appropriate curriculum and a trained and experienced faculty will result in the production of trained health personnel to staff rural clinics and health centers. The trained and experienced capability in planning and administration will provide the logistical and administrative support required to maximize the utilization of health resources which will help to facilitate the extension of health services to an increasing proportion of the Swazi population.

4. Inputs

The inputs required and as proposed have changed in relation to the PRP presentation due to modification of the project design, tradeoffs, GOS and other Donor contributions. These changes were necessary to reflect factors not previously considered, the adjustments in project design, other donor contributions as well as to conform with the criteria and issues formulated by ECPR as a result of the PID and PRP reviews. Most important, the proposed inputs will serve to overcome the constraints to the development of a nationally integrated health system as identified in previous reports and the ten year health development plan: Trained manpower and planning/administration. Technical assistance represents a predominant and integral component of the proposed project. TA personnel will provide the necessary training manpower and will function in academic and government positions all of which will be occupied by trained and experienced Swazi Counterparts by the end of the project, if not before.

To clarify the project inputs the description that follows will deal with the input requirements by Category to show their inter-dependency, the need for coordination and to portray the role of each input.

(a) Technical Assistance

(1) AID

Five TA positions and two short term consultants are proposed for AID funding for a total of 21 1/6 P/Y as shown in the following table:

TABLE 9

U.S. Technical Assistance and Time Phasing

U.S. Specialists	U.S. Fiscal Years							Staff Months
	1977	1978	1979	1980	1981	1982	1983	
FNP Nursing Educator	June	_____						48
MCH/FP Nursing Educator ^{1/}	-	-	June	_____				54
Curriculum Design Consltnt ^{2/}	-	-	-	-	-	-	-	18
Advance-Placement Evaluator ^{3/}		-			-			2
Health Statistician	June	_____						48
Hospital Administrator	June	_____						36
Rural Hlth. Services Admin.	June	_____						48
Total Staff Months	23	56	54	58	39	14	10	254

1/ In FYs - 77 and 78 services rendered only in June, July and August.

2/ Services are for June through September in FY-77 and FY-78
and two months each following year (U.S. summer mos.)

3/ Services for one month (July) 1978 and one month in (February) 1981.

(i) U.S. Family Nurse Practitioner (FNP) Educator

The FNP Educator will start on a full time basis in June of 1977. Being the first TA onboard, this Educator will head the curriculum design team entrusted with the responsibility of developing the IHS Nursing Curriculum. The initial team will consist of two Swazi Tutors, who will be prepared to become the IHS permanent teachers in MCH/FP and Psych/Mental Health, and two Swazi Registered Nurses. The Educator will also serve as a personal advisor to the latter two RNs while they undertake additional courses to strengthen their capability in design and to prepare them to become tutors. When classes begin until departure (June 1981) the Educator will supervise and assist in the instruction given by the Swazi Faculty, particularly the Swazi FNP Educator counterpart. The latter will join the Faculty in June of 1979 after completing a year of specialized training in FNP.

(ii) Maternal, Child Health/Family Planning
(MCH/FP) Educator

This Educator will participate in the development of the IHS nursing curriculum during the summers (June, July and August) of 1977 and 1978 and will not start on a full time basis until June of 1979. This schedule will allow the Educator to help initiate the Curriculum, remain as an active instructor in his/her respective U.S. Educational Institution during the 1977/78 U.S. School years and return in time to help finalize the Curriculum prior to the opening of IHS in August 1979 and start teaching regular classes. It will also provide sufficient time for the Educator to supervise and help train the Swazi Counterpart (mentioned in (a) above) who is to become the permanent MCH/FP instructor at IHS. At the same time, both, the TA Educator and the Swazi Counterpart will collaborate in the preparation of the Curriculum Design for the 4th year MCH/FP specialization track. Furthermore, while the Swazi Counterpart will be taking a specialized training course in MCH/FP during the 4th year of instruction, the TA Educator will be on board to teach the MCH/FP specialization track.

Thus, the phasing of the above two U.S. Educators has been timed to allow for a substantial overlap with their respective Swazi counterparts. In addition, the two U.S. Educators will also supervise and assist the two Swazi RNs (who helped develop the curriculum) while they teach during the first two years of instruction and before these RNs depart to attend a stateside university to obtain their B.Sc. degree in nursing education.

(iii) U.S. Curriculum Design Specialist

A curriculum design specialist will be selected and assigned to work with the team during the initial first four months - (June to September) of 1977, for four months in 1978, and for two months each year thereafter for a total of 18 months. During these periods the design specialist will teach workshops on curriculum design, evaluation, redesign, instructional methods, and the interrelationships between each of these endeavours. The design specialist will also

lend his/her expertise to each component of the design effort and in this manner complement the knowledge and teaching skills of the TA and Swazi Educators.

(iv) U.S. Nursing Advance Placement Evaluator

The project will provide two one-month visits of a U.S. university advance placement evaluator, i.e. July of 1978 and February of 1981. The evaluator's function will be to examine and evaluate the background and experience of prospective nurse tutors to determine the extent of credit which can be granted for their incountry training and preparation towards a Bachelor of Science degree in nursing education at an accredited U.S. educational institution. Initially there will be the two RN members of the curriculum design team. They will spend two years with the team and two years instructing at IHS. After their four years of training and teaching experience, they will be sent to the U.S. to complete and receive their Bachelor of Science Degrees in Nursing Education and then return as full time faculty members.

July 1978 was selected for the first visit by the evaluator since the entire curriculum team will be in full operation and the two Swazi RNs will be totally engaged in curriculum design development. This will provide an opportunity for the evaluator to consult with the U.S. educators and the curriculum design specialist regarding the capabilities of the two RNs and their contributions to the curriculum team's efforts. A final evaluation of these two RNs will take place in February 1981 prior to their departure for stateside training in June of 1981 and during one of their last months of teaching so that their teaching skills can be observed.

In addition, in July 1978 four other Swazi RNs will have completed their year of local preparation and will be ready to depart for participant training to receive their BSc degrees in nursing Education. Three of the RNs will receive their training in a stateside institution. Thus in July 1978, the evaluator will be able to also determine how much credit these three nurses should receive for their year of local preparation toward their B.Sc. degree.

The above inputs are related to the development of an adequate curriculum, faculty and overall academic program for the Institute of Health Sciences. The remaining AID inputs indicated below are proposed to assist the GOS (MOH) overcome deficiencies in Health Planning and Administration.

(v) U.S. Health Statistician/Analyst

A health statistician will be provided for four years commencing in June 1977. This TA's function will be to compile general health statistics and to analyze and extrapolate the compiled statistical data for planning purposes. This technician will work within the MOH but will maintain constant contact with the GOS Central Statistics Branch. Guidance as to the areas of statistical relevancy for up-to-date

requirements and for planning purposes will be provided by the MOH staff and the MOH Health Planner (U.K. - TA). In addition, this TA will help the MOH to select and advise the Swazi counterpart who will be trained to assume the permanent health statistician position within MOH.

(vi) U.S. Hospital Administrator

AID will also finance a Hospital administrator for three years commencing in June 1977. The Administrator will start at Hlatikulu Hospital organizing all hospital administration functions and devising adequate logistical management methods so that the respective Swazi counterpart can eventually manage all of the logistical aspects of the hospital's administration efficiently. During 1978 the TA administrator will visit the other three major government hospitals (Mbabane, Piggs Peak, and Mankayane) in order to establish simple but effective logistical management systems at each. During 1978 the administrator will also substitute for the four Swazi hospital administration counterparts who will be undergoing their three 8-week training sessions at the CID Institute of Development Management (IDM) in Botswana. The Administrator will also supervise the application of their training while on the job during the two months that will follow each 8 week training session. From January 1979 until departure in June 1980 (18 months), the Administrator will work with the trained counterparts towards perfecting their logistical management of their respective hospitals. A coordinative effort will also be established with a British hospital administrator until her departure in March of 1978. She is presently working at Mbabane Hospital providing assistance to the "Hospital Secretary" (British for Hospital Administrator). If needed to help cover the four hospitals during the 1978 Swazi counterpart training sessions, there is a possibility that the tenure of this British TA could be extended through calendar year 1978.

(vii) U.S. Rural Health Services Administrator

Lastly, AID will finance a Rural Health Services Administrator for four years starting in June of 1977. This administrator will also reside in the town of Hlatikulu and will share a project vehicle and secretary with the above U.S. Administrator. The first 6 months will be spent in defining the scope of work required for a rural services administrator to assist the GOS in the adequate delegation of responsibilities to the 4 Swazi counterparts to be trained to administer the four regional areas. (Note: The four areas of clinics and health centers are concentrated around the four major government hospitals). Also, during the first six months, this TA will assist the MOH in identifying and selecting candidates for the four Swazi counterparts with whom he/she will work to develop effective logistical management methods to efficiently coordinate all rural health services and programs in Swaziland. In 1979 the TA will cover for the four counterparts during their three 8-week training sessions at the IDM in Botswana and will supervise the application of their training while on the job during the two months that follow each training session. During the final 18 months of project function the RHS administrator will continue to work with the four Swazi counterparts in perfecting their efficient management and coordination of the logistics of all of Swaziland's rural health services and programs.

(2) Other Donors

(i) WHO-Health Inspector Educator

WHO has provided a Health Inspector Educator to Swaziland and is presently in the process of teaching Health Assistants. Since this program is scheduled to terminate in 1979, the GOS has requested WHO to continue this TA assistance in order to teach health inspectors at the IHS starting in 1979. This TA's services will be required to teach Health Inspectors through 1984 (58 staff months). The months of May, June and July of 1979 will be used by this TA (with the assistance of the US Curriculum Design Specialist) to develop the required curriculum.

However, it will be necessary for the GOS-WHO to finalize negotiations regarding the continuation of this TA's Services prior to initiating implementation of the project's Health Inspector training program.

(ii) U.K.

The U.K. will provide three long term technicians who will participate in the development of the IHS curriculum, in teaching and in the planning aspect of the project. The TA's will consist of a Psych/Mental Health Nurse Educator (4 yrs), a Public Health/Midwifery Nurse Educator (4 yrs) and a Health Planner (4 yrs) for a total of 12 P/Y as shown in Table 10.

(1) U.K. Psychology/Mental Health Educator

The Psych/Mental Health Nurse Educator will start in June 1978, and will immediately join the curriculum design team to assist in the adequate formulation of all courses related to Psych/Mental Health. This educator will also work very closely with the Swazi Nurse Tutor (counterpart) who will be scheduled for one year of specialization training in the U.K. in Psych/Mental Health and who will eventually become the permanent tutor of Psych/Mental Health at IHS. The Swazi nurse tutor's training will begin in January 1981.

In the meantime, the Psych/Mental Health Educator will teach all Psych/Mental courses and help supervise the IHS Swazi faculty. When the Swazi counterpart returns from training, the Psych/Mental Health Educator will have an additional 18 months to help prepare the Swazi counterpart to undertake the permanent teaching of all courses in Psych/Mental Health. Furthermore, during this same period both the TA and the Swazi Counterpart will collaborate in the development of the curriculum for the fourth year speciality track in Psych/Mental Health.

(2) U.K. Public Health/Midwifery Nurse Educator

This educator will start in January 1980 and will have 2½ years to develop the fourth year specialization track in P.H./Midwifery before actually teaching the course in the fourth year of instruction. The P.H./Midwifery Swazi Counterpart will return from training at the initial stages of the fourth year which will allow the U.K. TA 18 months to prepare the Swazi Counterpart to undertake the

teaching of all P.H./Midwifery courses. The TA will also provide supervisory services, teach, substitute for other faculty members and see that the P.H./Midwifery curriculum has been adequately designed and properly taught.

(3) U.K./Health Planner

This British TA arrived in Swaziland in October of 1976. The Health Planner, an Overseas Development Institute (ODI) volunteer with a two-year contract, will be located in the MOH to assist in the nation's overall health planning activities. If the selected ODI Planner's performance is mutually satisfactory to MOH and U.K., the U.K. will consider the extension of his services for two additional years under a British Overseas Development Ministry (ODM) contract. If the volunteer does not perform satisfactorily, ODM will provide another TA Health Planner. The above is based on discussions held with the British High Commission (ODM) in Mbabane. At any rate, four years of a Health Planner's assistance for the GOS (MOH) will be provided. There will be no Swazi counterpart to work with or supervise. However, a health planning candidate will be identified and selected for participant training in the U.S. and will work toward a Master's Degree in Health Planning. He is expected to return by June of 1981, at which time he will replace the British TA on a full-time basis.

(iii) Institute of Development Management (IDM)

The Institute of Development Management (IDM) expressed willingness to conduct training courses for Hospital Administrators and for Rural Health Services Administrators (see Annex VII). The courses will be held in consecutive years (1978 and 1979). Each training course will consist of 24 weeks of instruction on the Gaborone campus and will be broken into 3 segments spread over the period of one year. It is anticipated that the training courses will also be offered to candidates from Botswana and Lesotho. To accomplish the above, IDM will provide the following TA assistance:

(1) A curriculum design specialist in Development Management for three months during the latter part of 1977 and for three months during the latter part of 1978. During these periods, the specialist will help develop and design the curriculae for the four Hospital Administration trainees and four Rural Health Services Administration trainees.

(2) One IDM Health Logistical-Management Professor. This Professor will teach the above-mentioned tailor-made curriculum to the Hospital Administration trainees in 1978 and to the Rural Health Services Administration trainees in 1979.

TABLE 10

Other Donor Technical Assistance and Time Phasing:

<u>Other Donor Specialists</u>	1977	1978	1979	1980	1981	1982	1983	1984	Staff Months	
<u>WHO Health Insp. Educator</u>			June	_____						58
<u>British Specialists</u>										
Psych/Mental Health Nursing Educator			June	_____						48
Public Health/Midwifery Nursing Educator				Jan.	_____					48
Health Planner	Jan.	_____								48
<u>Institute of Development Mgmt.</u>										
Curriculum Design Specialist ^{1/}									6	
Logistical Management of Health Services Instructor				-----	2/				12	
Total Staff Months	9	38	37	47	39	32	24	10	220	

1/ October, November and December of Calendar years 1977 and 1978.

2/ Indicates period over which this instructor prepares for and teaches 6 eight-week sessions, three sessions first for the Swazi Hospital Administration trainees and then three sessions for the Rural Health Services Administrative trainees.

(b) Participant Training

The proposed training program constitutes as much an integral part of the project as technical assistance. It will develop the necessary and adequately prepared professional talent to achieve a complete Swazi faculty which with adequate GOS financial support will establish the health manpower training program on a self-sustaining basis. It will also provide adequately prepared Swazi technicians for the development and improvement of the planning/administration activities of the GOS Health Sector.

AID will provide 22 P/Y of participant training and 4 P/Y of third country participant support. The U.K. will contribute 5 P/Y of participant training. The Canadian International Development Administration will provide 4 P/Y of participant training support.

In addition, and as referred to with respect to technical assistance, the participant training inputs are also inter-dependent and require a close co-ordinated effort among the project's contributors. Table 11, which describes each participant and training time schedule, shows the above mentioned interrelationship.

(c) Commodities

The commodities proposed for the IHS under the project will be furnished principally by AID and the GOS. AID will provide medical equipment and supplies (See Annex IV-A) and 3 vehicles. The medical equipment and supplies will be procured in the U.S. Since repair and maintenance are not available for U.S. automobiles, these will be purchased locally or from code 935 countries for which a waiver will be required. The two automobiles will be used by TAs and Swazi administrators and the bus will be used by RNs and students to visit the rural clinical areas while undergoing training at IHS.

The GOS will provide general equipment and supplies to furnish the IHS (See Annex IV-B)

(d) Construction

AID will finance the physical construction of IHS and three houses for TAs as described in Annex IV (Engineering and Technical Analysis). The U.K. will construct an interrelated Rural Health Center with a dormitory and Classroom to facilitate a rural atmosphere and experimental training for IHS nursing students.

Table 16 shows the above described project inputs and their cost. The selected inputs are considered to be adequate to produce the projected outputs and accomplish the project purpose and goal.

TABLE 11

Participant Training and Phasing

(Shown by Contributor, Number of Trainees,
Type and Period of Training)

Contributor & Training Participants	U.S. Fiscal Years						TOTAL STUDY MOS.
	1978	1979	1980	1981	1982	1983	
I. <u>AID</u> (Total - U.S. Training)	20	56	48	56	60	24	<u>264</u>
A. <u>TRAINING IN US</u>							
1 Nurse Tutor (1 yr.FNP Spec) June							12
1 Nurse Tutor (1 yr.MCH/FP Spec) June							12
2 RNs (2 yrs each B.Sc.Nursing Educ.) June							48
3 RNs (4 yrs each B.Sc.Nursing Educ.) June							144
1 Statistician 2 yrs.Health Stat.) June							24
1 Planner (2 yrs. Health Plan.) June							<u>24</u>
B. <u>THIRD COUNTRY TRAINING (PER^{1/}DIEM ONLY)</u>	16	24	8				<u>48</u>
4 Hosp. Adm. Trainees (Three 8-wk sessions) Jan							24
4 Rural Health SER.ADM (Three 8-wk sessions) Jan							<u>24</u>
II. <u>U.K.</u>	4	12	21	15	8		<u>60</u>
1 Nurse Tutor (1 yr. Psyc/Mental Health) Jan							12
1 RN (4 yrs. B.Sc. Nursing Educ.) June							<u>48</u>
III. <u>IDM (TUITION & FEES ONLY) ^{1/}</u>							<u>48</u>
4 Hosp. ADM. Trainees (Three 8-wk sessions) Jan							24
4 Rural Health ADM (Three 8-wk sessions) Jan							<u>24</u>
TOTAL STUDENT MONTHS	40	92	77	71	68	24	372 ^{1/}

^{1/} Third Country Training (48 mos) financed by AID & IDM counted only once to cover both.

(e) Verification and Assumptions:

The Inputs will be verified through the review of A.I.D. and GOS records (Grant Agreement, Implementation documents, contracts) and an examination of other donor contributions.

As confirmed by the timely preparation of the preliminary plans and cost estimates for this project, there are adequate A & E design facilities available. Local construction firms that meet AID requirements as eligible bidders are also available. (see Annex IV page 13).

The continued availability of AID funds during the 6½ years of project will be essential. Presumably such required funding will be provided if the project is approved by AID/W and funds are available for obligation as required during the life of the project.

The availability of TA personnel is critical to the success of the project. However, based on the consultants team's judgement there should be no problem in recruiting the TA's financed by AID from the U.S.

The availability of other donor inputs is also essential to the success of the project. Negotiations carried out thus far indicate serious and strong support for the project. Members of the consultant team, OSARAC and MOH were highly encouraged about the availability and commitment of other donor inputs through discussions held with WHO, the British High Commission, CIDA and the University (UBS).

The identification and selection of suitable local candidates for faculty positions and candidates for planning, administration and management positions will not present a problem according to MOH. Some selections have already been made.

F. Alternatives

Several alternatives to the proposed project have received varying degrees of consideration, including expansion of curative services, direct training of "rural health workers", MCH/FP program assistance, and parasitic disease control. Current GOS and AID priorities virtually rule out AID support for an augmented curative program. The U.K. (ODM) and ADB are expected to cover a considerable portion of the costs of hospital maintenance and improvement of physical plant (including construction of rural health centers). Furthermore, it is anticipated that the proposed project will, in fact, contribute to greater effectiveness of the entire health system, including curative activities, through contemplated technical assistance, training, planning and administration.

Direct external involvement in the training of rural health workers is also an attractive consideration in principle, but entails serious drawbacks in reality. Specifically, training will be conducted in the Siswati language at a most fundamental level within the traditional,

rural cultural environment. The MOH intends that the rural health workers be trained in the villages and rural areas to work in these surroundings. The training should not jeopardize their ability to communicate or live with their fellows as "ordinary" people by imparting special prestige or sophistication to the trainee. Direct foreign activity in this basic program would probably be non-productive or even counter-productive. Support for the provision of appropriate training to the nurses who will, in turn, "operate" the rural clinics and supervise/liaise with the rural health workers constitutes a more reasonable locus for the application of U.S. expertise.

The GOS has established a family planning policy and AID has provided limited training and commodity support in this area. The WHO is currently providing doctors to assist in improving the Ministry's relatively small MCH/FP program, and this is not considered a viable alternative for a full scale AID health sector project. The same applies to the government's nutrition activities which are supported by U.N.-affiliated agencies under a recently-extended project agreement.

Assistance in the control of parasitic diseases has also been considered as an alternative for AID involvement. Although malaria is not a major threat in Swaziland, bilharzia is of considerable concern. The GOS has approached USAID with a request for short-term consultancy services to assess the real incidence and impact of this parasite among the Swazi populace and to recommend appropriate counter measures. A consultancy team is scheduled to undertake a thorough study in this area. Any further consideration of possibilities for AID assistance in bilharzia control must await government response to such findings and recommendations. Swaziland's TB program was fostered by the United Nations and is now capable of functioning without significant external assistance.

Another approach to the attainment of the project's objectives would be to prepare Swazi teachers, or paramedical personnel, entirely out of country while Technical Advisors and short term consultants in curriculum design developed suitable curriculae for Swaziland. Upon their return from study (participant training) the newly trained Swazi tutors would teach the curriculum with the guidance of the T.A.'s until they were able to take over all operation of the teaching facility. This approach would require up to four (4) years of country preparation for each of six (6) nurse tutors who are not prepared in nursing education plus one (1) year of preparation for each of three (3) nurse tutors who already have the Bachelor of Science in nursing education degree, in order to prepare them for teaching clinical specialities. Being out of country these prospective Swazi tutors would not have had the opportunity to participate in the curriculum development process.

An alternative approach to the above would be to provide some incountry training to the six (6) prospective nurse tutors before sending them for participant training out of country. This approach will require collaboration with the University of Botswana and Swaziland at the Swaziland campus and with other private and government agencies whose cooperation would be helpful in the provision of lecturers and/or subject matter specialists.

The Provost-Chancellor of the University of Botswana and Swaziland and University Faculty in the disciplines concerned, expressed willingness to accept the Swazi nurses into required classes and the GOS favors this approach. English, mathematics, sociology of rural development, nutrition, physics, biology and some education courses are offered at this campus. However, other essential courses including psychology, statistics and others are not available. Other specialists with appropriate subject matter competencies can also be recruited to assist with teaching general education subject matter, such as psychology, introduction to statistics, tests and measurements and related courses.

As indicated in the Project Description, the latter approach was accepted as the most logical for the following reasons:

1. Prospective Swazi tutors will have the opportunity to learn by actual practice if they are on hand to participate in curriculum development.
2. If prospective tutors help to plan the courses which they expect to teach in the future, they understand much better the new direction the GOS nurse training program is designed to take and will be better equipped to participate in teaching.
3. For those prospective teachers who may have some deficiencies in their basic education, the period of incountry study will help them to improve their educational background and to have a better opportunity for success in their subsequent out-of-country studies.

In view of the above, and with the concurrence of the MOH, the project was designed so that all prospective Swazi nursing tutors would have a period of incountry education and participation in the curriculum development for the nursing program before departing for participant training abroad.

III. Project Analysis

A. Technical Analysis Including Environmental Statement

1. Project Appropriateness and Strategy

Swaziland is probably the only Commonwealth African Country that does not operate a public training school for nurses and other health personnel. With the exception of the MOH efforts to upgrade enrolled nurses to the R.N. status and to provide some degree of preparation for village health workers, all training of registered nurses, nurse auxiliaries, and health assistants is carried out privately. This type of health personnel training is conventional, conservative and oriented toward curative health care in the context of the hospital and does not produce trained nurses in sufficient numbers to meet the nation's health care service requirements. Thus, the lack of a public health personnel training facility has constrained the Government in its efforts to expand the coverage of health care services to the rural areas through adequately trained health personnel.

There is also a lack of planning, administrative and managerial personnel to support the provision and expansion of health care service coverage to the majority of the population.

This project will provide the institutional structure required to train health personnel and develop the necessary supporting administrative system required to extend health services to the majority of the population. The strategy is to develop a Swazi training capability to produce adequately trained health personnel, develop a decentralized health service system and provide the necessary planning and administrative mechanisms to support and foster the extended coverage of health care services particularly to the rural areas. This strategy is in concert with the GOS Ten-Year Health Development Plan to reorient the nation's health services delivery program emphasizing preventive care and focusing on the requirements of the rural population. In addition, the project has been designed to meet the annual health personnel requirements as projected in the Ten-Year Development Plan.

2. Appropriateness of Technology

The training techniques for the development of adequately trained health personnel have been based on a generally accepted and proven technological and educational methodology tailored to meet local conditions, optimize results and fulfill the needs of the target population. These efforts will be carried out by TA personnel with the necessary expertise to develop and carry out the training and teaching techniques as indicated below:

(a) Curriculum and Teaching Program

The development of the curriculum will be undertaken by an initial team consisting of the U.S. Curriculum Design Specialist, the U.S. Family Nurse Practitioner (FNP) Educator, the U.S. MCH/FP Nursing Educator, two Swazi tutors and two Swazi Registered Nurses. A full and complete curriculum in nursing education will be developed during the first two years of the project while the institute buildings are being constructed and in time to start teaching classes during the first school year in 1979 (August). Curriculum development will be a continuing process in order to make the necessary revisions or adjustments to meet the training and teaching requirements of students and faculty. The U.K. Psych/Mental Educator will participate with the curriculum design team and assist in the formulation of courses related to Psych/Mental Health. The TA from WHO (Health Inspector Educator) will also join the curriculum team prior to the beginning of classes and help to develop an appropriate curriculum to teach Health Inspectors with the added assistance of the U.S. Curriculum Specialist. A curriculum will also be developed for a specialization track during the fourth year of instruction Psych/Mental Health, P.H./Midwifery, MCH/FP, etc.

The curriculum will be taught initially by three TA's and four Swazi tutors while additional Swazi are being trained to become permanent tutors. By the fifth year of instruction there will be nine fully trained and permanent Swazi tutors who will carry on with the teaching program without any additional TA assistance.

(b) Faculty Training

Prospective Swazi tutors will receive incountry training at the University in Swaziland, from their respective TA counterparts and from university training in the U.S. Five Registered Nurses will receive TA guidance and assistance plus university training in the U.S. to complete their Bachelor of Science Degree in Nursing Education in order to become permanent tutors. An additional RN will be trained in the U.K. and will also complete the B.Sc. Degree in Nursing Education.

The U.S. FNP Educator, the MCH/FP Educator and the U.K. Psych/Mental Educator will provide training and guidance to their Swazi counterparts who will be provided with a one-year specialization course in their respective disciplines to become permanent tutors at the IHS.

The U.S. Advance Placement Evaluator will evaluate the incountry training of prospective tutors and arrange for the accreditation of the respective trainees' incountry training and preparation to fulfill part of the requirements for a B.Sc. Degree in Nursing Education.

It is believed that the above methodology and techniques to develop an appropriate curriculum, teaching program and Swazi faculty capability are technically sound.

(c) Planning/Administration

The U.S. Hospital Administrator and the U.S. Rural Health Services Administrator will help to train and supervise their Swazi counterparts (4 each) and will collaborate with them in developing an efficient hospital administration system and to perfect the efficient management and coordination of the logistics of Swaziland's rural health services and programs. The eight Swazi counterparts will also receive additional academic training in their respective fields at the Institute of Development Management in Botswana. Upon termination of the TA's contracted duties, the Swazi counterparts will be fully trained to assume the responsibilities required in carrying out an efficient hospital administration program and a rural health services program.

Health planning and health statistics development will be carried out by a U.K. Health Planner and a U.S. TA Health Statistician. In addition, two Swazi counterparts (one Health Statistician and one Health Planner) will receive training in the U.S. and will undertake the respective TA positions on a permanent basis. This will provide the GOS and MOH with the necessary expertise to improve their planning activities in the health field and to improve the range and availability of health statistics.

Thus, it is believed that the planning/administration phase as designed in the project is also technically sound.

(d) Construction

The preliminary plans and cost estimates for the construction of the institute are also technically sound. They were prepared by an A&E firm with extensive background experience in the design and construction of hospitals and training institutions. (See Financial Analysis Section for construction cost analysis.) The building that will house the institute is partly double and partly single storied with all the single story sections built to support a second story, thus allowing for future expansion. The site has been selected and the property is available for the construction of the IHS.

The three houses to be constructed for U.S. technicians will be based on standard MOW design for which plans and specifications are presently available. Lots for the houses have been identified and title to the property has been assigned to the MOW for housing construction. Utilities are available at the sites. The project meets the 611(a) requirements of the FAA of 1961 as amended.

Thus, the construction components of the project are technically sound.

3. Employment Effects

The project is expected to provide either new or higher salaried positions for over 100 Swazis over the next seven years and an additional 20 to 25 per year after project termination. Construction will also provide additional employment to about 40 Swazis during the two years of construction.

4. Project Suitability for Diffusion and Replication

The project has been designed to expand the coverage of health care services to the rural areas. It will also have a beneficial and spread effect within the regional areas in hospital administration and rural health services.

This project as designed can be replicated in any other area or country that requires similar health personnel training and health administration improvement facilities.

5. Operation and Maintenance Capability

The project has been designed to assure continued operation of the Institute of Health Sciences and its maintenance. The projected program and operational procedures will be developed by TA personnel in conjunction with Swazi personnel who will be fully trained and will have operational experience to continue with the projected program as designed without further technical assistance. In addition, the GOS has made arrangements for the maintenance of the physical facilities.

6. Environmental Statement

The project will have minimal environmental impact on the area. No major problems are anticipated to develop either during or after the construction of the buildings. The construction element of this project has been designed to minimize disturbance of the land surface and take advantage of natural land contour. Building locations have been adjusted to preserve trees and vegetation. The three houses will be constructed on residential lots and the disposition of waste water and sewage is provided in accordance with established regulations for septic tanks. The institute will connect directly to the city sewer and water system. It is not envisioned that the Institute or any of its facilities will produce or discharge any elements that would be detrimental in any way to the environment. A full discussion of the project's impact on the environment is discussed in Annex IV.

7. Summary

On the basis of the information available and the analysis presented herewith with respect to every facet of the proposed project as designed, it is the considered opinion of OSARAC that the project is technically sound and feasible.

The project is also financially sound as shown in the financial analysis of this paper. The social impact of the project is beneficial and meets AID criteria as detailed in the social soundness analysis. The economic soundness appears to be positive when measured in qualitative terms.

The specific details regarding the financial, economic and social soundness of the project appear on the following sections of this paper.

B. Financial Analysis & Plan

The purpose of this section is to determine the financial soundness of the project, the appropriateness of the input/output relationship, the adequacy of the summary cost estimates and financial plan and the proposed AID obligation schedule by U.S. fiscal years. As an initial step a review and analysis of the total project costs and their comparison with the previous PRP project cost estimates will be made to determine the basis for comparative increased costs.

1. Project Funding Summary

As shown below the estimated total cost of the project is \$7.7 million. It is proposed that AID finance \$4,213,000 (55%). The GOS will contribute the equivalent of \$1,593,000 (21%) and other donors will provide \$1,855,000 (24%).

TABLE 12
PROJECT FUNDING SUMMARY
(000 US \$)

Donor	Foreign Exchange	Local Currency	Total	% of Total
USAID	\$2,964	\$1,249	\$4,213	55
GOS		1,593	1,593	21 ^{1/}
Other Donors	1,755	100	1,855	24
TOTAL	4,719	2,942	7,661	100

^{1/} Excludes inflation factor which when added shows a real GOS contribution of 27% as explained later in this section.

2. Cost Analysis

U.S. Technical assistance costs were based on recent estimates for TA services and related allowances. Furthermore, the cost for US TA was calculated on the basis of \$100,000 per person year partly as a result of a recommendation included herein that U.S. TA expertise be provided through an institutional contract which requires some provision for backstopping. An inflation factor of $7\frac{1}{2}\%$ per annum based on recent U.S. cost of living index was provided to arrive at more accurate TA costs during the life of the project. Due consideration was also given to time phasing (actual person months) since the expertise of some TA's is required for only a few months out of the year.

The construction costs of the training institute were based on the evaluation of an A&E consultant firm with extensive background experience in the design and construction of hospitals and training institutions. To determine the firmness of the construction cost estimates, the GOS Ministry of Works made its own independent cost evaluation based on the same preliminary design plans prepared by the above mentioned firm which resulted in a variation of only 0.04% from that prepared by the consultant firm. This independent evaluation together with a thorough review and analysis by REDSO engineering helped to verify the conclusion reached, i.e. that the cost estimates were reasonable and the calculations accurate and as a consequence complied with the requirement of Section 611 of the FAA of 1961 as amended. Furthermore, the construction phase will take place during the first two years of the project and as a consequence total disbursement will occur within the prescribed AID limitation (36 mos) for a capital project. The cost of housing construction is based on prevailing costs provided by the MOW and comparable data resulting from previously AID funded housing in Swaziland.

The participant training costs were based on estimates provided by AID Handbook 10 and AIDTO Circular A-428 which establish a rate of \$850 per person month for training in the U.S. plus an allowance of \$100 per person month for miscellaneous expenses.

Third country training costs were based on data provided by the Institute of Development Administration in Botswana. The cost was based on a tuition fee of \$1,330 per student (See Annex VII) plus an allowance of \$12.00 per day (per diem).

The commodity costs (AID financed) were based on the estimated U.S. cost of each item, with allowances made for freight and inflation (See Annex IV-A).

The GOS cost calculations were based on prevailing salaries and wages, and commodity prices in Swaziland. Consideration was given to the number of personnel that will be working directly with the project, the number of new positions to be established, the support required for the TA technicians, the support required for third country

participant training, and the estimated requirement for the maintenance and operation of the Institute of Health Sciences.

The total GOS costs presented in table 16 were calculated on the basis of constant Emalangeni (local currency) as requested by MOH. This does not represent the real GOS contribution. The allowance of an inflation factor (10%) based on the cost of living index in Swaziland would have increased the GOS cost estimates and contribution to the project by approximately \$600,000 (to \$2.2 million) and the total project cost by an equal amount (\$8.3 million). Under these more realistic circumstances, the percentage contribution by the GOS to the total cost of the project is about 27%, other costs remaining constant. Furthermore, a real adjustment of the total GOS contribution shows that it represents about 51% of the AID proposed contribution (\$4.3 million). Thus, the magnitude of the GOS real contribution, as a percentage of the total project cost or as a percentage of the AID financial input, is more than adequate to fulfill the requirements of Section 110 (a) of the FAA of 1961 as amended.

In addition, the GOS projected annual expenditures shown in table 16 were calculated on the basis of the GOS fiscal year to facilitate their provision of funds for the project in accordance with the GOS respective budgetary and appropriation procedures.

The costs for the TA to be provided by WHO were based on approximated costs for this type of a Technician in Swaziland as well as on the basis of a comparable U.S. cost for an individually contracted technician of \$75,000 per annum with an added annual inflation factor. The U.K. TA costs were calculated on the basis of \$70,000 per annum particularly in view of the most recently adopted austerity program by the U.K. The U.K. participant training costs were calculated on the basis of \$800 per month per trainee. The IDM TA Consultant costs were calculated on the same basis as the U.K. (\$70,000 P/A) which reflects the expenditures required for this type of TA in Botswana.

It is believed that all of the above estimates are reasonable and that their aggregate represents a reasonably reliable total project cost estimate. The total project costs and estimated annual expenditures are summarized in Table 16.

3. Comparative Total Project Costs of PRP & PP

As compared with the PRP, the present total project costs represents a 103% increase as shown in Table 13 below. This was due to (1) a modification and adjustment of inputs which resulted in a 200% increase in other donor contribution; (2) the use of more realistic and up-to-date input unit costs and (3) the provision of an inflation factor to provide for added costs during the life of the project. The GOS contribution increased by 100% due largely to the project's expanded phase in planning/administration, and an increase in administration support

including salaries. The AID inputs increased by 75% due to a more accurate cost evaluation of construction and consultant (TA) services plus an increase in participant training.

TABLE 13
COMPARATIVE TOTAL PROJECT COST OF PRP AND PP
(millions U.S.\$)

Input Source	PRP	PP	Increase	% Increase
USAID	\$2.4	\$4.2	\$1.8	75
GOS	0.8	1.6	0.8	100
Other Donors	0.6	1.8	1.2	200
TOTAL	3.8	7.7	3.9	103

The total cost of AID inputs which was estimated at \$2.4 million in the PRP increased by over \$1.8 million or by 75% as shown in Table 14 below.

TABLE 14
COMPARATIVE USAID TOTAL PROJECT COST OF PRP AND PP
(millions U.S.\$)

USAID INPUT	PRP	PP	Increase	% Increase
Tech. Assistance	\$1.28	\$2.54	\$1.26	98
Training	0.26	0.36	0.10	38
Commodities	0.03	0.09	0.06	200
Construction	0.83	1.22	0.39	47
TOTAL	2.40	4.21	1.81	75

The increase in the cost of the U.S.A.I.D. contribution resulted from a more realistic evaluation of technical assistance, participant training requirements and construction costs which increased by 98%, 47% and 38% respectively.

Under the PRP, TA consultant costs were estimated at approximately \$500 per person/month with no provision made for an inflation factor to cover added costs during the life of the project. This estimate did not reflect recent increased costs for TA services nor the probability of an institutional contract. The estimated TA cost presented in this project paper took an institutional contract with backstop support allowance into consideration and was based on the latest available cost data for such TA services of approximately \$8,333 per person month plus an inflation factor of 7 $\frac{1}{2}$ % per annum. This accounts for the 98% increased cost in TA

services particularly since there is only a one month variation between the total TA person months provided in the PRP (255 p/mo) and the TA person months provided in this project paper (254 p/mo).

The 38% increased cost in participant training was due mainly to an increase from the 202 person months in the PRP to 312 (p/mo) provided herein to meet the requirements of the project as designed, which increased training costs by about \$100,000.

The construction cost increase of 47% was due to a slight design modification to meet training requirements, to conform with the selected site area and a more technical and accurate evaluation of prevailing construction and construction material costs by an experienced A&E firm.

The initial plans proposed in the PRP envisioned rudimentary training and simple box type class rooms facilities. However, based on the years of practical experience and specialized background of the consultant team additional factors and criteria were identified. This led to modifications which were included in the latest preliminary plans in order to provide an adequately designed physical plant that met the training component requirements of the project. While the physical plant, as presented herein, varies from the initial rudimentary design, the structural concept proposed is neither frugal nor pretentious but is in relatively good taste, functional and so designed as to conform to local mores and cultural constraints of Swazi students and faculty.

These modifications, the selection of a specific site, with MOW instructions to utilize the natural advantages of the area with minimum disturbance to its national beauty, and a more accurate evaluation of construction materials and services account largely for the reflected increased costs. The inflation factor and contingency allowance included in the total construction cost estimates were based on the projections of GOS/MOW data. The Quantity Surveyor of the GOS/MOW maintains a monthly record of cost escalation and inflation trends.

The ECPR's assessment during the PID review to the effect that this phase of the project appeared to be undercosted (See Annex VI) was probably based on the assumption that such modifications as those listed above would take place.

The increased commodity cost was due to a better appraisal of the type of instructional aids and supplies required by the established training institute and increased from \$25,000 (PRP) to \$91,000(PP).

Thus, with the exception of participant training, the cost difference between the AID inputs proposed in PRP and those in the PP is due basically to a more precise technical evaluation of inputs costs and not to any significant increase in additional inputs per se. It is believed that this provides full justification for the cost differential between the PRP and PP.

4. Time Phasing of Financial Resources

The AID, GOS and other donor financing of project inputs has been adequately time phased to meet the functional and implementation requirements of the project. This is reflected in the time phasing schedule shown in tables 9, 10 and 11 which when studied together with table 8 (IHS Training Program Schedule) will show the adequacy of the financial time phasing of inputs and provides a relatively good picture of the total project effort.

The financing of technical assistance, training and construction has been time phased and scheduled to be provided in accordance with the project component requirements to achieve a coordinated and effective functional and implementation operation. Project activities financed during the first two years are synchronized to achieve the physical premises, the development of a curriculum and teaching program and the in-country training of selected prospective Swazi tutors. Likewise, the financing of administrative TA expertise has been scheduled to effect a coordinated effort to establish adequate hospital and rural health service administrative systems and train counterparts simultaneously. The financing provided for participant training has also been time phased so that each trainee can assume his designated project role and assigned responsibilities on schedule.

The same principle described above has been applied to other donor and GOS financial contributions taking into consideration financed input availability as indicated below.

The Health Inspector Educator to be financed by WHO is already on board and in the process of teaching health assistants. This program is expected to terminate in 1979 in time for this educator to participate in development of a curriculum for health inspectors and to teach the respective courses at the Institute of Health Sciences. The only requirement necessary is for WHO to extend this technician's services to teach health inspectors through 1984.

The U.K. has already financed a Health Planner who arrived in Swaziland at the end of October, 1976 to assist with the nation's overall health planning activities under a two year contract. According to ODM (U.K. Overseas Development Ministry) this technician's services will be extended for an additional two years or will be substituted by another health planner for another two years to provide a total of four years as required by the project.

The Institute of Development Management in Botswana is already functioning, has a training staff and has agreed to finance the necessary professorship to train Swazi Rural Health Services Administrators and Hospital Administrators. (See Annex VII).

The U.K. Rural Health Center that is to be used in conjunction with the IHS for practical rural training has been financed. Construction is expected to start in early 1976 and completed within a year.

Basically the only financial requirements that may be in question are for the two TA's to be provided by the U.K. (Phych/Mental Health and Public Health/Midwifery Educators) and U.K. participant training for a nurse tutor and an RN. However, in discussions held with MOH regarding the contents of this paper, OSARAC was assured that this expertise and training would be made available from one source or another.

With respect to the GOS, the construction and installation of a training facility is a key element in the Ten-Year Development Plan as well as the expansion and/or construction of rural clinics and health centers. Sources and the availability of funds have been identified in the Ten-Year Development Plan for the training institute and for the construction of up to ten rural clinics and three health centers. Plans for posting the IHS graduates have been made and the budgeting requirements for their support has been determined. Furthermore, the initial GOS operating expense requirements under this project consist mainly of "in-kind" contributions which will not entail a financial burden at the outset. This consists of items that are already available such as land, housing for technicians, administrative support such as office space and supplies, transportation, etc.

In view of the above, it is believed that the financing of project inputs has been adequately time phased to correspond with the requirements necessary for project development and implementation.

5. Health Investment & Recurrent Costs

According to the Ten-Year Health Development Plan, the GOS recurrent expenditure on health services will increase at the rate of 6% per annum through 1984. It is indicated that the additional financing will be used primarily to develop a comprehensive system of health facilities to channel adequate health preventive services and health education to the rural areas.

To undertake the Ten-Year Health Development Program, the GOS formulated^a health investment program covering the period 1975-1983 as well as recurrent budget projections. While this investment program relies somewhat on donor contributions they are expected to be forthcoming. The investment health plan calls for an expenditure of about 5.5 million (Emalangi) with 27% allocated to hospitals and the remaining 77% to rural clinics, health centers, training, school health services, rural health visitors, etc.

Furthermore, whereas in 1974 recurrent and preventive health services accounted for about 19% of the total health budget, this share of the budget will increase to 27% in 1979 and 33% in 1984. The budget's share of hospital services will decline from 60% (1974) to 44% by 1984 (See tables 6 and 7). Such recurrent projections are also based on the assumptions that the MOH on-going budget will be increased to offset price increases including wages and salaries as indicated in the Ten-Year Development Plan.

The recurrent budget projection reflects an increase in budget allocations to the MOH from \$2.6 million in 1975 to \$4.7 million in 1984 with more adequate provision for Rural Health Services as shown below.

TABLE 15
MOH RECURRENT BUDGET PROJECTIONS
1975-1985
(million U.S.\$.)

Category Year	Hospitals		Rural Clinics Health Centers		Total
		%		%	
1974/5	1.56	60	1.04	40	2.60
1975/6	1.56	57	1.16	43	2.72
1976/7	1.59	54	1.34	46	2.93
1977/8	1.61	52	1.48	48	3.09
1978/9	1.67	50	1.65	50	3.32
1979/80	1.73	49	1.77	51	3.50
1980/81	1.79	48	1.93	52	3.72
1981/82	1.86	47	2.07	53	3.93
1982/83	1.92	46	2.25	54	4.17
1983/84	1.99	45	2.43	55	4.42
1984/85	2.07	44	2.61	56	4.68

Thus, the investment and recurrent budget projections show a greater concentration in the allocation of financial resources to the rural areas in compliance with the GOS emphasis to expand its coverage of preventive health services to the rural population.

This effort is directly related to the purpose of the project to institutionalize training capacity, train nurses and other auxiliary personnel to serve the rural areas and to strengthen the planning and administration of MOH health services to provide the necessary administrative systems and logistical support to extend health services coverage to the majority of the Swazi population.

Thus, it appears that the GOS financial projections have taken into account and arrangements have been made to cover the principle elements of the Ten-Year Health Development Plan and have included related expenditure items that are a part of this project. It is believed that, based on these projections, the GOS financial resources will cover the necessary operating expenses during the life of the project as well as after project termination.

6. GOS Budgetary Performance

As indicated in Section II.A of this paper, Swaziland has experienced a good rate of economic growth since Independence. Furthermore, the nation has also enjoyed a favorable balance in its current accounts. During the period 1968-1975 current account revenues averaged approximately \$25.2 million annually and current expenditures averaged about 22.4 million indicating an annual surplus averaging about 2.8 million per year. While capital expenditures averaged approximately \$6.7 million a year during the same period, the annual average deficit (\$3.9 million) was made up largely by external grants and small loans. The above trends are indicative of a deep sense of a national financial responsibility and of an effort to limit budgetary expenditures within the bounds of the nation's incoming revenues. Such financial responsibility gives credence and justification to the MOH statement to the effect that since the Swazi National Council has given approval to the Ten-Year Health Development Plan, the necessary financial resources will be made available to carryout the Ten-Year Plan and as a consequence this project which represents an important and necessary element for the implementation of the Ten-Year Plan.

7. Input/Output Relationship

The Input/Output relationship as shown in Table 17 supports the essential areas of project concentration. The data shows that input and output cost distribution is allocated equitably and that 46.4% of the inputs are directly related to the development of a curriculum and teaching capacity which will provide the necessary and adequately trained health personnel to service the majority of the population. The second most important segment of the project, Planning/Administration, accounts for 27.6% of the input/output ratio while the physical foundation represents 26.0%. Thus, the allocation of resources appear to be adequately distributed to produce the results of the project as designed.

8. Summary Cost and Financial Plan

The project costs and financial plan are summarized in Table 18. Consultants and consultant staff support represent the major cost item, 52% of the total cost, and the basic element required to implement the project. Construction represents about 19% and the inflation factor about 15%. Other cost items average about 4%.

All of the foreign exchange requirements are to be provided by USAID and other donors. Of the AID contribution, 70% represents dollar costs (FX) and the equivalent of 30% represent local costs. The latter consists mostly of construction costs and the former TA costs.

9. AID Obligations

This estimated $6\frac{1}{2}$ year project is based on AID incremental financing as shown in Table 19. The proposed obligations by USAID have been made to accord with the proposed FY 77 obligations in the Congressional

Presentation and tailored to meet the annual financial expenditure requirements of the project.

Based on the total cost of the project and projected annual expenditures, it is believed that the proposed obligation schedule is adequate to meet the financial requirements of the project based on the availability of USAID funds.

10. Disbursement Procedures

Disbursements for technical assistance, participants, and commodities will be made in accordance with AID established procedures. In order to establish a close administrative working relationship between the U.S. institutional contractor and the field implementing office, it is recommended that the institutional contract for technical and other services provide that payment claims by the contractor be submitted to the OSARAC Controller in Mbabane, Swaziland. The OSARAC Controller will arrange for payment directly to the contractor by a U.S. dollar check or other appropriate currency.

During the preparation of this paper, agreement was reached with the GOS to use the FAR method of disbursement for all construction components, i.e. technician housing and the IHS facilities. In view of the substantial cash flow required over the two year construction period for the IHS facilities, agreement was reached that AID would provide a series of advances to alleviate undue strain on the GOS operating budget. The initial advance planned is 30% of construction costs with two subsequent advances of 20% each to be timed to physical construction progress. The balance of 30% is to be paid upon completion and acceptance of all facilities. REDSO engineers will certify to physical progress and completion in accordance with plans and specifications. Both AID and the GOS agree that FAR is the preferred method of disbursement. The advantages of reducing documentation and administrative paperwork and assuring a timely delivery of contract funding far outweighed any disadvantages of the FAR method or advantages of other methods. Detailed procedures for FAR disbursement will be included in the Grant Agreement.

TABLE 16

ESTIMATED ANNUAL EXPENDITURES AND PROJECT COSTS

SHOWN BY SOURCE OF CONTRIBUTION
(U.S. DOLLARS)

AID

I. Technical Assistance

A. Long Term TA (19½ person/years.
(\$100,000 per P/Y)

FNP Nursing Educ.

MCH/FP Nursing Edu.

Health Statistician

Hospital Administr.

Rural Health Serv.
Administr.

B. Short-term TA(20 p-m)

Curric.Design.Consu.

Advance-Placement
Evaluator.

Total Mos.
Total \$

Inflation Factor:7.5% p.a.

TOTAL

	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	Total
FNP Nursing Educ.	4 MO 33,333	12 100,000	12 100,000	12 100,000	8 66,667			48 400,000
MCH/FP Nursing Edu.	3 MO 25,000	3 25,000	4 33,333	12 100,000	12 100,000	12 100,000	8 66,667	54 450,000
Health Statistician	4 MO 33,333	12 100,000	12 100,000	12 100,000	8 66,667			48 400,000
Hospital Administr.	4 MO 33,333	12 100,000	12 100,000	8 66,667				36 300,000
Rural Health Serv. Administr.	4 MO 33,333	12 100,000	12 100,000	12 100,000	8 66,667			48 400,000
Curric.Design.Consu.	4 MO 33,333	4 33,333	2 16,666	2 16,666	2 16,666	2 16,666	2 16,666	18 149,996
Advance-Placement Evaluator.		1 8,333			1 8,333			2 16,666
Total Mos. Total \$	23 MO 191,665	56 466,666	54 449,999	58 483,333	39 325,000	14 116,666	10 83,333	254 2,116,662
Inflation Factor:7.5% p.a.	-	35,000	70,031	117,110	109,027	50,823	45,275	427,266
TOTAL	191,665	501,666	520,030	600,443	434,027	167,489	128,608	2,543,928

II. Training

	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	Total
A. U.S. Training (264 P/MO (\$950 per P/MO)								
Nurse Tutor (FNP Specialization)		4 MO 3,800	8 7,600					12 11,400
Nurse Tutor (MCH/FP Specializ.)						4 3,800	8 7,600	12 11,400
Two RNs. Trained in Nursing Ed.					8 7,600	24 22,800	16 15,200	48 45,600
Three RNs trained in Nursing Ed.		12 MO 11,400	36 34,200	36 34,200	36 34,200	24 22,800		144 136,800
Statistician in health Stat.		4 MO 3,800	12 11,400	8 7,600				24 22,800
Public Health Plann.				4 3,800	12 11,400	8 7,600		24 22,800
B. Third Country Train. (48 P/MO)								
Four Hospital ^{1/} Admin. Trainees		16 MO 9,056		8 4,528				24 13,584
Four RHS Admin ^{1/} Trainees			24 MO 13,584					24 13,584
Total Mos. Total \$		36 28,056	80 66,784	56 50,128	56 53,200	60 57,000	24 22,800	312 277,968
Inflation Factor @ 7.5% p.a. Total \$		2,331 30,387	11,132 77,916	12,548 62,676	17,847 71,047	24,831 81,831	12,387 35,187	81,076 359,044
III. Commodities	10,000		81,000					91,000
IV. Construction	200,000	600,000	419,000					1,219,000
TOTAL \$ ^{2/}	401,665	1,132,053	1,097,946	663,119	505,074	249,320	163,795	4,212,972 ^{3/}

includes Tuition of \$1,380 per student and \$12 per diem. ^{2/} Excludes transportation cost for participant trainees (\$23,000) and unidentified contingencies (\$64,000). When added the total becomes \$4.3 million as shown Face Sheet and Table 19 (AID Obligations).

TABLE 16 (Continued)

<u>GOS</u>	GOS F.Ys. (4/1 to 3/31)							Total
	1978 (4/1/77-3/31/78)	1979	1980	1981	1982	1983	1984	
I. Project Personnel (Swazi & TA) Administrative Support	41,085	50,270	52,155	46,415	32,295	28,160	23,210	273,590
II. Salaries of Swazi personnel involved in the project (for life of project)	29,469	45,713	69,633	90,690	89,373	108,061	123,794	556,733
III. Participant (US and UK) and Third Country trainees' support	11,812	28,539	26,917	21,821	23,690	6,613	1,150	120,542
IV. <u>Commodities</u>								
A. Furnishings for IHS & related facilities	100,000							100,000
B. IHS student & faculty supplies			4,300	8,275	10,050	12,200	12,350	47,175
V. <u>Construction Related Costs</u>								
A. A & E	146,050							146,050
B. Land	48,875							48,875
C. Maintenance of IHS and related facilities			60,000	60,000	60,000	60,000	60,000	240,000
TOTAL GOS ESTIMATED EXPENDITURES	377,291	124,522	213,005	227,201	215,408	215,034	220,504	1,592,965

TABLE 16 (continued)

Other Donors

I. Technical Assistance

A. Long Term

1. WHO Hlth Inspector
(\$75,000 P/Annum
\$6,250 P/Mo)

2. U.K. Specialists
(\$70,000 per annum)
\$5,833 per /mo)

Psych/M.H.Educator

Pub. Hlth/Midwifery
Ed.

Health Planner

B. Short-Term

(\$70,000 P/A
\$5,833 per/Mo)

1. IDM Hlth.Admin.
Instructor.

2. IDM Curric.
Consultant

Total Mos.

Total \$

Inflation factor @ 7.5% p.a.

TOTAL

	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	Total
			4 MO 25,000	12 75,000	12 75,000	12 75,000	12 75,000	6 37,500	58 362,500
		4 MO 23,332	12 70,000	12 70,000	12 70,000	8 46,668			48 286,000
				9 MO 52,947	12 70,000	12 70,000	12 70,000	3 17,053	48 280,000
	9 MO 52,947	12 70,000	12 70,000	12 70,000	3 17,053				48 280,000
		4 23,332	6 35,000	2 11,668					12 70,000
		3 MO 17,500	3 17,500						6 35,000
	9	23	37	47	39	32	24	9	220
	52,947	134,164	217,500	279,615	232,053	191,668	145,000	54,553	1,307,500
		10,062	33,849	67,750	77,846	83,495	78,777	35,952	387,731
	52,947	144,226	251,349	347,365	309,899	275,163	223,777	90,505	1,695,231

TABLE 16 (Continued)

	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	Total
II. U.K. Training (60 mos-\$800 p/mo + 10% inflation)									
A. Nurse Tutor (Psych/M.H. Specialization) 12 mos.				9 MO 7,200	3 2,400				12 9,600
B. RN trained in Nursing Ed. 48 mos.		4 MO 3,200	12 9,600	12 9,600	12 9,600	8 6,400			48 38,400
Total Mos.		4	12	21	15	8			60
Total \$		3,200	9,600	16,800	12,000	6,400			48,000
Inflation factor 10%			960	3,528	3,972	2,969			11,429
Total		3,200	10,560	20,328	15,972	9,369			59,429
III. Construction (1 Rural Health Center).	100,000								100,000
Other Donor Total Inputs	152,947	147,426	261,909	367,693	325,871	284,532	223,777	90,505	1,854,660

TABLE 17
COST OF PROJECT OUTPUTS/INPUTS
 (in \$ 0000)

Project Inputs	PROJECTION OUTPUTS			TOTAL
	No. 1 Physical Facilities	No. 2 Curriculum & Teaching Dev.	No. 3 Plan. & Admin Dev	
<u>AID</u>				
Long & Short Term T.A.		1265	1279	2,544
Training		259	100	359
Commodities	61	25	5	91
Construction	1219			1,219
AID Total ^{1/}	1280	1549	1384	4,213 ^{1/}
%	30.4	36.7	32.8	100.0
<u>GOS</u>				
I. Proj. Personnel Administrative Support	15	108	151	274
II. Salaries	0	327	230	557
III. Participant training Support	0	88	32	120
IV. Commodities	100	47	0	147
V. Construction				
a) A & E, Land	195	0	0	195
b) Maintenance	300	0	0	300
GOS Total	610	570	413	1,593
%	38.3	35.8	25.9	100.0
<u>OTHER DONORS</u>				
Long Term and Short Term TA		1374	322	1,696
Training		59		59
Construction	100	0	0	100
Other Donor Total	100	1433	322	1,855
%	5.4	77.2	17.4	100.0

TOTAL	1990	3552	2119	7,661
%	26.0	46.4	27.6	100.0

^{1/} Excludes transportation cost for participant trainees (\$23,000) and unidentified con-
 gencies (\$64,000) when added total becomes \$4.3 million as shown in Face Sheet and
 Table 19 (AID Obligations).

TABLE 18

SUMMARY COST ESTIMATES AND FINANCIAL PLAN
SWAZILAND HEALTH PERSONNEL TRAINING PROJECT

(000's U.S. \$)

SOURCES	USAID		GOS		OTHER DONORS		TOTAL	
	FX	LC	FX	LC	FX	LC		%
USE								
A. Staff & Consultants	2117	-	-	557	1308		3982	52
B. Training	278	-	-	120	48		446	6
C. Project Personnel (Swazi & TA) Administrative Support	-	-	-	274			274	4
D. Commodities	58	30	-	147			235	3
E. Construction	-	838	-	495		100	1433	19
F. Contingency (Construction)	-	83	-				83	1
G. Inflation	511	298	-		399		1208	15
TOTAL	2964 ^{1/}	1249 ^{2/}	-	1593	1755	100	7661	100

^{1/} Excludes unidentified contingencies of \$64,000 and \$18,000 for participant trainees transportation cost (FX)

^{2/} Excludes \$5,000 for participant trainee transportation cost (LC).

TABLE 19

AID OBLIGATIONS BY INPUTS PER FISCAL YEAR

(OO's U.S. \$)

	U.S. Fiscal Years							Total
	1977	1978	1979	1980	1981	1982	1983	
<u>LONG AND SHORT TERM TA</u>								
Actual Person-Months	23	56	54	58	39	14	10	254
Person-Months Funded	91	-	62	56	45	-	-	254
Obligations \$	804	-	679	531	530	-	-	2,544
<u>LONG & SHORT TERM TRAINING:</u>								
<u>US Training</u>								
Actual Student-Months	-	36	80	56	56	60	24	312
Student-Months Funded	76	40	56	56	60	24	-	312
Obligations ^{1/} \$	86	37	65	75	84	35	-	382
<u>COMMODITY OBLIGATIONS</u>	10		81					91
<u>CONSTRUCTION OBLIGATIONS</u>	300	555	364					1,219
TOTAL AID OBLIGATIONS \$	1,200	592	1,189	606	614	35	-	4,236
UNIDENTIFIED CONTINGENCIES								64
TOTAL PER FACE SHEET								4,300

^{1/}Includes transportation for participant trainees.

C. Social Analysis

1. Background

This section deals with the political setting and its impact on social customs, traditional cultural patterns, the present health environment and the social impact of the project on the traditional and modern customs in these areas. It will also describe the ultimate beneficiaries of the project, its effect on other groups and its contribution to the role of women.

As noted in Section II of this paper (National Characteristics and Constraints) Swaziland's economic, political and social environments are dualistic in nature.

The Governmental structure consists of a modern government (the cabinet) and a separate traditional government (the Swazi National Council). The Council which makes all decisions with respect to the Swazi nation's land and advises the king on all matters affecting traditional law customs and mineral resources represents a significant factor in the decision making process of the Swazi nation. The institutions within the traditional government structure include the chiefs, the headmen, the clans and the families.

The modern government consists of a western style, civil structure of ministries, technical services and a civil service system. While each of the above governmental entities has its particular role in the administration of governmental activities, their functions are coordinated through the offices of the king.

2. Traditional Culture

The Swazis are traditionally a historical, semi-nomadic pastoral people with semi-permanent land holdings where crops, mainly millet and some vegetables are grown for human consumption.

Their central and highest authority is the paramount chief or the Swazi nation King who holds all land in trust for his people. Land is allocated to chiefs who in turn grant permission for use of their land to headmen (family homesteads). This power base extends further down the family structure making man the paramount figure in Swazi society. For example, in distributing the family's food, the head of the household (man) is served first, and is followed by his mother, then the older boys, the other children and finally the women and babies. Traditionally there has also been a division of labor between men and women. The men's function has generally been to guard the cattle from predators and enemies. At a very early age young boys would leave their mother to become herdboys, progressing to warriors to grown men who could then marry and establish their

own households. All functions of cattle from ownership to management were performed by men. All agricultural production activities, ground preparation, seeding, harvesting and storing were performed by women. However, the chief decided when planting and harvestings should take place and at what times cattle should be rotated.

Another aspect of the traditional environment was the existence and inheritance of medicine men. There are several types of traditional practitioners including herbalists and diviners ranging from the lowest grade of practitioner who collects medicine recipes to the Inyanga who is ancestrally qualified as a herbal practitioner, to the powerful and respected diviners who hold seances to discover evildoers. These traditional practitioners received payment according to the nature and success of the treatment and the status of the patient. There are no studies on health attitudes to determine the Swazi people preferences regarding the use of traditional (practitioners) or modern health facilities in the rural areas. However, an effort will be made to assess such attitudes by the health personnel to be trained under this project.

3. Health Environment

As pointed out in Section II B (Health Status) of this paper the Swazi people suffer from illnesses which are caused by poverty, lack of nutritious foods, ignorance of good dietary practices, poor sanitation, contaminated water supplies and uncontrolled communicable diseases. A low level of education and sociocultural taboos are also significant determinants of health conditions. Eggs are taboo for women who are not generally allowed to drink milk until after the birth of the first child. Food distribution is performed on the basis of traditional and established priorities.

The distribution of health services is highly skewed with hospitals, doctors and nurse concentrated in the urban areas. The population residing in the urban areas receives most of the available health services both preventive and curative. While there are about 60 clinics in Swaziland and the coverage of health services may appear extensive, it is nonetheless qualitatively inadequate. This is due basically to the lack of trained health personnel which not only constrains the improvement in the delivery of health services but adversely affects the coordination and management of health services. Employment is characterized by a shortage of adequate trained Swazis thus necessitating the recruitment and extensive use of foreign paramedicals which makes the nation highly dependent on expatriate personnel.

While responsibility for the organization and planning of health services rests with the Ministry of health, health services are also rendered by religious missions and the private sector. The coordination between the government, missions and private industry

has been minimal. This tripartite situation, particularly in personnel training, has inhibited the achievement of a closely coordinated and planned health services sector.

4. Social Impact of Project

The proposed project will have an impact on both the traditional and modern Swazi environments. Its positive effects will cut across the economic, social and political customs of the nation.

In its previous consideration of proposed manpower recommendations, the GOS (MOH) was faced with various issues i.e. how to adapt training programs to meet the local requirements for health services, how to prepare health professional personnel to broaden the delivery of health care services, especially to the rural areas, and how to assign responsibilities and to which categories of health workers to broaden the provision of health services. Furthermore, there was a particular and significant interest in developing a greater degree of Swazi national participation especially in the provision and improvement of social services in the rural areas. This project, as designed, has been prepared to provide a substantive solution to the above issues and to help the GOS nationalize health services, strengthen its coordination and planning facilities, improve management and broaden its coverage of health services in the rural sector.

The social implications of the project are apparent from the general results expected at the end of the project. Generally, the project will:

- (a) provide a Swazi cadre of adequate and qualitatively trained health personnel;
- (b) develop the necessary health planning and administrative Swazi personnel, an important prerequisite for the effective participation in, and control of, the health sector by Swazis;
- (c) help reduce foreign control and the dependence on expatriate personnel consistent with the ten-year plan which provides for the localization of technical and professional health personnel depending on the rate at which Swazis can be adequately trained to replace expatriates;

- (d) give priority to the development of preventive health care services the benefits of which will be much more widely spread among the rural population as a whole;
- (e) extend the provision of most health services through such other types of health personnel as doctors since it is expected that the doctor/population ratio is expected to fall slightly (from 1:8,200 to 1:10,000 by 1980).
- (f) reduce the need for non-medical practitioners (medicine men) through the extension of health services and health education to the outlying rural areas;
- (g) provide an outreach extension program to the Swazis who live in widely dispersed individual family homesteads;
- (h) provide a better organized system of servicing the rural areas through the establishment of Rural Health Services Administrators.
- (i) assist in the development of a statistical compilation and analysis capability to enable more effective planning in the health sector;
- (j) improve and modernize general hospital administration practices.

5. Beneficiaries

The Swazi population, especially the rural portion who are presently either underserved by the Swazi health delivery services or not receiving services at all, will be the ultimate beneficiaries.

Women and children in the rural areas are major target groups of this project. As has been pointed out, they currently are grossly underserved. Therefore, a primary aim of the project is to increase the availability of ante-natal, post-natal, family planning and immunization services. At the same time, health workers will be trained to alert and educate the target population groups regarding the importance of preventive health care.

Although there is some traditional resistance to family planning, particularly among men who desire children for reasons of wealth and prestige and who fear "promiscuity" among their wives, the king has recently come out strongly in favour of the use of modern birth control methods as a means of child spacing. Traditional methods of birth control have been used (primarily abstention during lactation), but there is good reason to believe that, once educated to the availability and advantage of modern techniques, the Swazi women will be very receptive (as they have already been, primarily in the urban areas, where family planning practices have been more available).

Family planning for which training will be provided under this project is important to the health and development of the Swazi nation. First, it contributes to the independence and well-being of the women. And secondly, it is a crucial element of family health. The health services presently see a significant amount of malnutrition in young children, resulting from poor weaning practices and ignorance among grandmothers who are given responsibility for the care of these children.

Since the project will provide for the training of nurses and non-physician personnel to extend both curative and preventive health services to the rural sections of Swaziland, it should result in a more adequate treatment of preventive illnesses and a reduction of the pressures on curative services throughout the country. These project benefits should begin to be observed within three years following the deployment of the preventive health care oriented personnel to posts in the rural areas of the country-side.

6. Participation and Group Effect

The rural people have not participated directly in the formulation of the project, but they already accept and use the services which nurses in rural clinics offer now. Undoubtedly they will accept and continue to use such health services particularly since more adequately trained and qualified nurses will be available to provide such services which will include diagnosis and treatment.

There seem to be no groups which will resist or be harmed by the project. Traditional practitioners do not seem to be a very powerful force in Swaziland, supposedly due in part to the long history of missionary health activities and of government health services in the country. Religious missions do not appear to pose any difficulties since they have expressed interest and cooperation in carrying out this project.

The only group in Swaziland which could conceivably take over certain project outputs (trained RNs) divert them from the

intended beneficiaries and turn them to their own use is the small group of physicians in private practice. However, the number of private practice physicians is relatively small, and legislation could control their use of MOH trained personnel if this were found to be necessary. There is no indication that this problem will arise, although it might if private physicians felt that they could somehow increase their profits by using the personnel trained by the project.

7. Role of Women

As a result of industrialization and modernization women have entered every sector of public life in Swaziland and have made themselves indispensable to the general development of the country. They constitute the predominant work force in education and health.

Education and Christianity have also contributed considerably in changing attitudes among and toward women. There is a greater expression of freedom by women than even before as exemplified by their growing demand for higher education and ~~opportunities to enter the professions.~~ There is also a new defiance of traditional social forms and taboos. Their attitudes toward birth control and family planning indicate a greater progressive attitude and sense of responsibility which is a departure from tradition. Furthermore, women are becoming the best agents for social change due to their receptivity of new ideas and the realization that development will add to the total sum of their freedoms.

The project will contribute significantly to the expanding role of women in the development of Swazi society. Primarily women will be trained in the Institute as nurses. They will play an important and prestigious role in the community. They will be the primary providers of modern health care and, as such, will be regarded as a major force in development, particularly in the rural areas.

D. Economic Analysis

1. Introduction

Due to the difficulty in quantifying the national economic benefits attributed to better health care, standard benefit-cost analysis is not a practical approach to determining the economic justification for this project. Nevertheless, many of the developmental advantages of improved health services are well known and can be expressed in qualitative terms. In the sections that follow, these benefits will be described and the project will be assessed in view of its cost effectiveness. The analysis closes with a summary conclusion regarding the economic soundness of the project.

2. Benefits

(a) Improved Health

The most obvious benefit of the expanded rural health services resulting from this project will be the improved health and well-being of the people it serves. The increased satisfaction of being healthier can in turn, produce other benefits, most notably, increased productivity.

(b) Increased Productivity

It is often readily assumed that an improvement in the population's health status results in increased productivity. However, the strength of the causal links between improved health and increased output is not well established. That is, if healthier, more efficient workers continue to devote the same amount of time to productive labor, total output in the economy will increase. On the other hand, it has been demonstrated that improved work potential may be translated into leisure if workers choose to produce the same output in less time. Alternatively, increased under-employment may result if more people desire work but cannot obtain it.

In Swaziland, improved health in the rural areas is expected to have a long run positive impact on productivity. The reasoning is as follows:

As noted in Section II A, 80 to 85 percent of Swaziland's population reside in the rural areas, with 70 percent deriving their living from the Swazi nation land. At present, the latter accounts for only about 40 percent of total agricultural output with most of this consisting of subsistence crop production. The other 60 percent consists mainly of cash crops produced on largely foreign-owned freehold farms.

Should the current pattern of farm labor demand continue to be such that there are only a few months out of the year when labor is scarce, there might well be little noticeable impact on productivity resulting from improved health. However, recognizing the Government's efforts to repurchase the freehold land for the use of its own people, the future availability of this land should serve as an important economic incentive for the Swazis themselves to increase agricultural output. This conclusion holds true assuming they continue to allocate a significant portion of this land to cash crops and there is no loss in overall productivity due to the dissolution of ownership. Of course, one may choose to argue that even if the increased production of agricultural crops by healthier Swazi farmers is relatively less than their non-African predecessors, the social and even economic benefits in Swazi terms are still positive. How this last argument is interpreted ultimately depends upon one's own value judgements.

Another development likely to stimulate agricultural productivity is the trend toward the production of livestock for the market as opposed to holding it as symbols of wealth and prestige. Thus, coupled with the long term economic prospects offered by both the crop and livestock sectors, it is felt that the improved health status of the Swazis will more likely than not have a positive impact on output.

Still other reasons why improved health services will promote increased productivity are summarized below:

- With 18 percent of the male labor force employed in South Africa, this leaves a higher proportion of women and children to work on the farms. As women and children are generally in greater need of and are more responsive to health care, their improved health status will likely translate into greater agricultural productivity.

- In addition to the fact that sick farmers cannot perform to their normal ability, agricultural productivity also suffers because of the lack of responsiveness to improvements in work methods, non-formal education, innovation, and risk taking.

- In both the agricultural and industrial sectors better health services eliminate deaths of productive members of the population and reduce absenteeism.

(c) Reduced Fertility

As typical of most developing countries, Swaziland's 3 percent population growth rate continues to exert pressure on the limited land base and the latter's capability to supply the nation with its food needs. As regards this problem and this project, the question arises as to whether better health care reduces fertility or only

increases survival. In the short run, the latter is generally the case, but, in the longer run, a reasonable presumption can be made that better health, particularly by reducing infant and child mortality, will beneficially affect attitudes leading to lower fertility. This presumption is based on: ii) an increasing accumulation of evidence which suggests that in developing societies, attitudes about family size relate directly to expectations of child survival, and ii) the growing trend towards urbanization and the expectations of urban life to provide improved economic and social conditions for dependents.

(d) Improved Motivation and Activities

It may be argued that basic attitudinal changes leading to increased output can occur as health services are improved. For example, as the Swazis feel there is greater control of their environment through control over disease, it may become easier to motivate an increased work effort from them. Also, direct involvement by the GOS may yield increased stability in the rural sector.

(e) Employment

The project is expected to provide either new or higher salaried positions for 100 Swazis over the next 7 years. Construction will provide employment to an additional 40 Swazis for about two years.

(f) Distribution of Benefits

The immediate beneficiaries of the project will be those health worker trainees being employed or upgraded. The ultimate beneficiaries will be Swaziland's low income rural people who comprise 80 to 85 percent of the population and who have not significantly benefitted from the Government's health service to date.

(g) Awareness of GOS Concern

Through perhaps more a political than economic benefit, the popular sense among rural people that the GOS is directly concerned about their welfare is still worthy of note.

3. Cost Effectiveness

By employing the "physician extender" approach whereby Nurse Practitioners are trained to treat the majority of health problems presented at outpatient facilities, the GOS feels it can maximize its return on investment in health worker personnel. The Nurse Practitioner will be able to relieve the doctor of many of the routine duties and treatment that he/she is currently tasked with.

Similarly, the auxiliary nurses will relieve the Nurse Practitioner, and the rural health visitors will perform simple preventative services at the village level that would otherwise not be provided or would require treatment at the nearest clinic. Furthermore, to the extent that preventative efforts are effective, more hospital beds and health workers' time will be available to accommodate more serious cases and thus further enhance cost effectiveness. All these factors considered, the GOS, AID and other donor agencies agree that this project employs the most effective means toward achieving the GOS goal to expand health services to rural areas.

4. Summary Conclusion

Based on the above analysis, it is felt that the project is economically sound in terms of the benefits it will produce and the cost effectiveness of the strategy employed.

IV IMPLEMENTATION PLANNING

A. Administrative Arrangements

1. GOS

(a) Ministry of Finance

The Grant Agreement will be signed by the Ministry of Finance after clearance with the Ministry of Health and Ministry of Public Works. The Ministry of Finance will also be responsible for the timely budgeting and allocation of funds to finance the GOS contribution to the project. A confirmation of this effort was demonstrated by the interrelated agencies meeting held on October 29, 1976, as outlined in Annex X, with respect to the capital requirements for construction. The Ministry of Finance indicated that similar steps would be taken to assure the necessary and timely GOS financing for the other components of the project. The Ministry of Finance will also handle the requests for and the receipt of reimbursements under the Grant.

(b) Ministry of Health

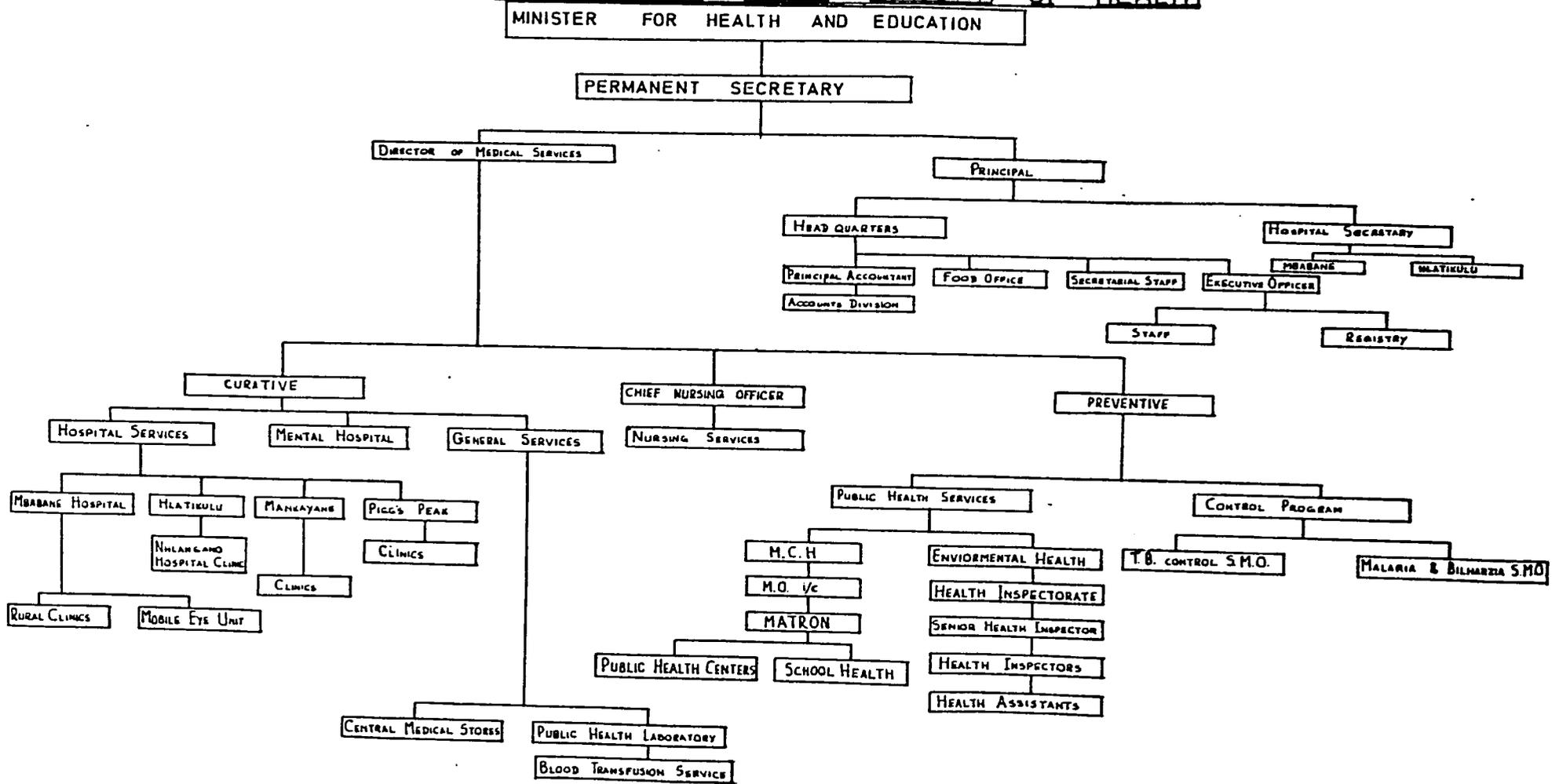
The Ministry of Health will be responsible for organizing, coordinating and carrying out the various project activities. The MOH organization (See Organization Chart) falls into six major categories: The Office of the Permanent Secretary; the Directorate of Medical Services; Administration and Personnel (Principal); and branches or Curative, Preventive, and Nursing Services

The administrative function, including the Office of Hospital Secretary (Administrator), falls under the jurisdiction of the Permanent Secretary and the medical service branches come under the Director of Medical Services.

The three medical service branches (Curative, Preventive and Nursing Services) are administered respectively by the Director, the Senior Medical Officer and the Chief Nursing Officer. These three officers formulate the nucleus that will provide guidance, coordination and backstopping to the Curriculum, Teaching and Training aspects of the project. The Hospital and Rural Health Services Administration project components will be supported by the Medical Officers in charge of the respective hospitals (Mbabane, Hlatikulu, Mankayane, Pigg's Peak), the Director of Medical Services and the Hospital Secretary (Administrator).

Nurse, Swazi tutor and administration training activities will be administered largely by the Chief Nursing Officer with the assistance of the Senior Medical Officer. The Health Inspector program will also be handled by the Senior Medical Officer.

ORGANIZATION CHART MINISTRY OF HEALTH



Planning and statistics will be guided and backstopped by the Senior Medical Officer in coordination with the Director of Medical Services. These activities will also be closely coordinated with the GOS Central Statistics Branch and the Ministry of Finance and Planning.

Based on the project design and the provision of TA administrative support, the MOH feels that the administrative nucleus has the capability to provide the necessary services required for the project. However, the MOH is taking additional steps to strengthen its administrative structure as well as the services required to implement the project.

At present the Director of Medical Services serves as the Principal Administrator of MOH and is also in charge of the Curative Services Branch. An effort is underway to create a Deputy position under the Director of Medical Services to administer the Curative Services Branch. This would parallel the present position held by the Senior Medical Officer in charge of Preventive Services. The MOH is also in the process of requesting external assistance for the provision of a Health Administration Liaison Officer who would help to coordinate project activities with the Permanent Secretary, the Director of Medical Services, the Senior Medical Officer and the Chief Nursing Officer (Matron).

OSARAC has been tentatively approached on the possibility of AID providing the services of such a TA. Internal discussions within OSARAC indicated that the proposed TA services would definitely help to strengthen the MOH administration of the project. However, in view of the built-in project integrated implementation arrangements, as outlined further on in this paper, it was felt that consideration of additional TA assistance could be dealt with separately at a later date without jeopardizing the successful implementation of this project.

(c) Ministry of Public Works

As indicated in Annex IV and Annex X, the MOW will be in charge of construction. This is a well organized and technically competent entity. It has the necessary and experienced personnel to carry out the construction of the institute and the three staff houses in accordance with agreed upon standards and specifications.

2. AID

OSARAC will appoint the appropriate technical staff to monitor and manage the project. Furthermore, arrangements are under way for the assignment of a Health Officer as part of OSARAC's permanent staff. However, until such arrangements are

crystalized, the present staff will maintain communications with the MOH on project matters; note and take action to assure that the Ministry of Health, Ministry of Finance and Ministry of Public Works are performing their agreed to services as defined in the project paper and Grant agreement; keep a close watch on project implementation performance and recommend corrective action when warranted or in the case of slippage.

REDSO will provide construction monitoring and other project implementation services as may be requested by OSARAC such as legal services for the final preparation of the Grant agreement.

Upon signature of the Grant agreement, steps will be taken to initiate construction contract documents and services. These will require approval by REDSO/EA. Necessary project implementation documents will be prepared and issued by OSARAC.

As indicated in the Financial analysis section (p.76) disbursements for technical assistants, participants, and commodities will be made in accordance with established AID procedures. It is proposed that the institutional contract for technical and other services provide that payment claims by the contractor be submitted to the OSARAC controller for direct payment.

Funds for the construction of the institute will be disbursed on a fixed amount reimbursement basis with provision for advances, as requested by the GOS.

3. CONTRACTORS

(a) Contractual Arrangements

AID/W in coordination with OSARAC will contract with a United States institution to provide the Grant funded technical assistance personnel required as shown in table 9 (p.51). The AID TA technicians in administration and statistics will be included within the institutional contract if such expertise is available within the contract institution. Otherwise, they will be contracted separately by AID/W (See Annex V - A through V-G for job descriptions).

Consideration was given to the possibility of a host-country contract in accordance with AIDTO Circular A-564. However, since this involves a University contract, it was not considered appropriate due to the possible exclusion of qualified State Universities where the laws of their respective states preclude the authority of state universities to enter into contracts with foreign governments.

Furthermore, in the opinion of OSARAC, the MOH is not administratively prepared nor does it have the necessary

experience to deal with the contractual requirements of the technical assistance component of the project. It would impose a serious burden on the MOH which could jeopardize the timely implementation of the project and possibly the GOS compliance with terms and conditions of the Grant agreement.

Thus, it is strongly recommended that AID handle the contractual arrangements for the TA component of the project.

Construction will be contracted by the Ministry of Public Works with local firms which qualify under AID criteria and will be subject to AID approval prior to any disbursement for the construction component of the project. There will be two separate construction contracts, one for the institute facilities which will take about two years to construct and one for the three staff houses which will take about six months to build. It is essential that the houses for TA personnel be completed as early as possible. This can be more easily handled by a Contractor utilizing the MOW standard housing design.

(b) Implementation Arrangements

The technical assistance staff specialities and expertise were selected for those particular fields where constraints for the development of trained health personnel and of an administratively coordinated and extended Swazi Public Health Service were most acute.

Implementation arrangements for the project were also designed to utilize this expertise to help overcome MOH administrative constraints and to supplement technical staff shortages, to assure adequate project implementation performance.

The curriculum, teaching and training program will be implemented by technical assistance personnel in accordance with specified terms of reference. The institutional personnel will provide the professional expertise to develop a curriculum; formulate and help implement a health personnel teaching program; develop continuing programs for education of health professionals, team learning opportunities, incountry faculty training, regional health conferences and research; establish adequate evaluation procedures for the overall teaching and incountry training programs; be responsible for the accreditation of incountry training and for the placement of selected nurses within the contract institution to undertake the additional academic training required for their Bachelor of Science Degree in Nursing Education. The implementation of this phase will be supported by other donors who will provide TA expertise in health inspection, Psych/Mental Health, Public Health/Midwifery Education, as well as participant training.

The planning/administration phase of the project will also be implemented by technical assistance personnel. These personnel will be responsible for developing regional hospital and rural health services, institutional and administrative systems and provide guidance and on the job training for their respective counterparts. Public Health Planning activities will be implemented by the TA Health Planner already provided by the U.K. He will receive support through the professional functions to be performed by the U.S. TA Health Statistician. These two TA positions in planning and statistics will eventually be filled on a permanent basis by two Swazi Counterparts who will be trained in the U.S. for this purpose.

The third country training program for Swazi Hospital Administrators and Rural Health Services Administrators will be implemented by the Institute of Development Management in Gaborone, Botswana. Guidance and support will be provided by the U.S. TA Hospital Administrator and Rural Health Services Administrator. It should be noted that the proposed third country training program complies with AID Handbook 10, Chapter 7. Training will take place in a neighbouring country (Botswana); cost is a prime factor since it would be far more expensive to train the proposed 8 participants in the U.S. and an adequate institution and facilities are available in Botswana.

The construction phase will be implemented by the Ministry of Works. Final selection of contractors will be subject to AID approval. MOW will provide construction supervision and REDSO Engineering will inspect the construction phase periodically.

4. PROCUREMENT

(a) U.S. Financed Commodities

Commodity procurement from the U.S., basically medical aids (See Annex IV A) will be handled by OSARAC for the most part. There may be some items that may be purchased locally. However, a waiver for such small purchases will not be required. If the need arises for the local purchase of commodities to be financed by AID, procurement may be carried out under the off-shelf rules or the Director of OSARAC will utilize his waiver authority (up to \$25,000) in accordance with Handbook 15, Chapter 2.

(b) Construction Materials and Labor

The cost of construction materials is estimated at \$650,000, i.e. about 50% 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.

Materials such as cement, steel sheets, roofing, window frames, plumbing fixtures, etc. are normally imported from South Africa or the United Kingdom. For the most part, these are manufactured to standards (size, threads, units of measures, etc.) different from and incompatible with U.S. specifications. Similarly, electrical materials and supplies are 220 volt, 50 cycle, contrary to standard U.S. specifications. It is essential that facilities be constructed using fixtures and materials for which replacement parts and service facilities are readily available in Swaziland.

It would not be practical to purchase U.S. items in the quantities needed when private dealers in Swaziland are equipped only to service and repair equipment made in South Africa and U.K. Moreover, considering shipping costs and the 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 U.S. could also delay project implementation if construction of the institute and housing for AID-financed technicians was delayed. The severe shortage of housing in Swaziland makes it imperative that construction begin at the earliest possible date. Thus, a request is herein made for the approval of a procurement source and origin waiver from AID Geographic Code 000 (U.S. only) to Code 935 for procurement of construction materials.

The Contractors that will construct the institute and TA houses, 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 about \$1.2 million, U.S. firms and personnel will not likely be interested in this work. Thus, as has been the custom of OSARAC in previous project papers that included construction as a component of the project, a request is also made herein for approval to deviate from the policy expressed in AID Handbook 11, Chapter 2, which limits employment of third country nationals for AID-financed construction work to 20 percent of the non-local force.

(c) Vehicles

Three vehicles that will cost the equivalent of approximately U.S. \$30,000 will also be AID financed. Approval will be required for a waiver of the requirements (U.S. only) of the FAA Section 636 (i) to allow the purchase of two project vehicles and a project bus manufactured in AID Geographic Code 935 countries.

The need for this waiver is based on: a) the lack of spare parts in Swaziland for U.S. manufactured vehicles with resultant long down-times as parts are obtained; b) the lack of mechanics with an understanding or experience in maintaining U.S. manufactured vehicles which result in improper and inadequate repair; and c) the safety hazard to U.S. staff presented by left-hand drive

vehicles on narrow, twisting mountain roads and as other vehicles are met or passed.

Virtually the only vehicles of U.S. manufacture in Swaziland are those which AID has provided under other projects. While these vehicles have provided good service there have been problems in securing spare parts which are becoming more serious as the vehicles grow older and require more frequent and extensive repairs.

The problem of spare parts is compounded by the lack of mechanics who understand the componentry of U.S. vehicles. Consequently, even when spare parts are available, they are often improperly utilized resulting in a prompt need for additional repairs and additional down-time. For the AID-financed staff these vehicle breakdowns seriously hinder the performance of duties. The lack of service and spare parts for U.S. manufactured vehicles also present a risk to the health and lives of the persons required to operate the vehicles.

Additionally, the left-hand drive of U.S. vehicles is a genuine hazard accentuated by the large and clumsy configuration of these vehicles designed for wide and well-maintained roads. In Swaziland the long rainy season with frequent heavy fogs on mountain roads with sharp curves and steep grades demands visibility not possible with a left-hand drive vehicle. Passing other vehicles is particularly hazardous.

Vehicles manufactured in the Republic of South Africa are an appropriate substitute for U.S. vehicles. These vehicles are produced by U.S. subsidiaries (Chevrolet, Ford and International Harvester), spare parts are readily available and local mechanics are familiar with the vehicles and able to properly carry out repairs.

Therefore a waiver permitting the procurement of the indicated small number of vehicles from a Code 935 country is considered justified and necessary.

5. OTHER PROJECT IMPLEMENTATION APPROVALS

(5 YEAR PROJECT LIMITATION)

AIDTO Circular A-466 dated June 27, 1975 prescribes a maximum period of five years for the life of a project from date of signature of the Project Agreement to the date of which all goods and/or services have been delivered or performed. However, the circular provides that "in exceptional cases it may not be possible to design a project that can be completed within five years" and, rather than arbitrarily compress the project, a justification should be prepared

explaining the reasons for and necessity of a more lengthy commitment.

The primary reason for exceeding the AIDTO Circular A-466 guidelines by approximately 18 months is to provide sufficient time (2½ years) to initiate, construct and complete the physical facilities before the training of health personnel can begin. However, as mentioned previously (p.68), total disbursement will occur within the prescribed AID limitation (36 mos.) for a capital project. Another reason is to provide adequate overlap between the technical assistance and the participant training components of the project. Three academic participants who will be trained to become permanent tutors at the institute of Health Sciences will not return until the middle of 1983, the last year of the project. To enable an overlap with AID-financed staff it will be necessary for the staff to continue and remain until July/August of 1983.

Since different activities in the life of the project cycle take place at different times of the year it is believed essential that an overlap take place to ensure that the maximum amount of training takes place. A shorter period would mean that some activities would not be performed while both the outgoing expert and the incoming replacement were on-board with a consequent gap in the counterparts' experience. This also applies to other donor TA Assistance which extends beyond 1983. In addition, the proposed project length is designed to allow for the long lead time needed for contracting with and posting TA personnel.

In view of the above, OSARAC believes that a deviation from the policy expressed in AIDTO Circular A-466 of June 27, 1975, which prescribes a maximum period of five years for the life of the project is justified.

B. Evaluation Plan

The evaluation plan designed for this project is divided into three major segments, i.e. (1) the continued evaluation process which has been incorporated as an integral part of the project; (2) annual project appraisal reports (PARs); and (3) independent external evaluations.

1. EVALUATION PROCEDURES INCORPORATED WITHIN PROJECT

(a) Baseline Data

To establish the necessary guidelines for the development of an adequate curriculum and teaching program to meet local conditions and requirements, all TA personnel will initially be required to gather and assemble quantitative and qualitative data within their respective disciplines. This information related to

health problems, practices, training and teaching methodology, administration practices and the logistics of rural services will serve as baseline data for the development and implementation of the various project elements, as well as for future comparison (evaluation) to determine project progress and/or project design adjustments. A major supportive element in this basic endeavor will be provided by the TA Health Statistician who will help to collect and analyze the baseline data required.

(b) Continuous Project Evaluation Process

The curriculum and teaching program will be reviewed and evaluated annually by each TA in accordance with the TA's respective discipline. This will serve as the basis for the preparation of an integrated and total project review and evaluation report by the curriculum team (TA and Swazi faculty) working in conjunction with Curriculum Design Specialist. The report will include recommendations for remedial action to meet student and faculty requirements or project design adjustments that may be required to meet the predetermined objectives of the project as well as timely project implementation. It will be the responsibility of the contracted institution to submit the annual project review and evaluation report with proposed recommendations to the MOH.

The MOH will review and appraise the above annual review and evaluation report and will give due consideration to the implementation of the report's recommendations. In addition, the MOH will prepare its own independent project review and evaluation report with whatever recommendations it may deem necessary and submit such report annually to OSARAC for its consideration, review and comments.

Each annual review and evaluation report to be prepared by individual TA's, the contracted institution and MOH will cover all the basic elements of the project as outlined in the project description in this paper as well as in the annex of the Grant Agreement. The individual TA's will also evaluate the training and on-the-job experience of their Swazi counterparts to determine the adequacy of their performance and capability to assume their designated responsibilities in academic training or administration. On the basis of such evaluation, and if necessary, the TA's will recommend or provide the remedial action required to improve the performance or strengthen the capability of their Swazi counterparts. The U.S. advance placement evaluator will evaluate the in-country training, curriculum design and teaching experience of RN's to ascertain that the quality of such training and experience meets the criteria and credit requirements of a U.S. training institution towards a B.Sc degree in nursing education.

2. PROJECT APPRAISAL REPORTS

OSARAC will submit annual project appraisal reports in accordance with AID regulations. (See Implementation Plan).

The preparation and submittance of the PARs to AID/W have been timed to immediately follow OSARAC's review and appraisal of the MOH's annual project review and evaluation report. REDSO will provide assistance in the preparation of that section of PAR that will deal with engineering and construction. REDSO/Engineering will also prepare construction completion reports after the completion of the IHS and the three staff houses.

3. INDEPENDENT EXTERNAL EVALUATION

Two independent external evaluations have been scheduled during the life of the project. The first will take place in July/August of 1979. This coincides with the completion of the IHS physical facilities and after two years of U.S. TA personnel on board and prior to the initiation of classes in August of 1979. This is considered a critical point at which time some consideration may be given to project design adjustments or future project requirements for adequate and timely implementation. To undertake this evaluation, it is proposed that AID/W provide the same type of expertise that was provided for the design of this project. The second and final independent external evaluation will occur at the end of the project which is presently estimated to occur in July/August 1983. The final evaluation will provide an objective assessment of the project's accomplishments.

C. IMPLEMENTATION PLAN

1. Implementation Schedule

The implementation schedule of the project as designed is as follows:

<u>Date</u>	<u>Action</u>	<u>Agency</u>
<u>FY 1977</u>		
November	PP submitted to AID/W	OSARAC/REDSO
December	PP approved (authorization)	AID/W
January	Grant Agreement signed and PIO's issued. Reference to issuance of PIO's throughout schedule indicates issuance of adequate implementation documents as appropriate such as Implementation Procurement Advice (PIPA). Arrangements for institutional contract started by AID/W	GOS/OSARAC
	Preparation of A&E design, plans and specifications, bid documents and time scheduled for carrying out construction begins.	AID/W
February	IFB for housing construction issued	GOS/MOW
March	IFB for housing construction issued CPs to first disbursement prior to construction of housing under Grant Agreement fulfilled. Construction of three staff houses starts according to MOW already established schedule.	OSARAC/REDSO/GOS
May	Institutional contract for TA's signed	GOS/OSARAC/REDSO
June	Six U.S. TA's arrive to start project implementation	GOS/MOW/REDSO
	(1) FNP Nursing Educator - 4 P/Y (2) MCH/FP Nursing Educator - 3 P/MO (3) Curriculum Design Consultant - 4 P/MO (4) Health Statistician - 4 P/Y (5) Hospital Administrator - 3 P/Y (6) Rural Health Service Admin. - 4 P/Y	AID/W/OSARAC
		AID/OSARAC/GOS

<u>Date</u>	<u>Action</u>	<u>Agency</u>
	GOS provides: Temporary housing for the U.S. health statistician, and the MCH/FP and FNP educators in Mbabane (until the three staff houses are completed); and permanent housing for the U.S. hospital and rural health services (RHS) administrators in Hlatikulu.	GOS/OSARAC
	Two support vehicles for technicians purchased	OSARAC/GOS
August	Four Swazi RNs commence one year of local preparatory training for Nursing Education Participant training	OSARAC/GOS/PROJ. <u>1/</u>
	U.S. MCH/P Nursing Educator completes initial three-month consultancy.	OSARAC/GOS/PROJ.
	IFB for construction of institute issued	OSARAC/REDSO/GOS
	CPs to additional disbursement fulfilled	GOS/OSARAC/REDSO
September	U.S. curriculum design specialist completes initial four-month consultancy	OSARAC/GOS/PROJ.
	Three staff houses completed in Mbabane and two immediately occupied by the health statistician and the FNP educator. (The MCH/FP educator will occupy the third house upon arrival on full-time basis in June 1979).	OSARAC/REDSO/GOS
	Construction of institute starts per MOW schedule	OSARAC/REDSO/GOS
<u>FY 1978</u>		
October	PIO/Cs (for a small school bus and medical equipment and supplies) and new PIO/Ps signed; continuing technicians' and participants' PIOs reissued.	OSARAC/GOS
	IDM curriculum design specialist begins development of curriculum for Hospital Administration trainees.	OSARAC/IDM
January	Base line data survey conducted by project personnel (TA and Swazi)	

<u>Date</u>	<u>Action</u>	<u>Agency</u>
January	U.K. Health center completed	GOS/U.K.
	GOS creates and fills four positions for Rural Health Services Administrators.	GOS/OSARAC
Jan/Feb.	U.S. hospital admin. technician takes over management of Hlatikulu, Mbabane, Pigg's Peak and Mankayane hospitals while four Swazi counterparts attend three 8-week training sessions spaced over the year (1978).	PROJECT/GOS/OSARAC/IDM
	First 8-week Third Country Training session at Inst. of Development Mgmt. (IDM) in Botswana begins for four hospital administration trainees.	OSARAC/GOS/IDM
May	Project personnel prepare annual project review and evaluation report for MOH.	PROJECT
June	MOH prepares Independent project review and evaluation report and submits to OSARAC	GOS
	U.S. Curriculum Specialist and MCH/FP Educator arrive for second consultancies.	AID/W/OSARAC
	U.K. Psych/Mental Health Nursing Educator arrives to join curriculum team.	GOS/UK/OSARAC
June/July	Second, 8-week IDM training session for hospital admin. trainees.	OSARAC/IDM
July	U.S. School of Nursing Advance Placement Evaluator arrives for one month evaluation of below participant trainees before their departure and for first evaluation of two RNs continuing on the curriculum design team.	PROJ/OSARAC/GOS
	Five U.S. and one U.K. participant trainees depart for training.	OSARAC/GOS
	First PAR conducted.	OSARAC
August	MCH/FP Educator completes second three-month consultancy	PROJ/OSARAC
September	U.S. Curriculum Specialist completes second four-month consultancy.	PROJ/OSARAC

<u>Date</u>	<u>Action</u>	<u>Agency</u>
<u>FY 1979</u>		
October	PIO/P (for health planner) signed; continuing technicians' PIOs reissued.	OSARAC/GOS
	IDM curriculum specialist begins development of curriculum for Rural Health Services Administration trainees.	IDM/PROJ/OSARAC/
December	Hospital Administration trainees complete third and final 8-week training session in Botswana at IDM and return to jobs full time.	GOS/OSARAC
	Orders placed in U.S. medical equipment and supplies.	OSARAC/AID/W
Jan/Feb.	First 8-week training session for Rural Health Services administrators begins at IDM.	IDM/PROJ/OSARAC/G
March/May	IHS furnishings listed in Annex IV-B bought and installed by GOS.	GOS
May	Project personnel prepare annual project review and evaluation report for MOH.	PROJECT
June	Construction of IHS completed. Project (construction) completion report prepared by REDSO Engineering.	OSARAC/REDSO/GOS
	MOH prepares annual independent project review and evaluation report and submits to OSARAC.	GOS
	U.S. Medical equipment and supplies (Annex IV-A) arrive in Mbabane for inventoring and distributing throughout the IHS.	OSARAC/GOS
	MCH/FP U.S. Nursing Educator arrives (this time for four years) to help finalize preparations and curriculum for the IHS's first year of instruction.	PROJ/OSARAC/AID/W
	Swazi nurse tutor completes one year of FNP specialization and returns to help finalize preparations and curriculum for IHS opening.	PROJ/OSARAC/GOS
	U.S. curriculum design specialist arrives for third consultancy (two months).	OSARAC/AID/W
	WHO Health Inspector Educator (already in country) begins preparations for first year of Health Inspection instruction with assistance from U.S. Curriculum design specialist.	PROJECT/GOS/WHO

<u>Date</u>	<u>Action</u>	<u>Agency</u>
June/July	Second 8-week IDM training session for RHS- admin. trainees.	IDM/OSARAC/GOS/PROJ.
July	First year courses in Pre-Nursing, Nursing and Health Inspection completely developed and development of second and third year courses in the later two curriculums well under way.	PROJECT
	First independent external evaluation conducted.	AID/W/OSARAC
August	GOS provides staff for IHS which opens for first year of instruction (August-April).	GOS/OSARAC
<u>FY 1980</u>		
October	PIO/Ps (for two prospective nurse tutors) signed; continuing technicians' and participants' PIOs or amendments issued.	OSARAC/GOS
December	RHS-admin. trainees complete third and final 8-week training session in Botswana at IDM and return to their jobs full time.	IDM/GOS/OSARAC
January	British Public Health/Midwifery Nursing Educator arrives to join IHS faculty.	PROJ/UK/GOS
	Swazi nurse tutor departs for year of specialization in Psych/Mental Health in U.K.	PROJ/GOS/UK.
April	First year of instruction at IHS completed.	PROJECT
May	Project personnel prepare annual project review and evaluation report for MOH	PROJECT
June	Hospital Admin. technician departs Swaziland having completed three years of working with and covering for counterparts.	PROJ/OSARAC
	Adequate hospital logistical-management systems functioning under complete control of project trained Swazi hospital administrators.	GOS
	Health Statistician returns from two years participant training in U.S.	GOS/OSARAC

<u>Date</u>	<u>Action</u>	<u>Agency</u>
June	Candidate for Masters in Health Planning completes undergraduate degree and departs for two years participant training in U.S.	GOS/OSARAC/AID/W
	MOH prepares annual independent project review and evaluation report and submits to OSARAC.	GOS
June/July	Curriculum specialist two month consultancy.	OSARAC/AID/W
July	PAR completed.	OSARAC
August	Second year of instruction commences at IHS.	PROJECT
September	British Health Planner completes four years of technical assistance.	PROJ/GOS/U.K.
<u>FY 1981</u>		
October	PIO/P (for one Nurse tutor's one year specialization in MCH/FP) signed; continuing technicians' and participants' PIOs reissued.	OSARAC/GOS
December	Nurse tutor completes year of specialization in U.K. in Psych/Mental and returns to rejoin IHS faculty.	U.K./GOS/PROJ.
February	U.S. School of Nursing Advance Placement Evaluator arrives. Conduct final evaluation of two Swazi (nurses) participant trainees to determine the in-country training credit they should receive towards a B.Sc. Degree in Nursing Education.	AID/W/OSARAC/PROJ.
April	Second year of instruction of IHS completed.	PROJECT
May	Project personnel prepare annual project review and evaluation report for MOH.	PROJECT
June	U.S. technicians (FNP Educator, Health Statistician and Rural Health Services IRHS) Administrator) complete four years of technical assistance.	OSARAC/GOS/AID/W
	Adequate RHS logistical management systems functioning under complete control of project trained Swazi RHS-administrators.	GOS

<u>Date</u>	<u>Action</u>	<u>Agency</u>
June	MOH prepares independent project review and evaluation report and submits to OSARAC.	GOS
	Two Swazi nurses depart for advance placement into a B.Sc. program in Nursing Education in the U.S.	OSARAC/GOS/AID/W
June/July	Curriculum specialist's two month consultancy.	PROJ/OSARAC/AID/W
July	PAR completed	OSARAC
August	Third year of instruction at IHS commences.	PROJECT
<u>FY 1982</u>		
October	Continuing technicians' and participants' PIOs reissued.	OSARAC/GOS
April	Third year of instruction at IHS completed.	PROJECT
	Seven planned Health Inspectors graduate.	PROJECT
May	Project personnel prepare annual project review and evaluation report for MOH.	PROJECT
June	British Psych/Mental Health Nursing Educator completes four years of technical assistance.	PROJ/U.K./GOS
	Four Swazi nurses complete four year B.Sc. degrees in Nursing Education (3 in U.S., one in U.K.) and return to join IHS faculty.	PROJ/OSARAC/GOS PROJ/U.K./GOS
	Swazi Health planner returns from two years training to job as Senior Health Planner in GOS (MOH).	GOS/OSARAC/AID/W
	MOH prepares independent project review and evaluation report and submits to OSARAC	GOS
	Swazi nurse tutor departs for year of specialization in MCH/FP in U.S.	PROJ/OSARAC/AID/W
June/July	Curriculum specialist's two month consultancy.	PROJ/OSARAC/AID/W
July	PAR completed	OSARAC
August	Fourth year of instruction commences at IHS.	PROJECT

<u>Date</u>	<u>Action</u>	<u>Agency</u>
<u>FY 1983</u>		
April	Fourth year of instruction at IHS completed. 20 RNs and seven more Health Inspectors graduate.	PROJECT
May	Project personnel prepare annual project review and evaluation report for MOH	PROJECT
June	U.S. MCH/FP Nursing Educator departs Swaziland having completed four years and two summers of technical assistance.	PROJ/OSARA/COS/AID/
	Swazi nurse tutor completes year of specialization in U.S. in MCH/FP and returns to rejoin IHS faculty.	PROJ/AID/W/OSARAC/G
	Two advance placed nurses complete B.Sc. degrees in Nursing Education and return from U.S. to rejoin IHS faculty.	PROJ/AID/W/OSARAC/G
June/July	Last two month consultancy by U.S. curriculum design specialist.	PROJ/AID/W/OSARAC/G
July	MOH prepares independent project review and evaluation report and submits to OSARAC	GOS
August	End of Project (for AID).	OSARAC/AID/W
	Final External Evaluation.	AID/W/OSARAC
	Project completion report.	OSARAC/REDSO.

D. Conditions Covenants and Negotiating Status

The GOS is in full agreement with the substance as well as with the design of the project. The Ministry of Health, the Ministry of Finance and the Ministry of Public Works were provided with copies of the project paper (draft). The three ministries participated in a thorough review of the project paper and concurred with its contents.

The GOS was also briefed on and has concurred in principle with the conditions and covenants that will be included in the Grant agreement. It is anticipated that conditions precedent to disbursement will require completion of designs, plans and specifications, executed contracts for construction and supervision of construction. Covenants will require the GOS to provide temporary housing for 3 TAs in Mbabane and permanent housing (full tour) for 2 TAs in Hlatikulu; select Swazi tutors, trainees and prospective Hospital and Rural Health service administrators and establish positions for the placement of trained health personnel.

Swaziland Health Logical Framework

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><u>Goal:</u></p> <p>Improve GOS (MOH) health services and expand coverage, as in ten year plan for Development of Health Services.</p>	<ul style="list-style-type: none"> - At least 85% of all inhabitants live within five miles of a clinic. - Permanent staff of each clinic includes two registered nurse/midwives with essential nurse practitioner skills, one auxiliary nurse, and a health assistant. - Rural health facilities receive adequate supervisory and logistic support. - Outpatient facilities adequately backed up by regional and national referral facilities. - Promotive, preventive and curative services offered are accepted and used by the people. 	<ul style="list-style-type: none"> - Comparison of population distribution and clinic locations to determine percent of inhabitants living within 5 miles of nearest clinic. - Study of clinic staffing patterns. - Field visits, interviews, inventories and review of records. - Review of outpatient and inpatient records; tracer studies. 	<ul style="list-style-type: none"> - Other donor funds available as required for capital costs of health system development. - Sufficient GOS funding of recurrent costs of system. - Population able to afford health services. - Doctors and other health workers provide necessary supervision, support and delegation of responsibility to auxiliary health workers. - Trained personnel continue to be used in appropriate positions. - Trained personnel willing to work in rural areas as needed. - Nurse auxiliaries trained by Good Shepherd Hospital are adequate in number and quality for health systems needs. - Population willing to accept services offered by auxiliary workers.

Swaziland Health Logical Framework

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<u>Purpose:</u>			
1) Train nurses and other auxiliary personnel for MOH health services. 2) Institutionalize training capacity. 3) Strengthen planning and administration of MOH health services.	1) 20 nurse practitioners have graduated (4 YR Training) and placed. 2) 14 health Inspectors have graduated (3 YR Training) and placed. 3) 85 nurse practitioners enrolled and attending regular classes. 4) 10 pre-nursing students being taught and prepared for advanced nursing courses. 5) 15 Health Inspectors enrolled and attending regular classes. 6) 6 continuing education courses held. 7) 15 Team Learning Opportunities held 8) 3 Conferences conducted. 9) 5 research projects held. 10) Regional Hospital Administrator systems established. 11) Rural Health Services Administrator system established. 12) A Health statistical system established within MOH. 13) A Health planning system Developed 14) Complete evaluation of IHS Curriculum and courses given each academic year.	1) Review of IHS enrollment and attrition data and projection of production of graduates. 2) Review of testing methods and results of evaluations of students' skills and knowledge against predetermined objectives and criteria. 3) Review of MOH plans, planning activities, plan implementation, and administration/management, especially regarding the rural health infrastructure.	- New positions for faculty and planning, administrative and management personnel established as required. - GOS funds available for new and upgraded positions. - Trained personnel continue to be used in appropriate positions. - Sufficient numbers of suitable candidates for training available.

Swaziland Health Logical Framework

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<u>Outputs:</u>			
1) Functioning Inst. of Health Sciences. 2) Training capability and Program. 3) Trained and Experienced personnel present in health services and planning/admin.	1) Construction of the physical facility completed. 2) The furnishings and necessary equipment installed. 3) An appropriate curriculum developed. 4) Nine trained and experienced Swazi Nurse Tutors are teaching regular classes. 5) At least two continuing Education Courses have been taught annually from 1980 on. 6) At least five Team Learning Experiences have been conducted annually from 1980 on. 7) At least one regional conference has been held annually from 1980 on. 8) Replicable Course designs have been accomplished for each course. 9) Four Swazi Health Administrators trained. 10) Four Swazi Rural Health Administrators trained. 11) One Health Planner trained. 12) One Health Statistician trained.	1) Review of contracts and records of construction, delivery, installation and testing; on site inspections. 2) Review of curricula and of training programs; faculty interviews. 3) Review of faculty composition, training, experience and teaching performance; review of student performance; comparison of both with full program requirements. 4) Review of training, experience and performance of MOH planners and administrators and comparison with job requirements.	1) TA's will develop detailed descriptions job tasks in accord GOS goals. 2) Participant candidates will be available. 3) IHS courses will meet local accreditation requirements.

Swaziland Health Logical Framework

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<u>Inputs:</u>			
<u>AID</u>	<u>AID</u>		
TA: Long Term - Nursing Educators - Health Statistician - Hospital/Rural Health - Serv. Administrators	TA: Long Term = 19½ p/y - 1 FNP Nursing Educator = 4 p/y - 1 MCH/FP Nursing Educator = 4½ p/y - 1 Health Statistician = 4 p/y - 1 Hosp. Administrator = 3 p/y - 1 R.H. Serv. Administrator = 4 p/y	Reviews and audits of AID and OOS records (ProAgs, Implementation orders, contracts) and examination of other donor contributions.	-Available and adequate A&E and construction firms. - Other donor inputs available
TA: Short Term - Curriculum Design - Advance Placement and Evaluation	TA: Short Term = 1 2/3 p/y - Curriculum Design Specialist = 1½ p/y - Adv. Placement Evaluator = 2 p/mo.		-Adequate T.A. personnel can be recruited -Suitable Swazi candidates for faculty and planning/administration positions available for training and employment.
Training: Long & Short Term - Tutoring - Nursing Educators - Statistics - Planning - Hosp. Admin. - Rural Health Serv. Admin.	Training: Long Term = 22 p/y - 2 Nurse Tutors x 1 = 2 p/y - 2 Nursing Educators x 2 = 4 p/y - 3 Nursing Educators x 4 = 12 p/y - 1 Health Statistician x 2 = 2 p/y - 1 Health Planner x 2 = 2 p/y Training: Short Term = 4 p/y - 4 Hosp. Administrators x 6 mo. = 2 p/y - 4 Rural H. Serv. Admin. x 6 mo. = 2 p/y		
<u>Commodities:</u>			
- Lab Equipment Instructional Aids - Transportation	- Lab Equipment and Inst. Aids \$61,000 - 3 vehicles \$30,000		

Swaziland Health Logical Framework

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<u>Inputs:</u>	<u>AID</u>		
Construction:	<u>AID</u>		
<ul style="list-style-type: none"> - Training Facility - TA Housing 	<ul style="list-style-type: none"> - Health Training Institute - 3 Houses. 		
	<u>GOS</u>		
Tutors	9 Swazi tutors		
Counterparts	- 4 Counterparts-Hosp. Admin.		
Participant Trainees			
Established Positions	- 4 counterparts - R.H.S. Admin.		
Adm. Support	- 8 Tutors & Nurse Ed. Part. Trainees		
Trainee Support	- 1 Statistician Part. Trainee		
Staff Housing	- 1 Health Planner Part. Trainee		
Furnishings for IHS	- Positions Estab. for all of above		
Student & Faculty Supplies	- IHS Swazi & TA Adm. support		
Land	- Support for Trainees		
A&E Services for Construction	<ul style="list-style-type: none"> - Temp. Housing for TA's in Mbabane and Permanent Housing 2 TA's in Hlatikulu - IHS Furnished - Supplies provided for IHS - Land Appropriated - A & E Services Completed. 		

Swaziland Health Logical Framework

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<u>Inputs:</u>			
<u>Other Donors</u>	<u>Other Donors</u>		
TA: Long & Short Term Tutors Planning Administration	TA: Long & Short Term = $18\frac{1}{3}$ p/y - 1 Health Insp. Educator = $4\frac{5}{6}$ p/y - 1 Psych/Mental Educator = 4 p/y - 1 Public Health/Midwifery Educator = 4 p/y - 1 Health Planner = 4 p/y - 1 Health Admin. Instructor = 1 p/y - 1 Health Admin. Curr. Des. Spec. = $\frac{1}{2}$ p/y		
Training: Long & Short Term Tutor	Training: Long & Short Term = 5 p/y - 1 Nurse Tutor Psych/M.H. = 4 p/y - 1 RN Nursing Educator = 1 p/y		
Construction: Training	Construction: 1 Rural Health Center.		
<u>Other:</u>			
Third-Country Training	- 4 Hospital Admin. Trainees = 2 p/y - 4 Rural Health Admin. Trainees = 2 p/y		

SWAZILAND



GOVERNMENT

file 672-0062
Annex II

Ministry of Finance & Economic Planning,
P. O. Box 602,
MBABANE.

December 31, 1975.

Mr. Charles D. Ward,
Regional Development Officer,
United States Agency for International
Development,
P. O. Box 750,
MBABANE.

Dear Mr. Ward:

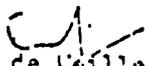
As you are aware, the Government of Swaziland has determined to proceed with the programme for development of public health services as set forth in the Ten Year Health Plan. The Health Plan identifies, inter alia, two critical areas where technical assistance can be instrumental in support of efforts to re-orient this country's health services system and provide broader, more effective care in the rural setting. These are the areas of health manpower training and health services planning and administration.

Recognizing USAID's demonstrated interest in fostering improved Swazi health services with a focus on rural requirements the Government of Swaziland hereby requests favorable USAID consideration of full project involvement in this endeavor. Specifically, USAID assistance is requested for

- 1) the construction and equipping of a training facility to service government requirements for qualified health personnel;
- 2) the technical assistance of two nurse tutors for curriculum design, advice and assistance in instruction and administration of the training facility, and training of Swazi counterparts;
- 3) the technical assistance of one health planner and two health services administrators to strengthen the capacity of the Ministry of Health to plan and administer its health services programme;
- 4) short term advisory services as appropriate, particularly in the areas of health statistics, curriculum design, and programme evaluation;
- 5) long and short-term training of Swazi counterparts to U.S. technicians and as otherwise appropriate;

Your attention to this request will be highly appreciated. We trust that the Government of Swaziland can continue to count on USAID assistance in its health sector development programme.

for:


Jan de Meille
PERMANENT SECRETARY

TELEGRAM

Annex III

CN: 0546

ACTION: AID - REDSO

UNCLASSIFIED

INFO: AMB DCM ECON ADM

Classification

9 JAN 76 04:16

CONT CH RF

ACTION TAKEN

R 082116Z JAN 76
FM SECSTATE WASHDC
TO AMEMBASSY NAIROBI 5607
BT
UNCLAS STATE 001209

DATE ANSWER DUE 1-13-76

INITIALS DATE

AIDAC

FOL RPT STATE 001209 ACTION MEABANE DTD 2 JAN

QUOTE

UNCLAS STATE 001209

AIDAC

E.O. 11652: N/A

TAGS:

SUBJECT: SWAZI HEALTH MANPOWER TRAINING PRP

1. ECPR MET DECEMBER 23 AND AGREED OSARAC SHOULD PROCEED TO PP STAGE OF PROJECT DESIGN SUBJECT TO CLARIFICATION/RESOLUTION OF FOLLOWING COMMENTS/QUESTIONS:

A. PRP DOES NOT MENTION SUPERVISION DURING CONSTRUCTION OF TRAINING FACILITY. SINCE THIS WILL BE RATHER COMPLEX STRUCTURE REQUIRING TWO YEARS TO CONSTRUCT AND EQUIP IT WOULD SEEM TO WARRANT--AND PP SHOULD ADDRESS--CLOSE SUPERVISION OF CONSTRUCTION TO ENSURE ADEQUATE FINAL PRODUCT.

B. PP SHOULD DISCUSS AND EXPLAIN HOW OSARAC/PEDSO INTEND CARRYING OUT 611[A] REQUIREMENT FOR REASONABLY FIRM COST ESTIMATES INVOLVED IN WHAT IS NOT AN INSIGNIFICANT CAPITAL PROJECT UNDERTAKING. WILL PEDSO ALONE PROVIDE NECESSARY ENGINEERING SKILLS TO MAKE THIS DETERMINATION OR WOULD REDSO/OSARAC PREFER AN AID/W ENGINEER TO ASSIST? OSAPAC/PEDSO SHOULD NOTE THAT TRAINING CENTER SITE WILL HAVE TO BE SELECTED BEFORE SUCH A DETERMINATION CAN BE MADE.

C. PPP [P. 40] DOES NOT SUFFICIENTLY DISCUSS WHY OSARAC/

TELEGRAM

PAGE 2,....

UNCLASSIFIED

CN: 0546

Classification

9 JAN 76 04:16

REDSO BELIEVE FAR PROCEDURE UNSUITABLE FOR TRAINING CENTER. NOTE THAT OSAFAC/REDSO APPARENTLY WILLING ADOPT THIS TYPE PROCUREMENT FOR STAFF HOUSING, BUT NOT FOR CENTER ITSELF. SOME DISCUSSION AS TO WHY OSAFAC/REDSO HAVE TAKEN THIS POSITION SHOULD BE DEVELOPED IN PP, AS WELL AS JUSTIFICATION IF PP RECOMMENDATION IS NOT TO USE FAR.

D. PP SHOULD INCLUDE DISCUSSION OF APPROPRIATE ENVIRONMENTAL ISSUES [E.G. WATER SUPPLY, WASTE DISPOSAL, POWER, ETC.].

E. PP SHOULD NOT COMMIT AID TO OPEX MECHANISM FOR AID-FUNDED STAFFING.

F. WHAT KINDS OF FIRM COMMITMENTS ARE THERE, OR WILL THERE BE, FROM OTHER DONORS INVOLVED IN PROJECT?

G. BELIEVE THERE SHOULD BE EVALUATION BEFORE FIRST ONE SCHEDULED IN PPP FOR JANUARY 1980 [27 MONTHS AFTER PROJECT IMPLEMENTATION]. PP SHOULD DISCUSS SOME OF THE QUOTE CRITICAL POINTS UNQUOTE IN THE PROJECT AND WHERE OTHER EVALUATIONS ARE APPROPRIATE.

H. LOGFRAME [PAGE 46D] SHOWS LONG TERM TRAINING OF TWO NURSE TUTORS FOR FOUR YEARS EACH. WHAT IS JUSTIFICATION FOR FOUR YEAR TRAINING AS AGAINST ONE YEAR TRAINING FOR FOUR OTHER NURSE TUTORS?

I. PP SHOULD EMPHASIZE IMPORTANCE OF FAMILY PLANNING AS INTEGRAL PART OF PROJECT.

ASSURE OSARAC WILL PROVIDE SCOPES OF WORK AS APPROPRIATE AND ADVISE DESIRED DATES FOR SHORT TERM CONSULTANCIES MENTIONED PPP PAGE 46 FIRST PARA. INGERSOLL

UNQUOTE KISSINGER

UNCLASSIFIED

ENGINEERING AND TECHNICAL ANALYSIS

A. Preliminary Studies and Plans

Three sites were considered as possible locations for the Institute of Health Sciences, two in the capital city of Mbabane and one in the town of Hlatikulu. After carefully weighing the advantages and disadvantages at each location, the MOW and MOH decided in favor of a location adjacent to the Mbabane General Hospital in Mbabane. The site offered several major advantages:

1. There is ample space and the site is so located that the IHS can be isolated as a separate complex apart from the Hospital.
2. The site has a regular slope to the north but a sharper fall to the east along its eastern boundary and a further feature is two large granite outcrops toward its southern end.
3. The site is picturesque and scenic and offers an architect an opportunity to exploit these natural advantages.
4. There is easy access to a main road. However, the institute will be isolated from road noises, fumes and distractions.
5. Sewer, water and electricity are easily accessible.
6. The Hospital laundry can be utilized thus eliminating the need for this facility.
7. Students can walk to the Hospital for special case studies or practice sessions. (See figures 1 and 2 of the Annex).

The Ministry of Works engaged the services of an Architect and Engineering Consultancy Firm to design and produce preliminary plans and cost estimates. The firm selected has had extensive background experience in the design and construction of hospitals and training institutions and appears to be well qualified. The architect met with the Permanent Secretary of the MOH, The Senior Medical Officer MOH, The Senior Architect MOW and the Project Design Team at which time general guidelines and parameters were specified and particular requirements were outlined. The architects were instructed to produce plans that would efficiently utilize the natural advantages of the area with minimum disturbance of its natural beauty. The facilities were to be conservative, in good taste and designed for the efficient utilization of space and manpower requirements. Although the Institute of Health Sciences (IHS) is to be located adjacent to the Hospital it is not to be integrated with the Hospital. The architects visited the proposed site in the company of the Mbabane General Hospital Superintendent and the Senior Architect MOW. The area was defined and certain constraints and suggestions were offered. The architects agreed to have preliminary plans and cost estimates ready for discussion on July 21, 1976.

The plans and estimates presented on July 21 were examined by the MOH and the Design Team and were found to be too elaborate and costly. Thus, the architects were requested to revise the preliminary plans in order to eliminate excess space, reduce the cost and move facility to the east end of the site away from the hospital. This was done and on July 30 revised plans and estimates were submitted that were acceptable. The cost estimates for the Institute of Health Sciences that will accommodate 150 students (both sexes) and the establishment of individual units to house the facilities are listed as follows:

<u>I.H.S. Facilities</u>	<u>Quantity</u>	<u>Area</u> (M ²)	<u>Total</u> (M ²)
<u>1. Classrooms, Offices and Related Facilities Complex</u>			
Regular Classroom (20 Students)	2	35.0	70.0
Nutrition Classroom (20 Students)	1	37.5	37.5
Multi-purpose Classroom (20 Students)	1	47.5	47.5
Science Laboratory with Storage (20 Students)	1	110.0	110.0
Health Inspectors Classroom (10 Students)	1	17.5	17.5
Public Health Nurse/Health Asst. Classroom (10 Students)	1	17.5	17.5
Library (3000 books/1000 periodicals/study space for 50 students)	1	185.0	185.0
Students toilets	4		50.0
Storerrooms	3		30.0
Principals office (with private toilet	1	32.5	32.5
Principal's Secretary	1	10.0	10.0
Nurse Tutor's offices	9	8.75	79.0
Faculty toilets (Male and Female)	2		25.0
Faculty Lounge	1	16.5	16.5
Central Office (for 5 secretaries/typists, Receptionist, etc.)	1	38.5	38.5
Faculty Conference Room (for 20 persons)	1	16.5	16.5
Lecture/Demonstration Room (60 Students)	1	123.5	123.5

The building housing the Institute is partly double and partly single storied with all the single story sections built to support a second story, thus allowing for future expansion;

The Science Laboratory is sub-divided into areas for formal instruction, demonstration and storage;

The library is sub-divided into areas for storage and repair etc reference, book and periodical storage, catalogues, study tables and carrels with a Supervisor's Station;

In the Classroom-Office Complex, students toilets are located on both levels for both sexes. Seven storerooms are also included. Two storerooms (one on each level) are provided for the Classroom-Office Complex with separate storerooms being provided within the Library, the Science Laboratory as well as a projection/storage room for the Multi-Purpose Classroom and two storage rooms for the Lecture/Demonstration Room;

The Principal's office is zoned into a formal area and a discussion/meeting area, has its own toilet and is connected to the Secretaries Office;

Faculty toilets are provided for both sexes only at the lower level;

The Faculty Lounge and Faculty Conference Room are separated by a folding room divider and has a tea kitchen serving it;

The Central Office is designed to provide an enquiries desk as well as secretarial space for general typing, records and duplicating facilities;

The Lecture/Demonstration Room is housed in a separate building connecting with the upper level of the Institute. It is an independent, self-contained facility designed for multi-purpose use, i.e. besides that of the I.H.S. while it does not have toilet facilities, these are available for use within the institute.

A separate storeroom, to serve as a back-projection room, is provided for the Multi-purpose Classroom which is fitted with "black-out" venetian blinds.

It is proposed that the building be a concrete framed structure with a concrete slab over the single story to provide for future expansion.

Cost estimates for the Complex, including the Lecture/Demonstration Room include the following:

Electric (panel) heating for the offices;

Hot-water (circulated) heating for Classrooms and Library;

Shelving and work-tops in Library but excluding carrels and study tables;

Shelving in Storerooms;

Enquiries counter;

Sink and serving counter in tea room;

Built-in laboratory benches in Science Laboratory including demonstration work tops and fume hood;

Stove, sink and work-tops in Nutrition Classroom;

Blackboards in all Classrooms;

"Black-out" venetian blinds in Multi-purpose Classroom and Lecture/Demonstration Room;

Installation of services (hot and cold water, electricity and drainage) within the building itself.

Estimated Cost of the Classrooms, Offices and Related Facilities
Complex as described above is U.S.\$167,900 or E.146,000.00

2. One Kitchen/Dining/Assembly Hall

360 M²

As the Hospital will provide laundering for the Institute a general laundry is not provided. Laundry facilities are, however, provided within the Hostels for students to wash their personal clothing;

The kitchen is designed to operate with a self-service counter and is provided with storerooms and cold-rooms;

The Dining/Assembly Hall is designed as a multi-purpose area with black-out and projection facilities;

The building is conveniently located to serve the Institute and the Hostels;

Because of the natural slope of the site and its central location within the proposed development, the boiler house, low tension and high tension transformer rooms and general storage facilities are planned at a lower level under this building.

Cost estimate for the Kitchen/Dining/Assembly Hall include the following:

A Fireplace in each corner of the main hall;

Projection room and toilets;

Installation of services within the building itself.

Estimated cost of Kitchen/Dining/Assembly Hall described above US \$80,500
E.70,000.00

3. Fixed Kitchen Fittings

Cost estimates for kitchen fittings include the following:

Stoves, fryers, ovens and steam pots;

Self service counter and steam tables;

Sinks, worktops etc.

Estimated cost of the kitchen fittings is US \$17,250
E.15,000.00

4. Boiler House/Switch Rooms and Gen. Storage 100.0 M²

This accommodation is provided under the Kitchen/Dining, Assembly Hall and includes:

Boiler House;

High Tension and Low Tension Switch Rooms;

General (chair, garden etc.) storage;

Cost estimates for the Boiler House etc. include the following:

Hot Water Boiler installation;

Electrical Switchgear but excluding transformers;

Installation of services within the building itself.

Estimated cost of the Boiler House etc. as described above is US \$40,250
E.35,000.00

5. Female Hostel

<u>Facility</u>	<u>Quantity</u>	<u>Area</u> (M ²)	<u>Total</u> (M ²)
Entrance/Waiting	1	20.0	20.0
Office	1	7.5	7.5
Accommodation for Housemother	1	25.0	25.0
Common Rooms (1 per floor)	4		115.0
2 x 2 - Bedrooms (4 bed units)	26	27.0	702.0
2 - Bedrooms	8	13.5	108.0
1 - Bedroom	4	16.0	64.0
Laundries (1 per floor, for personal clothing) including drying balconies.	4	13.5	54.0
Linen Rooms (1 per floor)	4	10.0	40.0
Box/Store Rooms (1 per floor)	4		50.0
Ablution Areas (1 per floor) including cleaners storeroom.	4		180.0

The Female Hostel is proposed as a concrete framed 4-story structure (without an elevator) with the entrance at the second level;

Living accommodations with an office is provided for the Housemother at the entrance level at which level is a common room (for the reception of mail visitors);

It is intended that the students will do their own private laundry and for this purpose a small laundry with a drying balcony is provided on each floor level;

Accommodation is generally provided in the 4-bed units (each with a washbasin) with one single room, intended as a sick-bay with private bath. Adjoining the sick-bay is a 2-bed Room which can utilize the sick-bay bathroom;

Utility spaces (box rooms etc.) are provided at each level.

Cost estimates for the Female Hostel include the following:

Built-in cupboards, shelving etc.;

Fireplaces in Common Rooms;

Laundry fittings and chute;

All sanitary ware;

Installation of services within the building itself.

Estimated cost of the Female Hostel as described above is US \$287,500
E.250,000.00

6. Male Hostel

<u>Facility</u>	<u>Quantity</u>	<u>Area</u> (M ²)	<u>Total</u> (M ²)
Entrance/Waiting	1	20.0	20.0
Office	1	7.5	7.5
Accommodations for Supervisor	1	25.0	25.0
Common Room	1	25.0	25.0
2 x 2 Bedrooms	6	27.0	162.0
2 -Bedrooms	3	13.5	40.5
1 -Bedroom (with bath)	1	16.0	16.0
Laundry (for private clothing)	1	10.0	10.0
Box/Store Room	1	10.0	10.0
Linen and Laundry Collection	1	10.0	10.0
Ablution Area	1	34.5	34.5

The Male Hostel is intended to be a single story load-bearing blockwall structure with a slab over to allow for an additional floor to be constructed if future demands require;

The layout of this building is generally the same as that of the Female Hostel. Cost estimates for the Male Hostel include the same items as included for the Female Hostel.

Estimated cost of the Male Hostel as described above is US \$80,500
E.70,000.00

7. Siteworks

- Roads and parking area;
- Covered parking;
- Site levelling etc. as necessary;
- Road and area lighting;
- Gathering place for mail students;
- Main electrical connection from existing supply to H.T. Room (estimated length 100 M).
- Main water connection from existing supply (75 mm pipe);
- Sewer and stormwater drainage from individual buildings to municipal connections;
- Hotwater installation from Boiler House to individual buildings.

Estimated cost of the Siteworks is US \$ 83,375
E. 72,500.00

8. Covered Ways

Covered ways comprising concrete floors and ramps, tubular supports and IBR roofing.

Estimated cost of the covered ways is US \$ 5,750
E. 5,000.00

9. Staff Housing - 119 (M²)

Three houses will be constructed for the U.S. Technicians at a location apart from the Institute and Hospital complex. These houses will be of Standard MOW design for which plans and specifications are presently available. The houses will have three bedrooms and include a fire place and servants quarters. The model will be equivalent to that generally occupied by Senior Service Staff and shall include standard hard furnishings and equipment. The houses will be constructed on lots identified by the Senior Architect of the MOW and inspected by the Design Team in the general area of the British High Commissioner's Residence. The Senior Architect assured the Design Team that title to the property has been assigned

to the MOW and they were available for construction and that utilities are presently available at the site.

Estimated cost of the three Staff Houses is US \$74,750
E.65,000.00

NOTE: The above cost estimates do not include the following:

Loose furniture and equipment, including students desks, benches etc.

Kitchen equipment other than that specified herein.

Any provision for inflation or escalation of prices.

Professional fees.

Landscaping or the provision of sports facilities.

Site fencing.

<u>Summary of Cost Estimates</u>	(Loc. Curr.)	(U.S.\$)
Classrooms, offices and related facilities Complex.	E. 146,000	167,900
Kitchen/Dining/Assembly Hall	70,000	80,500
Female Hostel	250,000	287,500
Male Hostel	70,000	80,500
Boiler House etc.	35,000	40,250
Covered Ways	5,000	5,750
Siteworks	72,500	83,375
Kitchen Fittings	15,000	17,250
Three Technicians Houses	65,000	74,750
Sub Total	<u>E. 728,500</u>	<u>837,775</u>
Add contingencies at approx. 10 percent	72,500	83,375
Add for inflation at 15 percent p.a. for two years.	259,000	297,850
TOTAL	<u>E.1,060,000</u>	<u>1,219,000</u>
One E. (Emalangen) = \$1.15		

<u>Summary of Cost Estimates (by Units)</u>	(Loc.Curr)	(U.S.\$)
1. <u>Classrooms, offices and related facilities Complex</u>	E.146,000	\$ 167,900
Contingencies	15,000	17,250
Inflation	<u>51,000</u>	<u>58,650</u>
Total	E.212,000	\$ 243,800
2. <u>Kitchen & fittings/Dining/Assembly Hall/Boiler House</u>	E.120,000	\$ 138,000
Contingencies	12,000	13,800
Inflation	<u>44,000</u>	<u>50,600</u>
Total	E.176,000	\$ 202,400
3. <u>Female Hostel</u>	E.250,000	\$ 287,500
Contingencies	25,000	28,750
Inflation	<u>89,000</u>	<u>102,350</u>
Total	E.364,000	\$ 418,600
4. <u>Male Hostel</u>	E. 70,000	\$ 80,500
Contingencies	7,000	\$ 8,050
Inflation	<u>26,000</u>	<u>29,900</u>
Total	E.103,000	\$ 118,450
5. <u>Site Works/Covered Way</u>	E. 77,500	\$ 89,125
Contingencies	7,500	8,625
Inflation	<u>27,000</u>	<u>31,050</u>
Total	E.112,000	128,800
6. <u>Three Technician's Houses</u>	E. 65,000	74,750
Contingencies	6,000	6,900
Inflation	<u>22,000</u>	<u>25,300</u>
Total	E. 93,000	\$ 106,950
GRAND TOTAL	E. 1,060,000	\$ 1,219,000

The costs of furniture, equipment and medical supplies for the Institute will be shared by GOS and AID and is shown separately. A list of items (equipment and medical supplies) for AID financing has been prepared and costed out. (See Annex IV-A). A preliminary list of furniture and equipment to be furnished by the Host Government has also been prepared; however, this list may have to be further refined when final design plans have been prepared and actual requirements can be determined. (See Annex IV-B).

B. Construction Standards

Construction will be based on the following standards:

Concrete framed or load-bearing structures with corrugated, steel-sheet (IBR) roofing;

Internal walls of blockwork with one coat of plaster and Polyvinyl, plastic-based paint (PVA);

Rough cast plaster to slab soffits and PVA;

Vinyl tile flooring;

Standard steel windows with limited fly-screening;

Simple built-in fittings and standard sanitaryware;

Simple, durable external finishes;

Stand-by electrical water heating;

Tarmac roads and parking area generally without curbs;

No provision for smoke or fire detection

Coal-fired boiler and stoves with electric fryers, cold room plant etc.

Building codes and standards have not been legislated in Swaziland; however, standards and criteria developed by the MOW will be utilized for all construction.

C. Construction Labor and Materials

There is no shortage of unskilled labor in Mbabane and contractors maintain their own staff of skilled and semi-skilled workers. In addition, for a contractor to be included on the List of Approved Contractors for Public Works he must agree to train Swazis. A Grade I, (Contractor eligible for contracts exceeding E.500,000 or U.S.\$575,000) which would be required for this construction, would have to have a

minimum eight trainees in employment. This system is producing a cadre of semi-skilled and skilled workers in Swaziland.

Sand and gravel as well as cement block are available locally; however, cement, other building materials, hardware and fittings will have to be imported, or purchased from local suppliers of imported stock. Metric and British or South African Standards for fittings and equipment are generally specified as standards in Swaziland. Since practically all building supplies and equipment used in Swaziland have their source and origin in the U.K. or the R.S.A., it will be necessary to secure a waiver that will permit the procurement of:

Cement;

Re-bar and other steel forms and shapes;

Electrical fittings and wire;

Plumbing fittings, pipe and sanitary equipment;

Iron or steel manufactured goods, and

other building supplies including hardware and fittings, that have their source and origin in 935 countries.

The value of such supplies and commodities is estimated to be approximately 50 percent of the total building cost.

The construction as planned should not require any sophisticated construction machinery or equipment. Necessary machinery or equipment is generally available as property of the contractor, or is available for hire in Mbabane.

D. Plan for the Execution of Construction Phase of Project

It is anticipated that six months will be required after final project approval and the signing of the PRO/AG to prepare final designs, bid package, tender and award contract. Construction will require at least eighteen months but should not exceed two years. It is therefore necessary to allow at least 30 months from the date funds are authorized for disbursement to the occupancy of the facility. The MOW has established uniform procedures and standard criteria for tendering, preparation of IFB and contracting and it is intended that these procedures will be utilized for this construction contract. There are six contractors registered with the MOW classified as Grade I, i.e. qualified to bid on contracts valued from E.500,001 (US \$ 575,001) to unlimited. Registered contractors in Swaziland are divided into the

following categories:

- S - Swazi, being companies or firms with more than 60 percent Swazi held shares or capital and with the majority of Directors being Swazi nationals, established a minimum of 12 months before registration, or companies under National Industrial Development Corporation (N.I.D.C.) sponsorship.
- L - Locally established companies or firms not qualified for registration under category "S" above. Further clarification of this designation specifies that: "L" firms are locally established firms legally organized and registered in Swaziland. These firms have their principal offices in Swaziland and have done considerable amount of work here, and as such can be considered an integral part of local economy.
- E - External, companies or firms established outside Swaziland but are registered with the MOW to do work in Swaziland. Their principal offices are outside Swaziland.

Of the six registered contractors in grade 1 mentioned above, four are in category "L" and the other two are listed as "E." Therefore, there are four registered contractors eligible to bid under the MOW regulations that also satisfy AID requirements as eligible bidders.

It is anticipated that the Fixed Amount Reimbursement Method (FAR) will be utilized for funding the construction element of this project. This system has been successfully used in Swaziland and Lesotho for funding the construction of technician's housing and can certainly be applied to the construction of the Institute and the three houses included in this project. (See Disbursement Procedures, Page 76).

Prior to contracting, AID will approve final designs and specifications and when the contractor is chosen, AID will ascertain that the contractor is technically competent and financially responsible prior to award of the contract. In addition, AID will make period inspections as the work progresses and a final inspection at the completion of the construction.

A condition precedent to the disbursement of funds will be included in the Grant Ag which will require that the COS/MOW furnish evidence that a contract has been effected with a consulting engineering firm to furnish final designs, construction drawings, specifications and furnish supervision, or that the MOW will provide these services with their own facilities and staff. The site of the Institute is physically located only a short distance from the MOW and could be under surveillance daily.

E. Conclusion

Early studies envisioned rudimentary training facilities and box type class work facilities. However, the employment of consultants and involvement of specialists in public health and more training introduced more refined and practical criteria and requirements.

Several proposals requiring the physical location of the Institute of Health Services (IHS), its design and magnitude have been examined by various parties including REDSO Engineering and it is the considered opinion of the Design Team that the proposal contained here is technically sound and feasible.

The physical facilities proposed are neither frugal nor pretentious but in good taste and functional and so designed to conform with local cultural constraints.

The design phase and cost estimates have been reviewed and analysed by REDSO Engineering and appear to be reasonable, the calculation is accurate. The quantity surveyors of GOS/MOW maintain a monthly record of cost escalation and inflation trends. Therefore, the inflation factor and contingency allowance included herein are based on projection of this data. Additionally, the MOW quantity surveyors have estimated the construction cost independently and arrives at a figure that varied from quotes below by less than 0.4 percent.

The construction site of the IHS and the site of the three houses was inspected by REDSO Engineering and was found to be acceptable and adequate; the utilities are present and available.

Bids will be received and analysed by the consultant/MOW and approved by REDSO. The Grant Agreement will provide a language requiring MOW to provide construction supervision with the assistance of the consultant. REDSO will also inspect the construction periodically.

Thus, it is concluded by REDSO Engineering that the technical design, planning for the site of the project, construction supervision and the construction cost estimates are reasonable, firm and acceptable and therefore, meets the 611(a) requirements of the FAA Act of 1961 as amended.

F. Environmental Analysis

1. Identification of Areas Where Environmental Impacts Could Occur.

(a) Land Use

The site chosen for the Institute of Health Sciences is adjacent to the Mbabane General Hospital in Mbabane. There is ample

space and the site is so located that the IHS can be isolated as a separate complex apart from the hospital. The site has a regular slope to the north but a sharper fall to the east along its eastern boundary and has two large granite outcrops toward its southern end.

The site fits in with the overall planning of having medical units in the same general area. The land use by this facility will have little effect on natural resources such as mineral, atmospheric, water or productive soils.

At the present time the area is considered vacant and, therefore, has little effect on the population density. There is easy access to sewer, water and electricity, therefore, there should be no contamination of the water by waste disposal.

The site has access to transportation and a major road is nearby so that construction of an access road to the facility should not contribute adversely to the environment.

The design of the project is such that it utilizes the natural advantages of the area with minimum disturbance of its natural beauty. The facility will not have any major effect on the topography as it exists now.

There are adequate systems for disposal of human wastes, thus, preventing any pollution of nearby streams. Adequate provisions have also been made to prevent any erosion of the soil due to runoff during construction period and thereafter. There is no effect on the dislocation or relocation of area residents as the site is vacant.

(b) Water Quality

The water for this facility will be supplied by the city water system, therefore, it is not considered to have any environmental impact on such considerations as lowering of the water table or contamination of boreholes. The human waste will be disposed into the sewer system which now serves the hospital. Therefore, there should be no contamination of the environment from this respect. The sewer system that now serves the hospital is considered adequate to also serve this new facility.

(c) Atmospheric

There will be some pollution of the atmosphere by the construction of a boiler house which will be used to heat water for the hot water heating system, kitchen, and from the fireplaces in the main hall which are also used for heat. However, the pollutants that enter the atmosphere from these sources are considered minimal. The modern

boiler will be of the latest design which will emit tolerable air pollutants. There are no other sources of air pollutants from this project.

(d) Natural Resources

There is no known destruction of the natural resources as a result of this project. Every effort is made to conserve the natural beauty of the area. Trees will be protected and the ground disturbed as little as possible.

(e) Socioeconomic and Cultural

As a result of this project, there should be little change in the pattern of economic growth. There will be movement, resettlement and a little change in the population as people affected by the facility will tend to live closer to it. There will be no destruction or altering important physical symbols of a culture, monuments, sacred grounds or ancient shrines.

(f) Health

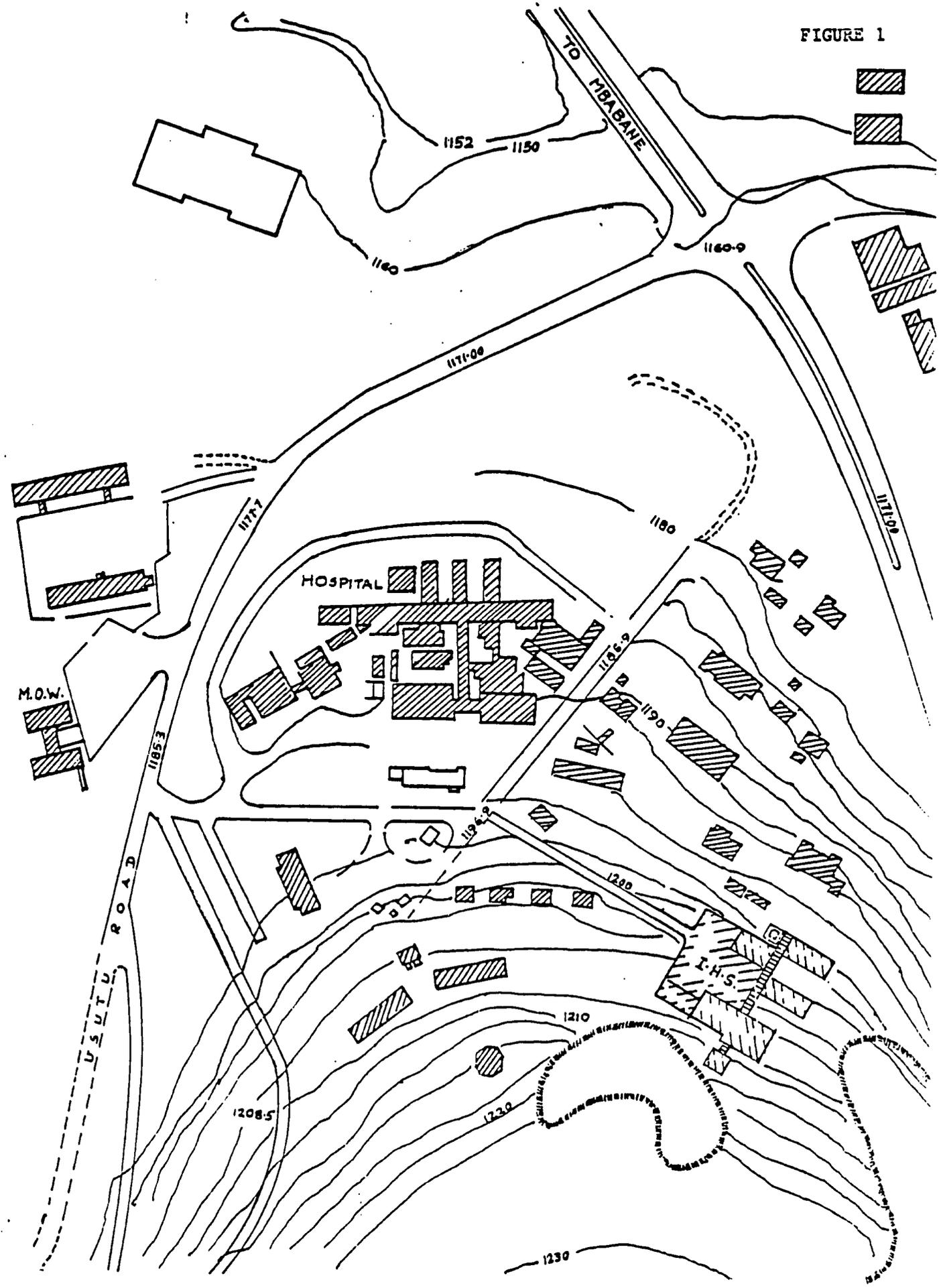
There is no reason to believe that any part of the proposed project will affect the health of man in a detrimental way. There will be no altering or destroying a natural environment nor eliminating an element in an ecosystem.

(g) Conclusion

The adverse effects on the environment from the project range in intensity from "nil to little." Therefore, it is the conclusion that the proposed project with its many components gives no indication that it will have any significant effects on the human environment as a whole.

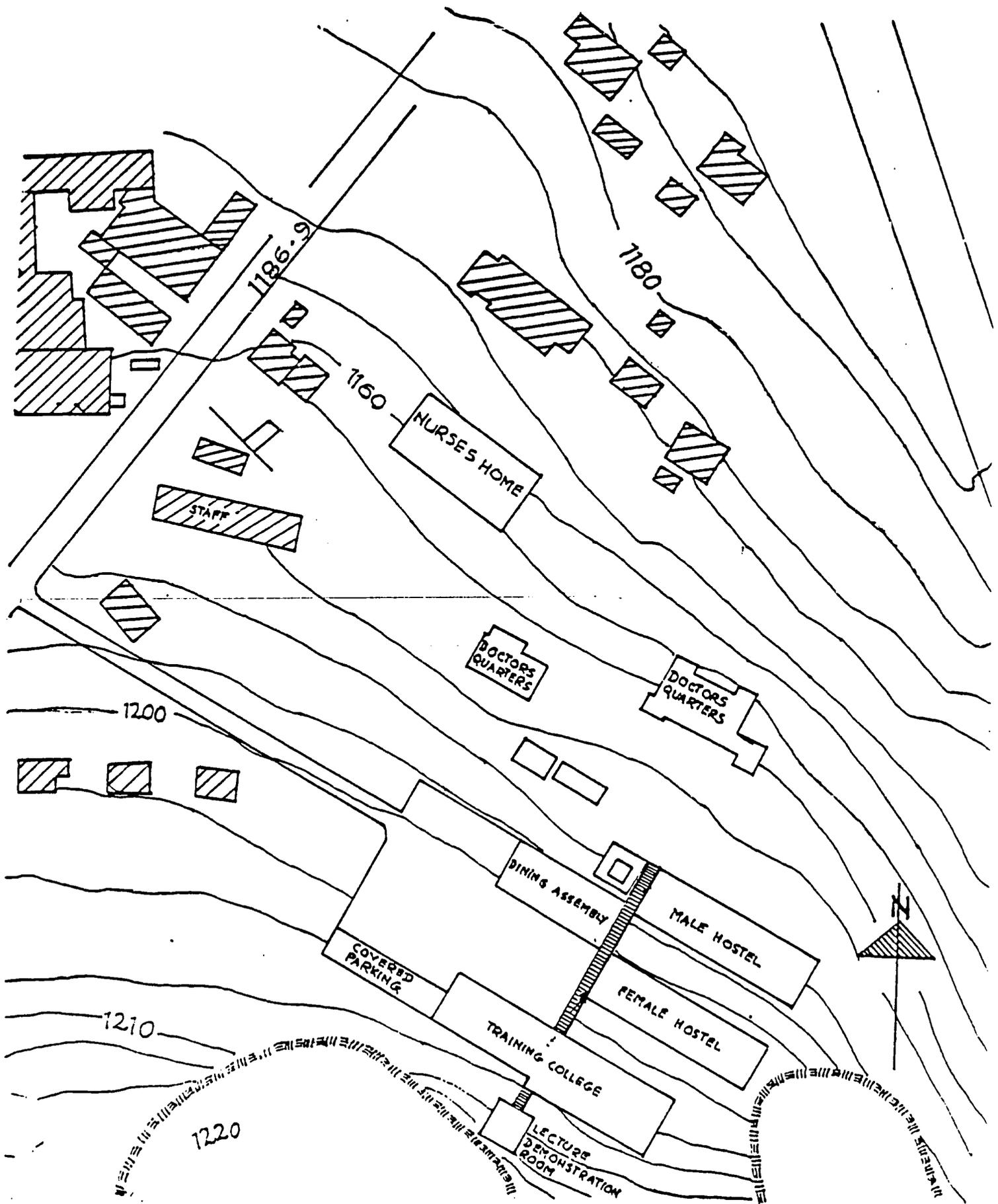
SITE LOCATION - INSTITUTE OF HEALTH SCIENCE

FIGURE 1



SITE PLAN INSTITUTE OF HEALTH SCIENCE

FIGURE 2



LIST OF EQUIPMENT AND SUPPLIES

(AID Financed)

	TOTAL AMOUNT US \$
<u>Office</u>	
1 Xerox machine	1,000
1 Duplicating machine (spirit master)	250
3 Typewriters (1 for library)	600
1 Calculating machine	150
<u>Conference Room and Classrooms, Laboratories</u>	
1 Balance and Scales with weights	225
1 Portable blackboard	126
<u>Demonstration Practice Room</u>	
1 Sterilizer (fish kettle, large)	900
4 Sterilizers (small) for syringes and small instruments	700
Clinical mannekins and anatomical models:	
a) 1 Mrs. Chase - with reservoirs for bowel and bladder irrigation.	350
b) 1 Resusci - Annie	150
c) 1 of each of the following Organ Models: Pelvis for gyn exams, rectal model for proctoscopic, heart, lungs, abdomen, ear, eye, throat and larynx obstetrical pelvis, brain, pelvic model for catheterization. Arm model for injection and infusion.	1,154

4 portable cassette recorders	160
Cassette Tapes of heart sounds	20
Cassette Tapes of breath sounds	20
16 Physician's Diagnostic Kits	800
5 Dozen stethoscopes	360
16 Sphygmomanometers	1,056
Syringes and needles	1,000
Utensils, clinical	1,000
Trays, assorted sizes	200
6 Obstetrical stethoscopes	36
6 Pediatric stethoscopes	36
1 Obstetric calipers	15
Instruments for:	
Minor surgery	1,000
Obstetrics and gynecology	1,000
Tooth extractions	500
<u>Science Laboratory - Anal./Physiology Microbiology/Chemistry/ Pharmacology</u>	
2 Balances and scales with weights	450
1 Bath, water, serological, inactivating	300
16 Burner, Bunsen	90
Cages, animal	2,500
Centrifuge	125
Charts, demonstration, with cases	200
Incubator, bacteriological	450
Kymograph	150
16 Lamp, microscope	1,075

16 Microscope	5,280
Models, anatomical	350
Oven, sterilizing	300
Rack, pamphlet	50
Skeleton	225
Spectroscope	325
Chemicals	1,000
Culture media	500
First aid kit	31
Glassware, laboratory	1,000
Instruments, laboratory	1,000
Miscellaneous laboratory apparatus and equipment	500
Reagents	200
Rubber supplies (e.g. gloves, tubing)	500
Stains	1,000
Printed forms and supplies	500
Rubber laboratory aprongs	36
Plaster of paris	200
Splints, bandages	200
<u>Nutrition Laboratory</u>	
Charts, demonstration nutrition with chart case	200
Balances and Scales with weights	450
<u>Classrooms (Lecture, etc.)</u>	
3 Overhead projectors	500
1 Film illumination box	50
2 Bell and Howell 16mm. sound film projectors - self threading	1,800
1 Opaque projector	200
1 Carousel - type 35mm. slide projector	160
6 Film strip projectors (<u>simplest</u> available) (about \$15-20 each) for independent study.	240
1 Movie screen - wall type - magnetic	110
1 Machine for transparency masters (3M or Thermofax)	300
1 Film strip - Cassette combination	315

AV - AIDs - Software:

Films	500
Film strips	500
Slides	500
Cassettes	500
Learning packages (programmed instruction)	500
Text books, including self instructional texts	500
Library and Reference Books	<u>2,000</u>
Total Cost before Maintenance, Freight and Inflation Contingency	40,670
Maintenance:	
7 $\frac{1}{2}$ % used since all item not equipment	3,050
Overseas and Inland Freight (35% of cost estimate)	14,234
Contingency for Inflation (for purchase in 1978 7.5% p.a)	<u>3,050</u>
Grand Total	61,004

LIST OF EQUIPMENT AND SUPPLIES FOR THE
INST. OF HLTH. SCIENCES (GOS FINANCED)

GENERAL

U.S. \$100,000 **

Clocks

Fire Extinguishers

Curtains and Blinds

2 REGULAR CLASSROOMS (20 STUDENTS EACH)

2 Instructor chairs and desks

50 Student tablet-arm chairs

2 Pamphlet racks

2 Easels for charts

2 Film illuminators (view Boxes)

2 Filing cabinets

2 Regular waste cans

NUTRITION - CLASSROOM (20)

Stove with oven and exhaust fan

Electric hot plate

Juicer

Domestic mixer

Refrigerator

Toaster

Dining table and chairs

Chinaware

Cutlery (table and cooking)

Glassware

Linens

Foodstuffs

Filing-card cabinet

Miscellaneous kitchen apparatus and equipment

First-aid kit

Instructor's chair and desk

** Estimate prepared by GOS. AID estimate was \$147,000 as shown in project input costs.

NUTRITION - CLASSROOM (CONTINUED)

25 adjustable laboratory stools
6 waste cans with foot levers

MULTI-PURPOSE CLASSROOM AND PROJECTION/STORAGE ROOM (20 STUDENTS)

Instructor's chair and desk
25 Student tablet-arm chairs
1 Pamphlet rack
1 Easel
1 Film illuminator (view box)
1 Filing cabinet
1 Regular waste can
1 Stand for projector
1 Projectionist stool (adjustable)

SCIENCE LABORATORY WITH STORAGE (20 STUDENTS)

1 Refrigerator
2 Hot plates
1 Instructor's desk and chair
25 Laboratory stools
2 Filing cabinets
2 Easels
1 Pamphlet rack
6 Waste cans with foot levers

HEALTH INSPECTORS CLASSROOM (10 STUDENTS)

Instructor's chair and desk
10 Student tablet-arm chairs
1 Pamphlet rack
1 Easel
1 Film Illuminator (view box)
1 Filing cabinet
1 Regular waste can

PUBLIC HEALTH NURSE/HEALTH ASST. CLASSROOM (10 STUDENTS)

Instructor's chair and desk
10 student tablet-arm chairs
1 pamphlet rack
1 easel
1 film illuminator (view box)
1 filing cabinet
1 regular waste can

LIBRARY:

Bookstacks--Shelving
Magazine Racks
Desks, chairs for librarian
Student chairs
Library tables

STUDENT TOILETS

Dispensers for:

Soap
Towels
Toilet paper

Mirrors

Waste cans

OFFICE (PRINCIPALS, FACULTY AND MAIN OFFICE)

10 Faculty chairs and desks
11 Bulletin boards (1/office)
1 portable black board
12 bookshelves
15 filing cabinets
5 secretarial chairs and desks
15 electric heaters
Miscellaneous office furniture

FACULTY LOUNGE WITH TEA KITCHEN (20 PERSONS)

10 easy chairs
10 regular chairs
Coffee tables

- 1 Tea Service for 10
- 1 Refrigerator
- 1 Stove with oven
- Towel and soap dispensers
- 1 Waste can with foot lever
- 1 Kitchen stool
- 2 Regular waste cans

FACULTY CONFERENCE ROOM (20 PERSONS)

- Conference Table
- 10 Conference chairs
- Carpeting
- Floor and table lamps
- Pamphlet rack
- Settee

FACULTY TOILETS

- Dispensers for:
 - Soap
 - Towels
 - Toilet paper
- Mirrors
- 2 Waste cans

LECTURE/DEMONSTRATION ROOM (60 PERSONS)

- 1 Podium and speakers stool
- 1 Instructor's chair and desk
- 1 Nurse's desk and chart counter
- 60 Student tablet-arm chairs
- 1 Pamphlet rack
- 2 Easels
- 4 Filing cabinets
- 2 Waste cans with foot levers
- 2 Regular waste cans
- 1 Refrigerator
- 1 Electric hot plate
- 3 Irrigating Standards.

LECTURE/DEMONSTRATION ROOM-- (CONTINUED)

5 Patient's beds
5 Foot stools
5 Bedside tables
5 Overbed tables
1 Linen hamper
1 Dressing carriage
1 Bassinet

DINING/ASSEMBLY HALL

(Projection room and toilets)
Dining tables and chairs
2 Portable chalkboards
1 Podium and speaker's stool
Lecture demonstration table
Stand for Projectors
2 Filing cabinets
10 large waste cans
Dispensers for:

Soap
Towels
Toilet paper
Mirrors

KITCHEN

Institutional kitchen equipment and supplies for serving
150 people.

BOILER HOUSE/TRANSFORMER ROOMS/GENERAL STORAGE FACILITIES

General maintenance equipment
Grounds and gardening tools

FEMALE AND MALE HOSTELS

For each 2 person bedroom:
2 beds with mattresses
2 study chairs and desks
2 bulletin boards
1 easy chair

FEMALE AND MALE HOSTELS-- (CONTINUED)

For each 2 person bedroom:

- 1 occasional endtable
- 2 soap receptacles
- 2 towels bars
- 1 mirror over lavatory
- 1 full length mirror on back of door

For each 1 or 4 person bedroom:

The above items accordingly.

Common Rooms

- Chairs, easy and straight
- Lamps, floor and table
- Tables, card with chairs, end and occasional

Laundry and Pressing Rooms

For each room:

- 2 ironing boards
- 2 irons
- 2 stools
- 1 work counter with lavatory and storage space
- 1 washer and drier
- Clothes drying racks
- 2 student tablet-arm chairs
- 1 Dispenser for:
 - Soap
 - Towels

ABLUTION AND BATH ROOMS

For each room:

Dispensers for:

- Soap
- Towels
- Toilet paper

Mirrors

Waste cans

Supplies for cleaning and sanitizing

JOB DESCRIPTION

TITLE: Curriculum Consultant

This individual will work 4 months during FY-77 and FY-78 of the project and two months each following year in collaboration with the T.A.'s and prospective Swazi tutors that will comprise the curriculum nucleus.

RESPONSIBILITIES:

1. Will teach a workshop on Systematic Course Design procedures for curriculum nucleus.
2. Will help the curriculum nucleus to plan, implement and analyze a program to assess the present health status of the community; to utilize findings of the Peace Corps School health assessment and other presently available data; to assess presently held attitudes and practices relating to health child rearing and FP.
3. Will participate in the refinement of the list of responsibilities for nurse practitioners.
4. Will participate in the assessment of present curriculum (RFM) in terms of the on-the-job responsibilities of the nurse practitioners.
5. Will perform task analysis of responsibilities listed in No.4 with curriculum nucleus.
6. Will work with curriculum nucleus to specify expected entry level skills and a selection procedure for nurse practitioner students.
7. Will work with curriculum nucleus to map out total curriculum in broad strokes (project formulation).
8. Will work with curriculum nucleus to plan timetables for development of courses using a systematic approach (members of the team will each develop courses in their area of competence).
9. Will monitor progress in development of course designs and later in teaching courses.
10. Will teach a workshop on test construction and evaluation to enable curriculum nucleus to develop an overall evaluation plan as well as test instruments for their particular courses.
11. Will teach a workshop on modern instructional methods to enable curriculum nucleus to use these methods in their own teaching.
12. Will collaborate with T.A.'s in the provision of bibliographical support in selection of instructional materials for nurse practitioners and other members of the health team (health inspectors, nurse assistants, health assistants).

13. Will assist evaluation teams to assess work in progress.
14. Will work with curriculum nucleus to assess overall effectiveness of the program by evaluating on the job performance of graduates.
15. Will assist staff in development and implementation of continuing education programs, team learning opportunities, conferences and research projects.

POSITION DESCRIPTION

TITLE: Family Nurse Practitioner Educator

RESPONSIBILITIES

1. Collaborate with short-term Consultant in curriculum design, and with Swazi nurse counterparts, in the development of suitable educational programs for the preparation of nurses and other paramedical personnel.

1.1.a. These educational programs should be designed to meet the needs of the population for curative services in acute care settings in the urban areas, but more importantly, to deliver health care to rural areas which are presently underserved or not served at all.

1.1.b. In addition to care of the sick, these programs must include disease prevention, promotion of public health, the early detection and treatment of illness in rural areas and the referral of complex health problems to appropriate health services for treatment.

2. Collaborate with designated Swazi counterpart in the overall administration of the nursing division of the Health Science Institute. Will give training to this counterpart in the overall administrative functions of the Principal tutor position including selection and maintenance and estimates of necessary educational equipment and ~~supplies, budget preparation, report writing,~~ data collection and evaluation of progress of program, supervision and support of program staff, group leadership and decision making skills.

3. Give instruction to potential Swazi Nurse tutors in collaboration with other experts in:

3.1. Orientation to the health services of Swaziland including hospital, health centers, and clinics, and types and levels of personnel serving in these facilities.

3.2. The development of good interpersonal relationships among personnel in the health services and between these personnel and the population whom they serve.

3.3. Skills in verbal and recorded communication.

3.4. Human growth and development from conception to aging and death.

3.5. Rehabilitation and restoration of the individual to productive life style including the psycho-social and economic aspects of rehabilitation.

- 3.6. Skills in selected laboratory techniques and procedure.
 - 3.7. History-taking and interviewing.
 - 3.8. Physical and Mental assessment and Diagnostic skills.
 - 3.9. The Management of selected Medical Problems of Children and Adults.
 - 3.10 Teaching Methodology and Practice Teaching.
4. Serve as support personnel, teacher of Counterparts and role model for beginning Swazi tutors. These tasks will gradually diminish in their operational aspects as rapidly as the Swazi tutors become competent to take over all operational roles in the Nurse education program.
5. Coordinate with :
- 5.1. Ministry of Health.
 - 5.2. Curriculum Design Short Term Consultant.
 - 5.3. Short Term Consultants in Course Content as required, i.e. Psychiatric Mental Health.
 - 5.4. University of Botswana and Swaziland.
 - 5.5. USAID, Peace Corps Volunteers.
 - 5.6. W.H.O., UNDP.
 - 5.7. British Overseas Development.
 - 5.8. Other participating Agencies and Government of Swaziland Ministries.
 - 5.9. Private religious institutions and agencies and others.
6. QUALIFICATION: Masters' degree in Nursing Education with completion of appropriate preparation as a Family Nurse Practitioner and experience in teaching in an F.N.P. program.

POSITION DESCRIPTION

TITLE: Nurse Educator - Maternal and Child Health/Family Planning

RESPONSIBILITIES

- 1.1. Collaborate with Short-term consultant in curriculum design, and with Swazi nurse counterparts, in the development of suitable educational programs for the preparation of Nurses and other paramedical personnel.
- 1.2. These educational programs should be designed to meet the needs of the population for curative services in acute care settings in the urban areas, but more importantly, to deliver health care to rural areas which are presently underserved or not served at all.
- 1.3. In addition to care of the sick these programs must include disease prevention, promotion of public health, the early detection and treatment of illnesses in rural areas and the referral of complex health problems to appropriate health services for treatment.
2. Give instruction to potential Swazi Nurse tutors, in collaboration with other experts in:
 - 2.1. Maternal Child Nursing Components,
 - 2.2. Child Spacing,
 - 2.3. Pediatric nursing,
 - 2.4. Child growth and development,
 - 2.5. Child nutrition,
 - 2.6. Communicable diseases of childhood,
 - 2.7. Health education,
 - 2.8. Disease prevention,
 - 2.9. Teaching methodology,
 - 2.10. Counseling, supervision and evaluation.

3. Serve as support personnel, teacher of Counterparts and role model for beginning Swazi tutors. These tasks will gradually diminish in their operational aspects as rapidly as the Swazi tutors become competent to take over all operational roles in the nurse education program.
4. Coordinates with:
 - 4.1. Ministry of Health.
 - 4.2. Curriculum Design Short Term Consultant.
 - 4.3. Short Term Consultants in Course Content as required, i.e., Maternal/Child Health/Family Planning.
 - 4.4. University of Botswana and Swaziland.
 - 4.5. USAID, Peace Corps Volunteers.
 - 4.6. W.H.O., UNDP.
 - 4.7. British Overseas Development.
 - 4.8. Other participating Agencies and Government of Swaziland Ministries.
 - 4.9. Private religious institutions and agencies and others.
5. QUALIFICATION: Graduate preparation in Nursing Education with preparation in Maternal Child Health and Family Planning and experience in teaching in this speciality.

POSITION DESCRIPTION

TITLE: Nurse Educator - Psychiatric/Mental Health Nurse Educator (U.K.)

RESPONSIBILITIES

- 1.1. Collaborate with short-term consultant in curriculum design, and with Swazi nurse counterparts, in the development of suitable educational programs for the preparation of nurses and other paramedical personnel.
- 1.2. These educational programs should be designed to meet the needs of the population for curative services in acute care settings in the urban areas, but more importantly, to deliver health care to rural areas which are presently underserved or not served at all.
- 1.3. In addition to care of the sick, these programs must include disease prevention, promotion of public health, the early detection and treatment of illnesses in rural areas and the referral of complex health problems to appropriate health services for treatment.
2. Give instruction to potential Swazi nurse tutors, in collaboration with other experts, in the area of psychiatric/mental health nursing including individual, group and family therapeutic intervention, behavior modification, treatment of alcohol addiction, neurological and psychosomatic threats to mental health.
3. Serve as support personnel, teacher of Counterparts and role model for beginning Swazi tutors. These tasks will gradually diminish in their operational aspects as rapidly as the Swazi tutors become competent to take over all operational roles in the Nurse Education Program.
4. Coordinates with:
 - 4.1. Ministry of Health.
 - 4.2. Curriculum Design Short Term Consultant.
 - 4.3. Short Term Consultants in Course Content as required, i.e. Psychiatric Mental Health.
 - 4.4. University of Botswana and Swaziland.
 - 4.5. USAID, Peace Corps Volunteers.

- 4.6. W.H.O., UNDP.
 - 4.7. British Overseas Development.
 - 4.8. Other participating Agencies and Government of Swaziland Ministries.
 - 4.9. Private religious institutions and agencies and others.
5. QUALIFICATION: Graduate preparation in Nursing Education with clinical speciality in psychiatric mental health nursing and experience in teaching this speciality.

POSITION DESCRIPTION

TITLE: Hospital Secretary Advisor, TA. (Hospital Administrator)

RESPONSIBLE FOR: Introducing efficient management procedures into all facets of hospital management; and for relieving direct service personnel (doctors and nurses) of administrative responsibilities where appropriate. He will work in a counterpart relationship with Swazi Hospital Secretaries. He will also participate in project evaluation. Below is a suggested outline of job tasks:

- maintain accounts of all hospital services (dispensary, laboratory, in-patient and out-patient fees, etc.)
- preparation of hospital payroll
- oversee maintenance of hospital assets (equipment, grounds, etc.)
- ordering for all hospital services (based on requests from maintenance, dispensary, etc.)
- ultimate responsibility for administration of hospital infrastructure (laundry, catering, etc.)
- allocation of resources (transport logistics, appropriation of hospital equipment, etc.)
- organization of patient records
- preparation of annual budget
- preparation of annual report

MODUS OPERANDI: The TA/Hospital Administrator will initially be resident in Hlatikulu, where he will work in a counterpart relationship with the Hospital Secretary, and at the same time rationalize and define the job tasks required by the post. At the end of 6 months, 4 Hospital Secretaries (1 from Hlatikulu and 3 from other government hospitals), will go off for the first segment of a training course in Botswana. During the year of intermittent training, and on the job experience, the TA will rotate among the 4 hospitals, to fill in during the absence of the Hospital Secretaries, and to provide guidance when they return to their posts. During the final 18 months, the TA will work in a counterpart relationship in each of the hospitals, as appropriate, assisting with the implementation of uniform management procedures into all hospitals. (As the country is small, the TA will be able to remain resident in Hlatikulu throughout the 3 years, and travel as necessary).

QUALIFICATION: The TA will have a degree (undergraduate or graduate level) in hospital administration. He should have had a minimum of 4 years of hospital (or closely related) experience, and preferably have worked in a developing country.

RELEVANT BACKGROUND INFORMATION: The administrative responsibilities in hospitals have been largely carried out by clinical staff. In recent years Hospital Secretaries (hospital administrators) have been recruited for 2 hospitals, but they are persons who moved laterally from administrative positions elsewhere in government. It is evident that Hospital Secretaries will, in the foreseeable future, be individuals with 4-6 years of secondary education, with no specialized training in hospital management. It is therefore necessary, for a TA to introduce simple efficient procedures which can be learned and operated by counterparts, and new recruits who follow. (A 2 year International Voluntary Service, U.K./Hospital Administrator, began working in Mbabane Hospital in early 1976, and should assist the TA considerably, as there will be a short overlap).

POSITION DESCRIPTION

TITLE: Rural Health Services Administrator Advisor, TA

RESPONSIBLE FOR: Designing and setting 4 new posts within the MOH to coordinate and provide management services to all health related activities within defined regions of Swaziland. He will work closely with MOH in the establishment of new posts, and will assist with the identification of candidates for formal and counterpart training. He will also prepare reports for the project evaluation. Below is a suggested outline of job tasks:

- coordinate direct service activities within the region (TB control, bilharzia and malaria control, school health, nutrition, health education, medical visits, public health, mental health, and including hospital based activities)
- promote cooperative planning and administration of government, mission, and industrial health services
- represent regional health interests in district government, RDA's, school meetings, and other community based activities.
- organize and administer a nerve center for transport (so that efficient use of vehicles for multi-purpose visits can be expedited).
- assist with the management of patient referrals from one health unit and/or health worker, to another
- assist with the decentralization of laboratory analysis, where appropriate and efficient (so that, for example, TB sputa can be forwarded to the nearest center, and read while still fresh)
- organize the logistics of laboratory referrals (in coordination with other services that rely on the communications network).
- act as a consultant regarding deployment of personnel, based on an overview of regional needs
- oversee the regular and accurate reporting of health statistics from individual units within the region (including non-governmental facilities), in cooperation with the TA/Health Statistician.
- assist with the collection of vital statistics
- prepare at the outset, baseline data comparing services statistics and community health needs (utilizing available health statistics and population on data)

- maintain a continuous community health analysis
- produce an annual report describing the delivery of health services within the region.
- expedite the introduction of patient retained health records and simplified record keeping for follow-up
- plan for future allocation of resources within the region (clinics, maternity beds, etc.)
- assist individual units with the organization of follow-up activities (utilizing transport and personnel from relevant services most efficiently)
- act as the regional liaison with the national health planner, and other MOH personnel
- promote community participation in the health planning process
- assist in the implementation and evaluation of the coordinated efforts of the health team (particularly those trained in the new Institute)

QUALIFICATION: The TA preferably will have a Master's Degree in Health Planning/Administration, and a minimum of 4 years of related experience. He must be a creative self-starter, and almost certainly will have worked in a developing country.

RELEVANT BACKGROUND DATA: At present, minimal logistic support is given to the rural health services within the catchment areas, by hospitals responsible for servicing them. However, all other administration is centralized in the MOH. There is a multiplicity of separate curative and preventive services delivering health care within each of the areas, but no coordination of activities. The creation of Rural Health Services Administrator posts will establish nerve centers in the rural areas, for coordinating and providing management assistance to, what should be an interlocking complex of health care units.

POSITION DESCRIPTION

TITLE: Health Statistician Advisor, TA

RESPONSIBLE FOR: Designing and introducing a comprehensive health information system which is planned to meet the needs of its users - at Ministry and direct service levels. It will include a simplified format for recording and reporting health data, which minimizes time required of health personnel, and maximizes the accuracy and utility of the data. The TA will also direct the analysis and presentation of the information, and thus assist planning and supervisory personnel. During the last year of his assignment, he will train a Swazi counterpart to take over the post.

In addition to implementing WHO recommendations to the GOS, the TA/Health Statistician will assist with the collection and analysis of baseline and period data required for evaluation of this project (and GOS/AID interests in this area are, of course, coincident).

QUALIFICATION: The TA will have a Master's Degree in Health Statistics or Public Health (or equivalent). He should be familiar with basic statistical procedures, and have had experience with the analysis of health data. He will have at least 4 years of relevant working experience, preferably in a developing country.

RELEVANT BACKGROUND DATA: At present there is no one in GOS solely responsible for, and especially trained in health statistics, and the statistical information available is inadequate for planning and administrative purposes. Furthermore, there is a minimum of routine analysis of health data. A WHO consultant was brought in to advise MOH on health statistics. His report is sparse and general, but will provide very broad guidelines.

POSITION DESCRIPTIONTITLE: Nurse Practitioner1. SETTING

Will work in urban, peri-urban and rural areas. In urban areas she will work in hospitals and health centers. In peri-urban and rural areas she will work primarily in clinics and health centers.

2. ROLE

She will be the primary care provider in the community in areas of public health, MCH, Family Planning, Midwifery, curative services, mental health and administration of clinics and health centers. She will work with other members of the health team including physicians, administrators auxiliaries, health inspectors, public health nurses, rural health visitors, school health teachers, and agricultural extension workers and community leaders and consumer groups.

RESPONSIBILITIES

3.1. Responsibilities/Public Health

3.1.1. Assesses health family planning nutritional status of community; gathers baseline data

3.1.2. Plans and implements a program of intervention utilizing other members of the health team specified above including:

- CDC (Malaria control, TB, Bilharzia)

- Immunizations of children and adults (DPT, BCG, Small Pox)

- Rural Sanitation: Sanitary wells, latrines, protection of springs, simple incinerators (with health inspectors and health assistants)

- Health Education:

- Nutrition: Stresses development of kitchen gardens; usage of existing wild vegetables and legumes, proper weaning diets; diets of pregnant women, diets of children 2-5.

- MCH: Plans and implements health education courses on antenatal care; delivery; post partum care of mothers; and infants common infant and childhood diseases and their home management; when to seek medical help.

- Family Planning: Health education responsibilities in family planning include counseling men and women on child spacing and

on accepted methods of family planning.

- 3.1.3. Follows up on immunization rural sanitation MCH and family planning program by implementing a program of home visits by members of the health team.
- 3.1.4. Evaluates impact of public health program systematically by charting change in the community's health status and health practices.

3.2. Responsibilities MCH

Assesses MCH health status in the community including morbidity and mortality patterns, locally held attitude tabus and cultural patterns.

- 3.2.1. Conducts infant and under five clinics to assess child growth and development patterns, (nutrition status) diagnoses and treats common childhood illness (upper respiratory, gastro-intestinal, malnutrition) provides immunizations (DPT, Small Pox) .
- 3.2.2. Provides health education to mothers.
- 3.2.3. Maintains records and teaches mothers how to keep records.
- 3.2.4. Provides for follow up in the home by members of the health team.
- 3.2.5. Evaluates impact of program.

3.3. Responsibilities: Family Planning

Because men are the heads of families in Swaziland, a family planning program needs to be directed to them as well as to women for purposes of shaping positive attitudes, dispelling preconceptions on the effect of family planning on the nation, the family and the health of the mother.

- 3.3.1. Gathers baseline data on family planning practices, attitude toward FP, present statistics on growth rate of the community.
- 3.3.2. Plans and implements a family planning program:
conducts FP clinics, dispenses pills, condoms, performs pelvic exams including papsmeears in collaboration with the public health nurse.
 - Conducts FP education program
 - Keeps records on individuals who have accepted FP practices
 - Follows up on acceptors
 - Evaluates impact of program.

3.4. Responsibilities: Midwifery

- 3.4.1. Collects baseline data on present practices of prenatal care delivery/postnatal care in the community.
- 3.4.2. Plans and implements a program including prenatal and postnatal care of mothers, newborn care, health education and counseling. Refers mother for registration at child welfare clinic.
- 3.4.3. Assists in normal deliveries in health clinics with maternity facilities.
- 3.4.4. Identifies high-risk mothers during antenatal period and refers them for study and supervision as indicated.
- 3.4.5. Keeps records.
- 3.4.6. Evaluates impact of program.

3.5. Responsibilities: Curative Services

- 3.5.1. Assesses the physical and psycho-social health status of individuals and families by taking health, nutritional and developmental histories and by physical examination.
- 3.5.2. Discriminates between normal and abnormal findings on the assessment.
- 3.5.3. Conducts simple lab exams (urine and stool exams) and collects specimens for lab tests as needed, to be analyzed in the Manzini laboratory.
- 3.5.4. Evaluates the assessment data in order to make prospective decisions about treatment in collaboration with other members of the health team based on agreed on protocols.
- 3.5.5. Manages patient care including prescribing and providing care; prescribing medications, determining possible alternatives for care settings (institutional or home) and for initiating references.
- 3.5.6. Provides emergency care: cleans sutures and dresses open wounds, sets simple fractures, performs cardio-pulmonary resuscitation, provides care for victims poisoning including snake and animal bites.
- 3.5.7. Extracts teeth.
- 3.5.8. Assumes continued responsibility for patients and their families through counseling and health teaching.
- 3.5.9. Keeps records, assesses impact of primary care program.

3.6. Responsibilities: Mental Health

- 3.6.1. Gathers data on mental health problems in the community including genetic illness i.e. epilepsy, mental retardation and maladaptive behavior including alcoholism, violence, bizarre behavior, etc.
- 3.6.2. Makes assessment of mental health problems of individual by interviewing patients and their families.
- 3.6.3. Indicates mental health problems.
- 3.6.4. Develops and implements a treatment plan including counseling and giving medications.
- 3.6.5. Refers violent and other seriously ill patients to mental hospital in Matsapa.
- 3.6.6. Keeps records on patients and their families.

3.7. Responsibilities: Administration/Coordination

Administer health center or dispensary

Professional

- 3.7.1. Works with the health inspectors and public health nurses to plan PH/MCH/FP responsibilities and assign them to members of the health team.
- 3.7.2. Works with school health programs and agricultural extension programs to coordinate health related activities in the community.
- 3.7.3. Develops evaluation plan to assure that PH/MCH/FP program is meeting its stated objectives.
- 3.7.4. Implements evaluation, monitors programs.
- 3.7.5. Revises program if aspects of the project are not working.
- 3.7.6. Prepares reports using format recommended by health administrators and regional planner.

Plant, equipment, supplies

- 3.7.7. Organizes system for ordering equipment, supplies, maintaining building. Assigns responsibilities to staff.
- 3.7.8. Monitors and evaluates effectiveness of logistic system.
- 3.7.9. Prepares reports.

Minutes

AFR Executive Committee for Project Review
September 26, 1975, at 2:00 p.m.
Room 6944 New State

Subject: PID for Swaziland "Health Manpower Training"

Participants

AFR/DP:RHuesmann	PPC/DPRE:RBoBel
AFR/DP:MWarnecke	TA/H:Worcester
AFR/ESA:OCylike	FHA/POP:AAbayomi-Cole
AFR/ESA:ESales	AF/EPs:ESegall
AFR/ESA:RThompson	OSARAC:GEaton
AFR/DS:Flyman	REDSO/EA:LOrtega
AFR/DS:JPinder	Consultant:OGish
AFR/DS:MKirby	SER/ENGR:TNagy

Decisions

1. The ECRA concurred in the concept of subject Project Identification Document (PID) and authorized the Mission to proceed to preparation of a Project Review Paper (PRP) to reach AID/W by 11/15/75.
2. Design assistance will be provided by REDSO/EA (including engineering help to refine construction costs and examine alternatives) and one or two consultants to deal with curriculum questions and other elements of technical assistance and to enter preliminary dialogue with the Government of Swaziland on basic concepts of the proposed health training center.
3. If it is clearly impossible for the PRP to reach AID/W by 11/15/75, but the Mission has sufficient data by then to substantiate at least the following four points in detail by cable, AID/W will consider the project for inclusion in the Congressional Presentation:
 - a. Nature of the project, in sufficient detail to write CP
 - b. Assurance that the GOS is in full accord with project plans
 - c. Implementation schedule
 - d. Reliable cost estimates

Discussion

The meeting was called to consider a PID for a five-year grant project (estimated cost to AID of \$1,800,000) which proposes to:

- assist the Swaziland Ministry of Health in instituting/expanding government training of field health personnel, including the construction of a health training center; and
- provide the government with added expertise in health planning, administration, and statistics.

In addition to the points reflected in the above decisions, discussion covered the following:

- Nature and status of Swaziland's third five-year national development plan (1978-82).
- Nature and status of Swaziland's provisional plan for the development of health services, i.e., projection of manpower training (1975-84).
- Whether the proposal for a nurses training institution is sound and cost effective against alternatives.
- Hierarchy of registered nurses, auxiliary nurses, and village health workers and where each category is now trained and potentially will be trained.
- Desirability of the proposed institution becoming a center of national thinking along health lines, i.e., "the NIH of Swaziland".
- Current role played by missionary-run schools.
- Importance of institutional linkage and relationship to other health workers.
- Reluctance of African countries to utilize third country training for their professionals.
- Suggestion by PPO (Bobel) that the building will cost at least double the estimate given in the PID.
- Need for clear objectives of proposed technical assistance.
- The fact that Swaziland has recently requested planning assistance from the British.
- GOS interest in having the U.S. help with curriculum design.
- Positive reaction of the Swazi medical group to this program proposal.
- The fact that this would be a training project, part of a system, and would not provide assistance directly or exclusively to the poor/rural areas.
- The recent decision of GOS to limit the growth of hospital beds (hence, curative medicine) and give more emphasis to preventive care and rural health services.
- Possibility of economies of staff through a multidisciplinary approach.
- Improbability of regional implications in the near future.
- Possibility that Mr. Oscar Gish could be released from work in Lesotho the last week of October to introduce the design team to appropriate Swazis.
- Description by PPO (Bobel) of the system followed by the Latin America Bureau and others of submitting an "interim paper" after a week PPO to flesh out the document and serve as a full-fledged PPO. Proposal of GABAC (Eaton) to handcarry a PPO the second week of December when he returns to the U.S. for home leave.

The affirmation of DP (Huesmann) that we will be held very closely to the projects and figures as presented in the CP, hence the importance of basing the CP on reliable data — whether submitted by PRP or cable.

Action

Reporting cable to be drafted by Messrs. Cylke, Huesmann, and Lyman.

Meeting adjourned at 3:50 P.M.

Cleared

AFR/DP: RHeckmann
AFR/ESA: RInompson
AFR/ESA: C Oylke
AFR/DS: P Ljman
PPC/DP/E: REobel
TA/E: Worcester

AFR/DP:mw
10/6/75

*for Swaziland
Health Manpower
Training.*

Mr. Byron Bahl,
USAID,
Mbabane,
Swaziland.

1st September, 1976

Dear Mr. Bahl,

PROJECT PROPOSAL

In discussion with USAID officials the following request has been made of IDM:

1. Contract for Training:

Hospital Administrators - Hospital Secretaries.

2. Client Group:

- a) Hospital Secretaries.
- b) Assistant Hospital Secretaries.
- c) Regional or District Health Administrators.
- d) Central Administrative Staff in Direct Contact with Above.

3. IDM Accountability.

- a) Complete training Facility (class & residential).
- b) Materials and instruction.
- c) Curriculum design.
- d) Assist with follow-up and evaluation.



Cont./

4. USAID Accountability:

- a) Identify and provide participants.
- b) Fund participants.
- c) Develop accreditation standards and relationships.
- d) Provide follow-up and inter course guidance.
- e) Develop post descriptions, knowledge and skill requirements, knowledge and skill deficiencies.

5. Format:

24 weeks full-time training in eight week blocks with eight to twelve weeks between each block.

6. Proposal Information:

No institution is serving Southern Africa in the training of Hospital Admin.-Sec. USAID has requested IDM assistance in developing and conducting a diploma program for these people. The client group is presently identified in Swaziland, but the same need undoubtedly exists in Botswana, and possibly in Lesotho. Many elements of such a program are common with other diploma areas under active consideration. Other areas unique to this field can be managed under the short-term assignment feature of the IDM project. One of these areas will be in the Medical Records field. The lead time on the training activity estimated at 16 - 22 months from now and enables careful planning and selection of the needed outside resource personnel.

7. Costing:

The estimated costs for participant training are as follows:

Registration, books, materials, tuition	R 200.00
Board, lodging, laundry, incidentals	R 2800.00
	<hr/>
Total Cost:	R 3000.00

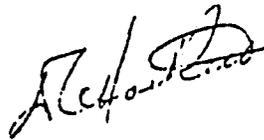
These costs are based on a projected cost of providing food, housing, laundry and incidentals at R75.00 per week per course participant, and an all-inclusive charge for tuition, books, materials and supplies, of R50.00 per week per participant.

The assumption is that at least 12 participants will be available for the program.

8. The second program to follow, perhaps a year later, that of training regional health specialists, would be approached in the same manner, with the same attendant overall costs, at projected Jan. 1978 costs.

We hope for your early confirmation or rejection of this possibility so we can make our 1978 plans in the next few months.

Yours truly,

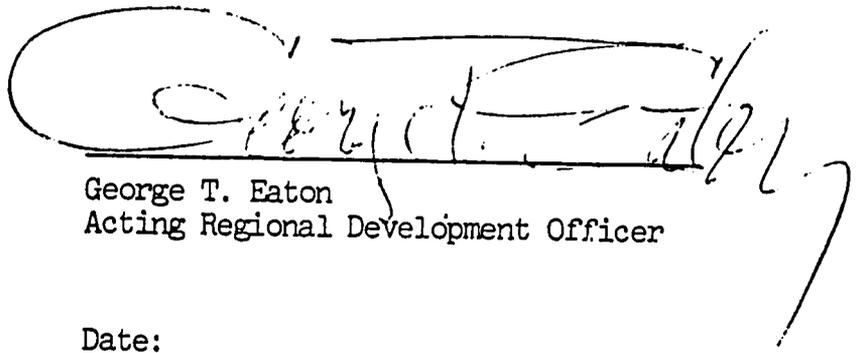


D.C. HOCKETT

SECTION 611E CERTIFICATION

HEALTH MANPOWER TRAINING PROJECT - SWAZILAND

I, George T. Eaton, acting as the principal officer of the Agency for International Development in the Southern Africa Region (OSARAC), having taken into account, among other things, the maintenance and utilization of projects in Swaziland previously financed or assisted by the United States, the performance of the several Ministries of the Government of Swaziland, and the previous assistance from other donors specifically directed to the development of the Health Sector, do hereby certify that in my judgment the Government of Swaziland has both the financial capability and human resource capability to effectively maintain and utilize the capital assistance to be carried out under this project.



George T. Eaton
Acting Regional Development Officer

Date: _____

MINUTES OF MEETING HELD ON29th October 1976U.S. AID PROJECT "INSTITUTE OF HEALTH SCIENCE MBABANE

PRESENT: M/S ✓

1. Lewis Ortega	-	Dev. Loan Officer AID
2. Donald E. Hickson	-	Finance OSARAC
3. Byron Bahl	-	Programme Officer AID
4. M. Khosla	-	Principal Building Officer
5. H. R. LaRoya	-	Senior Architect
6. M. Moller	-	Contracts Engineer
7. P.D. Williamson	-	Quantity Surveyor
8. P. Robinson	-	Economist, Min. of Finance
9. C. Swart	-	Consultant Architect
10. F. Friedman	-	Director Medical Service (Health)

DISCUSSIONS

1. The Ministry of Finance, Government of Swaziland will issue warrants to P.W.D. for payments to contractor for the above project.
2. The Ministry of Health will include this project in their capital estimates for the financial year 77/78 and 78/79 and the Ministry of Finance should ensure that the said project has been included in the capital estimates and the source of funding has also been specified.
3. US AID will reimburse Fixed amounts (F.A.M.) to Government of Swaziland in instalments of 30%, 20% and 20% with the remaining 30% to be given on completion of the project. Till the final instalment is received from US AID the Ministry of Finance should make local funds available to the extent of 30% in order to pay all the dues of the contractors.
4. Fixed amount Reimbursement (FAR) will be max E 1.06 million^{1/} i.e. cost of Building operations or the contract amount, whichever ever is less. If the actual expenditure is less than FAR, the same will go to the credit of the government otherwise any amounts in excess of FAR will be borne by the Swaziland Government.
5. The professional fees of the consultants will be paid by Government of Swaziland and are excluded from the project.
6. The contractor for the Project should be locally based in Swaziland, who is eligible to undertake work of projects above E 500 000.
7. It is agreed to complete the construction^{1/} of all buildings by June 1979.

^{1/} U.S. \$1,219,000

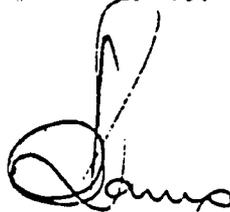
8. Applications for prequalifications from the prospective tenderers will be invited well in advance of the actual tender notifications and the tenders document to be issued to only those contracting companies whose names have been approved by US AID.

9. The work programme for preparation of construction of documents is as follows:

(i) Adjustment of sketch designs	4 weeks
(ii) Working drawings	10 weeks
(iii) Preparation of bill of Quantities	6 weeks
(iv) Approval of designs and cost estimate	2 weeks
(v) Preparation of tender documents	2 weeks
(vi) Notice for tender	6 weeks
(vii) Selection and award of work	4 weeks
(viii) Start of construction	2 weeks
Total	<u>36 weeks</u>

The work can be started on or about Sept. 77

10. The project documents are being submitted to US Government in November, 1976. The Project is expected to be authorised in the December 1976.



H. R. LAROYA
SENIOR ARCHITECT (CP)

29/10

c.c. - All above