A.I.D. EVALUATION SUMMARY PART I

(BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS)

A. REPORTING A.I.D. UNIT: USAID/Sri Lanka, EWRO (Mission or AID/W Office)

( )

B. WAS EVALUATION SCHEDULED IN CURRENT FY ANNUAL EVALUATION PLAN? yes ☒ slipped ☐ ad hoc ☐

Eval. Plan Submission Date: FY 1987 Q 3

C. EVALUATION TIMING interim ☐ final ☒ ex post ☐ other ☐

D. ACTIVITY OR ACTIVITIES EVALUATED (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report)

Project #	Project/Program Title (or title & date of evaluation report)	First PROAG or equivalent (FY)	Most recent PACD (mo/yr)	Planned LOP Cost ('000)	Amount Obligated to Date ('000)
(383-0062)	National Institute of Health Science (NIHS) May 1987	Aug. 29, 1980	June 30, 87	$2.20	$1.79

E. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

Action(s) Required	Name of officer responsible for Action	Date Action to be Completed
1. Compilation of as-built details of physical facilities in NIHS.	SWA	8/31/87
2. Submission of Final Design Project	SWA	8/31/87
3. Documentation for emptying and cleaning up operation of the pond.	SWA	8/31/87
4. Deobligation of unutilized funds	USAID	10/30/87

(Attach extra sheet if necessary)

F. DATE OF MISSION OR AID/W OFFICE REVIEW OF EVALUATION: mo___ day___ yr___

G. APPROVALS OF EVALUATION SUMMARY AND ACTION DECISIONS:

	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
Signature				
Typed Name	Dr. Joe Thanarajah	Dr. Cooray	Jan Eumert	Peter J. Bloom
Date	17/8/87	17.08.87	8/19/87	

H. EVALUATION ABSTRACT (do not exceed the space provided)

The project aims to expand the physical facilities of the NIHS in support of a multidonor program to increase the capacity of the NIHS to train the quality and quantity of health care workers required to improve Sri Lanka's health delivery services and environmental sanitation. The project was implemented by the Ministry of Health and the NIHS. This final evaluation was conducted by an independent local evaluator on the basis of a review of project documents, three visits to the site and interviews with project personnel. The purpose was to compare the project design with actual implementation and to compare construction and maintenance with the standards agreed to under the project. The major findings and conclusions are:

- The project has achieved its purpose.
- Despite initial delays in procurement of A&E and construction services, the expansion of physical facilities have been satisfactorily completed within the specified construction period.
- Ironically the delays in contracting led to considerable cost savings due to changes in the exchange rate and increased competitiveness in the construction industry. This made it possible to add a Women's Hostel Block to the planned project outputs.
- Adequate resources were devoted to both design & construction.
- On the whole, the design concept and construction workmanship are of a high order.
- The pricing of the contract was realistic, competitive and based on sound judgement.
- Maintenance should have received more attention. In spite of the attention given to maintenance there still is not an adequate maintenance plan and organization.
- The contractor had not submitted the final as built drawings and design report, but this is being done subsequent to the evaluation.
- A satisfactory process to empty and clean up the central moat has not yet been implemented.

The major recommendations are:

- To collect and compile all as-built details of physical facilities, final design report and maintenance manual on equipment installed.
- Provision of a low level sluice outlet with gate control arrangement at the moat to facilitate periodic emptying and cleaning up operation.

I. EVALUATION COSTS

1. Evaluation Team Name	Affiliation	Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (US$)	Source of Funds
K. Satyunasingam	Independent	12	$ 2500	Project

2. Mission/Office Professional Staff Person-Days (estimate) N/A

3. Borrower/Grantee Professional Staff Person-Days (estimate) N/A

A.I.D. EVALUATION SUMMARY PART II

J.SUMMARY OF EVALUATION FINDINGS, CONCLUSIONS AND RECOMMENDATIONS (Try not to exceed the 3 pages provided)
Address the following items:

- Purpose of activity(ies) evaluated
- Purpose of evaluation and Methodology used
- Findings and conclusions (relate to questions)
- Principal recommendations
- Lessons learned

Mission or Office: USAID/Sri Lanka EWRO

Date this summary prepared: July 13, 1987

Title and Date of Full Evaluation Report: May 1987

Purpose of the activity or activities evaluated: The project is to expand the physical facilities of the NIHS in support of a multi-donor program to increase the capacity of the NIHS to train the quality and quantity of health care workers required to improve Sri Lanka's health delivery services and environmental sanitation. The original contract package comprised the following buildings and facilities:

Teaching block, library block, auditorium, laboratory block, cafeteria located moat, covered garages, maintenance shops and garages, generator room, security sds, covered walkways (Link), pump house, plumbing and mechanical installation ad telecommunication system, surface drainage system, roads, pavements, parking aas, demolition and landscaping.

These orks were in essence completed within the prescribed time and turned over on October 22, 1986. Towards the end of this work, as there was an identified need and sufficient uncommitted funds available, construction of a Women's Hostel Block was added. The blok was in the Master Plan but not included in the original construction contract of the Project. Construction was awarded to the same contractor and this work was substantially completed in April 1986. All the above works except Women's hostel have been taken over by NIHS. The contract value of the entire project is $ 1.8 million of which the AID contribution amounts to $1.553 million.

Purpose of the evaluation and methodology used: The evaluation purpose is (1) to compare the project design (Planned strategy, inputs, outputs and purpose) with actual implementation and accomplishments of the project, and (2) to specifically compare construction and maintenance with the standards agreed to under the project and with other accepted standards. The evaluation reviewed the whole process of procuring and administering A&E services as well as the construction contract. The existing was conducted at the end of the USAID funded construction.

Information was gathered from USAID project files, documents relating to project design and plans, including the project paper, the 1983 mid-term evaluation and other relevant documents, interviews with officials from USAID, SWA, Link and the GSL and visit to the site.

Findings and Conculsions:

(1) The project has achieved its purpose. Buidings and utilities have been turned over for maintenance, but the supervisory personnel to program and carry out systematic maintenance have not been recruited.

(2) Despite initial delays in procurement of A&E Services and awarding of construction contract, the expansion of physical facilities have been satisfactorily completed within the specified construction period.

(3) One Hostel Block was added to the original project and completed in early 1987.

(4) Adequate resources were devoted to both design and construction. Monthly progress Reports indicate that the Contractor had employed 22 supervisory personnel at site. Construction progress was adequately monitored by holding regular monthly meetings at site attended by representatives of MOH, USAID, SWA and LINK.

The consultant has issued all drawings and other construction details in time. In general, a good design standard has been achieved, but non-availability of a final deisgn report has inhibited the ability to do a thorough detailed evaluation of the design.

(5) The site is suitable with regard to its location and foundation conditions. As it was flat and of an impervious nature, storm runoff disposal presented a problem. Construction of a central moat to collect drainage water and to spill surplus water through a closed conduit into a neighbouring stream is a good solution both on technical and aesthetic grounds.

(6) A low level sluice outlet to empty and clean up the moat was proposed in the master plan. This has not been implemented.

(7) On the whole, the design concept and construction workmanship are of a high order.

(8) The contract value is $1.8 as against an estimated cost of $ 1.96 for the project including Women's Hostel. The pricing is realistic, competitive and based on sound judgement.

(9) Construction was supervised by a resident engineer from SWA. There was no counterpart technical supervisor from NIHS. It would have been in the best interest of the project if the proposed maintenance supervisor had been employed during installation of major electrical, plumbing and air-conditioning equipment so that he would be familiar with the equipment when they were turned over to the NIHS for future operation and maintenance.

(10) There were instances when contract payment was delayed by as much as two months. This was because the voucher was checked and approved at three different places; first by consultant, second by NIHS accounts division, and third in AID office. Once approved, a further two weeks elapsed before USAID could effect payment. However, when the delays caused a crisis MOH took the burden of procedural delay on its shoulder and paid the contractor pending approval and reimbursement to the GSL by AID.

(11) Maintenance has not received the attention it should receive. The supervisory personnel have not yet been assigned. NIHS has got some of its labourers trained during equipment installation. They are now engaged on operation and maintenance of the equipment but are not of a managerial or supevisory level. Buildings and facilities are being maintained on an as needed basis within the NIHS budetary allocation rather than on a routine and systematic basis.

Principal Recommmendations:

(1) NIHS to establish without delay a facilities operation and maintenance office with sufficient staff and budget to operate and maintain all the physical facilities in NIHS.

(2) Collect and compile all as-built details of physical facilities, final design report and maintenance manual on equipment installed.

(3) Establish maintenance programme on a systematic basis.

(4) Fund allocation must be based on a detailed annual maintenance program.

(5) A low level sluice outlet with gate control arrangement must be provided to the moat to facilitate periodic emptying and cleaning up operation.

(6) Examine and monitor waste discharges from the sewage treatment plant and reduce contaminants to acceptable levels.

Lesson Learned:

Evaluation at mid-point of construction would have had a more useful impact on the project as any corrective measures recommended would have had ready applicability to the to the project.

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K. ATTACHMENTS (List attachments submitted with this Evaluation Summary; always attach copy of full evaluation report, even if one was submitted earlier)

End of Project Evaluation of National Institute of Health Sciences.

L. COMMENTS BY MISSION, AID/W OFFICE AND BORROWER/GRANTEE

The end-of-project evaluation on the whole has been satisfactory and useful to the Mission It has documented the process, status, and quality of construction, as well as some remaining deficiencies which can still be remedied.

Unfortunately it was necessary to schedule one evaluation at a time the project officer was out of the country, so there is one important point where additional information might have affected the evaluation conclusion and recommendation.

The original plans, and the evaluator's recommendation, called for a low level sluice outlet with gate control arrangements to empty the moat. Though technically possible, it proved unfeasible for other reasons. The drainage outlets for the moat would have had to be provided through several different properties of several different state corporations. The time involved in getting all necessary points for this would have delayed consultation considerably. To avoid further delays another option has been chosen. An inexpensive submersible pump is being purchased by NIHS to periodically empty the moat into the existing drainage system. The pump will also be used to aerate the moat.

The evaluator's suggestion was also useful that a mid-way evaluation of construction activities may be more useful than an end-of-project evaluation. It is too late to apply to this project, but the Mission may apply this concept to several other porjects which have a building construction component.

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END OF PROJECT EVALUATION

OF

NATIONAL INSTITUTE OF HEALTH SCIENCES

(PROJECT NO. 383-0062)

Prepared For

United States Agency for International Development

Colombo, Sri Lanka

May 1987

END OF PROJECT EVALUATION

OF

NATIONAL INSTITUTE OF HEALTH SCIENCES

(PROJECT NO. 383-0062)

by

K. Satgunasingam

for

United States Agency for International Development

Colombo, Sri Lanka

May 1987

This report presents the independent findings and recommendations of an external evaluator. It does not necessarily represent the official views of the Agency for International Development or the Government of Sri Lanka.

BASIC PROJECT IDENTIFICATION DATA

1. Country: Sri Lanka

2. Project Title: National Institute of Health Sciences

3. Project Number: 383-0062

4. Project Dates:

   a. First Project Agreement: August 29, 1980
   b. Final Obligation: FY 1982
   c. Project Activity Completion Date: June 30, 1987

5. Project Funding:

a.	AID authorized Grant	$ 1,900,000
b.	Host Country	$ 1,220,000
c.	Other Donors	$ 1,580,000
	TOTAL:	$ 4,700,000

6. Mode of Implementation: Grant Agreement with the Government of Sri Lanka.

7. Project Design: The Government of Sri Lanka
   USAID/COLOMBO
   Contract Project Design Team

8. Responsible Mission Officials for the life of the project:

   a. Mission Directors: S. J. Littlefield
      Frank D. Correl
      Robert Chase

   b. Project Officers: R. Chamberlain
      B. Eileen Oldwine
      Joe Thanarajah

9. Previous Evaluation: November 1983

10. Cost of Present Evaluation: Contract: $ 2,500

EXECUTIVE SUMMARY

Initiating Mission: USAID, Colombo, Sri Lanka

Title: Final evaluation of the construction of physical facilities of the NIHS Project (383-0062), USAID, COLOMBO, SRI LANKA.

Brief Project Description: The project is to expand the physical facilities of the NIHS in support of a multi-donor program to increase the capacity of the NIHS to train the quality and quantity of health care workers required to improve Sri Lanka's health delivery services and environmental sanitation. The original contract package comprised the following buildings and facilities:-

> Teaching block, library block, auditorium, laboratory block, cafeteria located on moat, covered garages, maintenance shops and garages, generator room, security sheds, covered walkways (Link), pump house, plumbing and mechanical installation and telecommunication system, surface drainage system, roads, pavements, parking areas, demolition and landscaping.

These works were in essence completed within the prescribed time and turned over on October 22, 1986. Towards the end of this work, as there was an identified need and sufficient uncommitted funds available, construction of a Women's Hostel Block was added. The block was in the Master Plan but not included in the original construction contract of the Project. Construction was awarded to the same contractor and this work was substantially completed in April 1986. All the above works except Women's Hostel have been taken over by NIHS. The contract value of the entire project is $1.8 million of which the AID contribution amounts to $1.553 million.

Purpose and Method of Evaluation

The evaluation purpose is (1) to compare the project design (Planned strategy, inputs, outputs and purpose) with actual implementation and accomplishments of the project, and (2) to specifically compare construction and maintenance with the standards agreed to under the project and with other accepted standards. The evaluation reviewed the whole process of procuring and administering A&E services as well as the construction contract. The existing and proposed maintenance program was also reviewed. The evaluation was conducted at the end of the USAID funded construction.

Information was gathered from USAID project files, documents relating to project design and plans, including the project paper, the 1983 mid-term evaluation and other relevant documents, interviews with officials from USAID, SWA, Link and the GSL, and visit to the site.

Major Findings and Conclusions:

(1) The project has achieved its purpose. Buildings and utilities have been turned over for maintenance, but the supervisory personnel to program and carry out systematic maintenance have not been recruited.

(2) Despite initial delays in procurement of A&E Services and awarding of construction contract, the expansion of physical facilities have been satisfactorily completed within the specified construction period.

(3) One Hostel Block was added to the original project and completed in early 1987.

(4) Adequate resources were devoted to both design and construction. Monthly Progress Reports indicate that the Contractor had employed 22 supervisory personnel at site. Construction progress was adequately monitored by holding regular monthly meetings at site attended by representatives of MOH, USAID, SWA and LINK.

The consultant has issued all drawings and other construction details in time. In general, a good design standard has been achieved, but non-availability of a final design report has inhibited the ability to do a thorough detailed evaluation of the design.

(5) The site is suitable with regard to its location and foundation conditions. As it was flat and of an impervious nature, storm runoff disposal presented a problem. Construction of a central moat to collect drainage water and to spill surplus water through a closed conduit into a neighbouring stream is a good solution both on technical and aesthetic grounds.

(6) A low level sluice outlet to empty and clean up the moat was proposed in the master plan. This has not been implemented.

(7) On the whole, the design concept and construction workmanship are of a high order.

(8) The contract value is $1.8 as against an estimated cost of $ 1.96 for the project including Women's Hostel. The pricing is realistic, competitive and based on sound judgement.

(9) Construction was supervised by a resident engineer from SWA. There was no counterpart technical supervisor from NIHS. It would have been in the best interest of the project if the proposed maintenance supervisor had been employed during installation of major electrical, plumbing and air-conditioning equipment so that he would be familiar with the equipment when they were turned over to the NIHS for future operation and maintenance.

(10) There were instances when contract payment was delayed by as much as two months. This was because the voucher was checked and approved at three different places; first by consultant, second by NIHS accounts division, and third in AID office. Once approved, a further two weeks elapsed before USAID could effect payment. However, when the delays caused a crisis MOH took the burden of procedural delay on its shoulder and paid the contractor pending approval and reimbursement to the GSL by AID.

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Recommendations:

(1) NIHS to establish without delay a facilities operation and maintenance office with sufficient staff and budget to operate and maintain all the physical facilities in NIHS.

(2) Collect and compile all as-built details of physical facilities, final design report and maintenance manual on equipment installed.

(3) Establish maintenance programme on a systematic basis.

(4) Fund allocation must be based on a detailed annual maintenance program.

(5) A low level sluice outlet with gate control arrangement must be provided to the moat to facilitate periodic emptying and cleaning up operation.

(6) Examine and monitor waste discharges from the sewage treatment plant and reduce contaminants to acceptable levels.

Lesson Learned:-

Evaluation at mid-point of construction would have had a more useful impact on the project as any corrective measures recommended would have had ready applicability to the project.

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GLOSSARY OF ACRONYMS

A&E.....Architechural & Engineering

AMP.....Assistant Medical Practitioner

GSL.....Government of Sri Lanka

LINK.....Link (Engineering) Ltd.

MSL.....Mean Sea Level

MOH.....Ministry of Health

NIHS.....National Institute of Health Sciences

PACD.....Project Assistance Completion Date

PHI.....Public Health Inspector

PHM.....Public Health Midwife

PHN.....Public Health Nurse

PP.....Project Paper

SWA.....Surath Wickramasinghe Associates

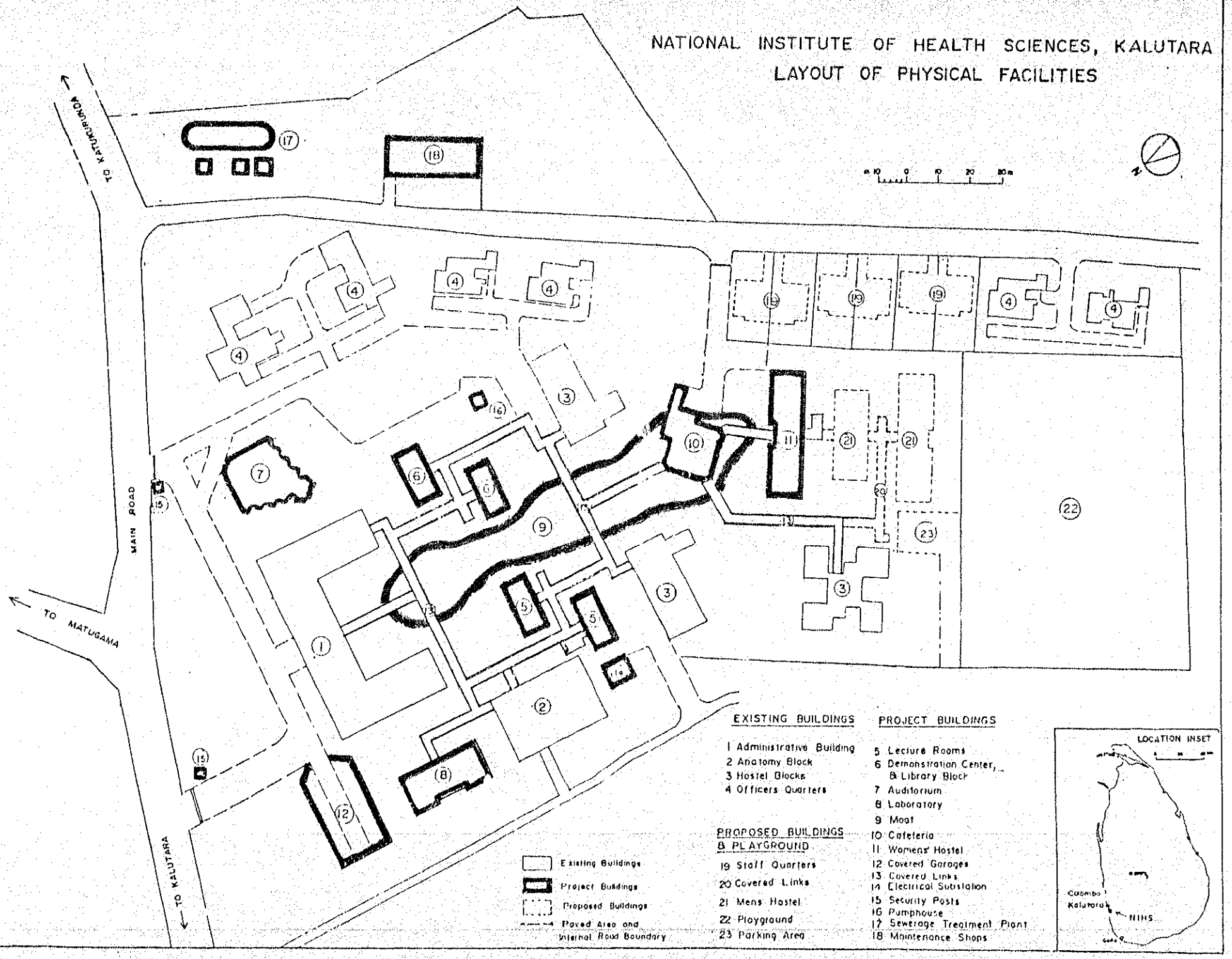
UNDP.....United Nations Development Programme

UNICEF.....United Nations International Children's Emergency Fund

USAID.....United States Agency for International Development

WHO.....World Health Organization

NATIONAL INSTITUTE OF HEALTH SCIENCES, KALUTARA
LAYOUT OF PHYSICAL FACILITIES



1. INTRODUCTION

The primary purpose of this report is to evaluate whether the construction of physical facilities at the National Institute of Health Sciences (NIHS) Kalutara financed under Project No.383-0062 has been satisfactorily completed, whether suitable plans have been made for the maintenance and the use of the facilities. It was carried out during May 1987 by an external evaluator (K. Satgunasingam) under Contract No.40 USC 474.

Evaluation methodology included a review of available documents and interviews with officials from the USAID Mission, NIHS, Ministry of Health (MOH), Surath Wickramasinghe & Associates (SWA) and Link (Engineering) Ltd. (Link), and two field visits to Kalutara, where completed physical facilities were inspected and interviews were held with project personnel at all levels. Full cooperation and support was received from the staff of the Mission, Sri Lanka Government, Design and Supervision Consultant and Construction Contractor. However, non-availability of "as built" drawings and a final design report were limiting factors in conducting this evaluation.

II. PROJECT OVERVIEW

1. Country Context: Health Manpower

The Government of Sri Lanka has maintained a commitment to improve the health of its people. The Public Health System began with the introduction of sanitary inspection in 1913. The first Health Training Unit was set up at Kalutara (26 miles south of Colombo) in 1926 when training of auxiliary midwives started. With assistance from Rockerfeller Foundation in 1937, it embarked on training of personnel in epidemic control. In 1966, the Institute moved to a more spacious and convenient building donated by the Government of Australia and was named the "Institute of Hygiene". In 1979 the Institute of Hygiene was designated as the National Institute of Health Sciences, a decentralized training unit directly responsible to the Ministry of Health. Over the years the GSL has established several institutions for training public health workers, but the number of public health workers must be increased by at least 1/3 if the peripheral delivery system is to be adequately staffed. The GSL selected NIHS Kalutara to be the leading institution in training more public health workers. The period between 1977 and 1980 witnessed an intense effort in formulating policy and plans for strengthening of the Institute's infrastructure for training of adequate health manpower to operate a peripheral delivery system designed to cover the entire population of the country. The plan called for a complete reorganization of the Institute, upgrading of its status within the Ministry of Health, expansion of its physical facilities, improvements in its curriculum and expansion of the number of people trained annually.

AID agreed to cooperate with several other donors in providing assistance for various parts of the program to develop NIHS into a national training institution for public health workers.

A summary budget and amount of donor contributions for the program is given below:

SOURCE	AMOUNT	PURPOSE
UNICEF	$ 770,000	construction of some facilities, training.
UNDP	500,000	training and support costs
WHO	310,000	technical assistance and training
AID	2,200,000 *	A&E, construction of physical facilities.
GSL	1,220,000	land, some buildings, furnishings and equipment for facilities.
TOTAL	5,000,000	

*An uncommitted balance of 300,000 US$ was deobligated during life of project.

2. BRIEF PROJECT HISTORY

The expansion of physical facilities at NIHS (the Project) is a USAID and GSL funded $ 3.42 million four year project. The effort was authorised by USAID in August 1980 as a $ 2.2 million grant funded project with a PACD of August 1984. With the approval of the project, there was considerable delay in procurement of A&E services owing to change in procurement policy of GSL. Finally, the invitation for technical proposals was advertised on May 31, 1981 and 14 proposals were received.

Surath Wickramasinghe Associates (SWA) were selected on the basis of their technical proposals. Financial proposals were then negotiated and a contract for A&E was signed with SWA on August 6, 1982. The A&E Consultant reviewed and finalised the Master Plan and completed final designs and bid documents for construction services by November 1983. Bids were invited in December 1983 but the tender had to be cancelled owing to the withdrawal of the lowest bidder and expiry of validity of other bids by the time tender board made its decision. The advertisement, bidding and evaluation process was repeated and a contract was awarded to the lowest responsive bidder, Link (Engineering) Ltd., on January 24, 1985. In the meantime, on recommendation of November 1983 mid-term evaluation, PACD was extended till August 1985 and it was followed by a further extension till December 1986. The construction of physical facilities was substantially completed by October 1986 within the period specified in the contract. Towards the completion of the Project a Women's Hostel was included in the Project by an amendment and extending the PACD up to June 30, 1987. The contract for the construction of the Hostel was negotiated and awarded to Link as an amendment to the ongoing contract allowing 10% increase in price to accommodate cost escalation that has resulted due to inflation over 1 1/2 years.

3. Project Purpose and Objectives

The purpose of the Project is to support that part of the NIHS program involving the expansion of physical facilities needed to train more public health workers and do related research work for all levels of the paramedical system.

The objective of both the NIHS program and the Project is to enhance productivity and human well-being through expansion of primary health care for all people of Sri Lanka.

4. Project Description
Building layout

Project is located in Kalutara, 26 miles South of Colombo on a site 19 acres in extent. The following buildings were already existing when the Project work began: Administration Block, Anatomy Block, 3 Hostel Blocks and 6 Staff Quarters.

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The following equipped buildings and related utilities were included under the Project:-

		Floor Area (Square Feet)
Auditorium	- air-conditioned with seating capacity for 350 persons	5,000
Teaching Block:		
	- 4 teaching rooms	4,600
	- 2 seminar rooms	2,000
Library Block:		
	- library unit	2,420
	- demonstration centre & audio visual laboratory	3,600
Laboratory Block	- 4 laboratories	4,480
Cafeteria		3,375
Women's Hostel		12,000
Utilities		------
Interior Road		------

See attached map for layout of buildings.

Site

The site is quite flat and a good portion of it is an abandoned airport runway with an impervious surface layer. Storm runoff intensity is high and surface drainage required special attention in view of the flatness of the site. A central moat was excavated and the drainage from some of the buildings, roads and landscape were led into it through a network of drains. Surplus water from the moat was led away to a nearby stream through a closed conduit spillway. This method of storm water disposal has created an ornamental pool which in addition to its functional purpose enhances the scenic beauty of the landscape. The remaining site was filled with earth to an average depth of 1 1/2 feet and graded to facilitate rapid disposal of storm runoff.

Foundations Conditions

Foundation investigations from trial pits, bore hole results and standard penetration tests indicated that a conventional strip foundation at 4 feet depth would be adequate for most of the buildings; permissible bearing pressure being 0.8 Tons/Sq. ft.

Buildings

All buildings are rectangular in shape to be compatible with the existing buildings. North-South orientation has been generally adopted in order to avoid direct sunlight and to provide the maximum amount of natural light and ventilation. All external walls are of wire-cut brickwork with pointed finish to the outer face. The construction materials of the buildings are essentially local in origin and the design takes into consideration the suburban nature of the surroundings.

The buildings are all connected by links (covered walkways) and internal road access. Thus functionally the complex is a single unit with planned design for landscaping, street lighting and public utilities.

Modern standards of building services have been achieved through air-conditioning of selected areas such as the auditorium, an inter-com telephone system and assured electric power from the mains and backup generating supplies.

5. Implementation Strategy

Design and supervision was done by a Sri Lankan A&E Firm, Surath Wickramasinghe Associates (SWA). Selection was made on the basis of the best technical proposal submitted and price was negotiated thereafter. A fixed fee contract was signed between SWA and MOH.

Prequalification data was sought from interested US and Sri Lankan construction firms and joint ventures of such firms in order to qualify to bid. Contract was awarded to the lowest responsive bidder. Construction was accomplished in one contract with Link (Engineering) Ltd. A fixed unit price contract was signed between Link and MOH.

The A&E services during preconstruction period included:

- preparation of a detailed Master Plan for the development of the NIHS Campus
- detailed architectural and engineering design of expansion of physical facilities under the AID funded project.
- preparation of contract documents for construction
- assistance in invitation for bids, evaluation and award of construction contract

Construction supervision was provided by SWA, whose representative at site acted as agent for the MOH in supervising the work of the contractor Link by making decisions and providing approvals on behalf of MOH.

The agent's duties included:

- interpreting the drawings and specifications
- approving the quality of equipment and material delivered to the site.
- inspecting, accepting or rejecting work in place
- providing certifications of progress payments invoiced by the contractor as to correct quantities and conformity to drawings and specifications.
- making final inspections and giving recommendations regarding acceptance of the finished works by the MOH
- preparing "as built" drawings.

Monthly progress meetings of a committee consisting of representatives of AID, NIHS, SWA and Link were held at site to monitor construction progress.

III. PROJECT ACCOMPLISHMENT

1. Master Plan

The scope of A&E services for the preparation of a Master Plan for the expansion of physical facilities of the NIHS Campus at Kalutara included the following:

- review all previous reports, designs and plans which have been prepared for the NIHS
- provide recommendations for the preparation of the Master Plan
- prepare a Master Plan which shall include details of all existing development of the NIHS Campus, proposed development of the campus under this project, and the proposed development of the Campus as envisioned by the NIHS.

The approved Master Plan included proposals for expansion of physical facilities including buildings, utilities, internal roads, fencing, water supply, sewerage, electricity, landscaping and drainage improvements. In addition to the physical facilities constructed under this project the Master Plan recommended proposals for future expansion (see attached map). The additional Campus development yet to be constructed comprise: Men's Hostel Block, 6 staff quarters and recreational facilities. Architectural and Engineering proposals contained in the Master Plan were conceptual and needed further reconnaissance and topographic surveys to finalise certain parameters. Though architectural and structural details did not change in the final design there was one significant deviation from the Master Plan on flood control measures.

The Master Plan envisaged construction of a low level sluice outlet to the moat to facilitate emptying and cleaning up operation. But in the final design it was not implemented at the level proposed. A final design report was due from the A&E consultant in terms of the consultancy agreement, but it has not been submitted.

The spill elevation of the moat as constructed did not provide adequate freeboard to the ground floor of the existing administration building in relation to the flood elevation of the moat; as a result the gulley had to be raised and some service pipes modified to prevent backflow of water from the moat into the building during storm runoff.

Recommendation:

- action must be taken to investigate, design and construct a suitable low level sluice with control gates to facilitate control of pool elevation during seasonal floods as well as to facilitate periodic emptying and cleaning up operation of the moat.

- final Design Report must be submitted to AID and NIHS which is a condition in the A&E services Contract. This report is necessary for any future modification to the physical system and proper operation and maintenance of the facilities.

2. Construction of physical facilities

The construction agreement between Link and GSL was a fixed unit price Contract. The period of construction was 18 months. The floor area of buildings constructed is 41,000 sq. ft. and that of the covered links is 33,000 sq. ft. The work involved 30,000 Cu. yds of earthwork, 2990 Cu. yds of concrete, 2,400 Cu. yds of brick masonry, 1,537 Cu. yds of stone masonry, 62 tons of structural steel and 175 tons of reinforcement steel. The contractor was responsible for true and proper setting out of the works, field tests on concrete and aggregate gradation analysis. Concrete test cubes were made at site and sent to a laboratory for testing. Cube strengths achieved were generally higher than the minimum specified. Details of field tests and test results were not included in the consultant's monthly progress reports though it would have ensured proper monitoring of construction contractor's quality control.

The contractor's site staff consisted of a project Manager, a resident engineer, a civil engineer and 19 supervisory technical and clerical personnel. A labour strength of 250 was maintained during peak construction period. In order to keep to the program, some of the works were done in two shifts. Adequate machinery and equipment was maintained throughout the construction period. Records indicate that 32 items of machinery and equipment ranging from earthwork machinery such as excavater, dumper, trailer tractor down to electric bar bender and tile cutting machine were deployed.

In order to speed up construction of the extensive covered links which were of a repetitive nature, all reinforced concrete beams, which were designed to be cast in situ, were precast and placed in position on a change order at the contractor's request and with no extra payment to the Contractor. This not only saved construction time but also ensured quality and finish.

There was no direct full time on-site supervision of construction by MOH or NIHS. Work was supervised by a resident engineer from the A&E firm. Monitoring of progress was by holding monthly meetings of GSL, USAID, SWA and Link representatives. Entire work was completed within the time allowed.

Towards the latter stages of the construction, a 3-storeyed Women's Hostel Block was awarded to the same contractor as a contract amendment. Rates were negotiated and agreed upon. This Hostel Block was completed in April 1987.

From an inspection of the completed work it can be said that a high standard of workmanship was achieved. The physical system is now functional.

Conclusion:

- Management of construction and supervision of construction was well organized.

- The presence of a full time counterpart technical officer from MOH or NIHS would not only have ensured compliance with approved Master Plan and construction contract but also seen to the appropriateness and acceptability of some of the utilities provided under the contract. This officer could later have taken charge of the maintenance unit.

3. Overall construction Procedure and Progress:

All directives for construction were issued by the resident engineer of A&R firm. Construction drawings and specifications were approved and issued before contractor mobilized. This enabled the contractor to prepare a timely and realistic construction program and adhere to it.

Consultant's monthly progress report gave details of activity and spotlighted likely constraints to progress. These were reviewed at monthly site meetings attended by GSL, NIHS, AID, SWA and Link representatives and appropriate action was identified and assigned to maintain scheduled progress.

Even though construction drawings embodying detailed designs were to have been checked and approved by GSL and AID, there is no record of this having been done. No design report is available and there is nothing on record to show that approval was obtained to do away with the low level sluice for the moat.

Conclusion

Construction procedure was well organized and the contractor has completed the construction on time.

4. Cost of Construction

The project paper estimate of the total cost of the project was $ 3.4220 Million of which the commitment of USAID was $ 2.2 Million. Cost of construction (excluding design, supervision and evaluation) was estimated to be $ 3.052 Million. The estimate was based on the prices prevalent at that time on similar works which were nearing completion at NIHS Campus site. Inflation factor adopted was based on 10% foreign and 20% local annual inflation rate and compounded during the four year life of project.

After detailed designed were completed by SWA the cost of construction was estimated at $ 1.99 Million on a fixed price basis. The actual contract price was $ 1.81 Million. This includes the cost of Women's Hostel Block which was awarded to the same contractor by a contract amendment. The pricing of unit rates was realistic, competitive and based on sound judgement. See Annex F for table giving estimated and actual costs.

Actual construction cost is 91% of consultants estimate and 59% of the PP estimate. The main reasons for the vast difference between PP estimate and actual cost are:

- Construction was done by a local contractor to whom payment was made in rupees.

- PP was based on Rs 16/- to a US Dollar whereas the currency conversion rate during construction was Rs 27/= to a US dollar.

Conclusion

Though there was considerable loss of time in getting project construction underway, this delay permitted more work to be done than originally planned with the project budget. Construction contract was awarded at a time when there was a lull in the construction industry in Sri Lanka. Therefore, there was keen competition among prequalified bidders. The price quoted by the successful bidder Link was realistic, competitive and based on sound judgement. The project is cost effective.

5. Contract Payment Procedure

The contract price was designated wholly in Sri Lanka rupees and payment to the Contractor was made in Sri Lanka rupees. AID financed 90% of the payment due on the following 19 items of work:-

1. Preliminaries
2. Demolition Works
3. Teaching Block
4. Library Block
5. Auditorium
6. Laboratory Block
7. Cafeteria
8. Covered Garages

9. Maintenance Shop and Garage
10. Generator Room substation 1 and generating set.
11. Security Sheds
12. Covered links including 2 No. External Staircases
13. Sewer Pump House (Electrical work)
14. Substation 2 - Pump House Lighting & Power
15. Main Switch Boards & Main Feeders including Service Mains
16. Landscaping
17. Telecommunication System
18. Water Supply & Sewerage
19. Women's Hostel

The balance 10% due on the above items was estimated to be the local taxes, dues, levies etc., imposed on the Contractor and therefore were paid by GSL. The following items in the construction contract were entirely financed by GSL:-

1. Storm Water Drainage System
2. Moat
3. Electrical Work (Existing Buildings):
   - Administration Buildings
   - Hostel Blocks
   - Quarters type A and B

Payment to the Construction Contractor was by:

- a direct AID letter of commitment in an amount equal to 90% of the contract price of all the 19 AID financed items of the contract listed above; the committed amount being $ 1.55 Million.

- all other amounts due and payable under the contract were paid directly by GSL.

Payment under AID letter of commitment generally took more than two months from the time the interim statement from the Contractor was certified by the resident representative of SWA. It was checked and approved in the NIHS office and thereafter in AID office. Once approved, a further two weeks were needed to effect payment to the Contractor through Asia Regional Finance Centre of USAID, Bangkok. This procedural delay was unanticipated by the contractor and consequently it was heading for a major cash flow deficit. The contractor then appealed to MOH for redress. With the concurrence of AID, payment was made directly by MOH to the contractor pending reimbursement by AID. This procedure was adopted from the 7th interim payment.

The time within which payments were to be made after the MOH's approval was 30 days in terms of the contract agreement between MOH and Link. Interest payable for payment delays was at the rates fixed by the US Secretary of the Treasury under the Renotiation Act, US Public Law 92-41, on the amounts approved by the MOH.

Conclusion

The spontaneous action taken by MOH in resolving the procedural delay in payment to the contractor under a direct AID letter of commitment by taking the burden on its shoulder and advancing payment pending reimbursement from AID is commendable.

Recommendation:

(1) In the case of payment by a direct letter of commitment, where long procedural delays are inevitable in effecting such payment, cooperating country must arrange to make payment direct to the Contractor once it is approved, and then seek reimbursement from AID.

(2) Because the contract price was designated in Sri Lanka rupees and the Contractor was paid in the same currency, interest at lending rates of the Central Bank of Sri Lanka are more appropriate than the rates fixed by the US Secretary of the Treasury, as specified for delays in payment, in the construction contract.

IV MANAGEMENT OF PROJECT FACILITIES

1. Maintenance Program

The NIHS Kalutara administration has five integral parts: the NIHS Campus, Kalutara base Hospital, Beruwala Peripheral Hospital and two rural hospitals. It functions as a decentralised unit of the Department of Health Services with independent financial and administrative control and is directly responsible to the central administration. The practice in the past has been to entrust the maintenance of physical facilities to the Buildings Department of the Ministry of Local Government and Housing. Annual Maintenance program and estimate were prepared by the Director NIHS in consultation with the Buildings Department. Based on this estimate, block allocations were made annually to the Director NIHS to get the maintenance done through the Buildings Department.

As a condition precedent for USAID funding of the expansion of physical facilities of the NIHS Campus, the GSL was to set up a maintenance unit to undertake all maintenance work on the campus from 1987 onwards and to take over the rest of the NIHS Complex in Kalutara in the coming years. Completed works have now been turned over to NIHS.

The maintenance program has to be viewed in the context of the nature and magnitude of works to be maintained. NIHS Campus has 10 buildings and utilities just completed in addition to the 10 buildings which were already in existence. In addition there are the new sewerage system and treatment works, water supply system, internal roads, surface water drainage system and 19 acres of landscape all of which will need a variety of skills to provide routine and systematic maintenance. The waste discharges from sewage treatment plant need regular examination and monitoring in order to reduce contaminants to acceptable levels. Additionally, the moat needs constant attention to be free from contamination and noxious odour. In order to draw up a suitable program, the maintenance unit should have the following documents for ready reference:

- As - built drawings and schematic diagrams of service mains.
- Design Report
- Maintenance Manual on all equipment installed
- Standard Specifications for maintenance of buildings and internal roads
- Operation and maintenance guidelines for the Moat.

An itemised and properly compiled program of maintenance is an essential prerequisite to frame a realistic annual maintenance estimate and to get maximum value for the increasingly large sums spent on maintenance work.

2. Resource Allocation

Funding for maintenance is by the GSL Treasury which channels annual block allocations to the various Ministries which in turn distributes it to the various departments under its control. NIHS receives its bulk allocation of funds from the Director General of Health Services. These allocations are based on the estimate submitted during the preceding year. The estimate now is generally arbitrary and not based on a specific maintenance plan and all maintenance activities are confined to the limits of the annual budget allocation. As a result, maintenance is limited to availability of funds. The bulk allocation for 1986 is $ 35,000 excluding salary paid to operation and maintenance staff. Inquiries made during evaluation revealed that a similar amount is being sought for next year. Unless a properly staffed Maintenance Unit is established to plan and coordinate all maintenance activities with adequate funds for year round maintenance on a planned and systemmatic basis, there is every chance of rapid deterioration of the physical system as had happened to buildings constructed earlier.

3. Maintenance Organization

One of the conditions precedent for disbursement for construction was that there shall be evidence that appropriate authority has been delegated to Director of NIHS to establish a facilities operation and maintenance office with sufficient staff and budget to operate and maintain all of the physical facilities of NIHS. An adequate maintenance unit is yet to be established. The new buildings and facilities have been turned over to NIHS. A total number of 33 labourers of various grades are presently employed to carry out maintenance on an 'as needed' basis. Treasury approval is awaited to increase the number of labourers to 40 and to recruit a building supervisor, an electrician and an oversear. Throughout the life of the project USAID has been stressing the importance of establishing a 'Core Unit' during construction especially during installation of electrical, plumbing and air-conditioning equipment so that they would be familiar with the equipment when they are turned over for GSL maintenance. NIHS has got some of the available labourers trained during installation but it would have been in the best interest of the works to have recruited the supervisory staff during the period. It is high time the requisite staff and additional labour are recruited. If this is not done immediately, the presently employed maintenance labour force will be left to grope along an unstructured path with absolutely no formal guidance and very little preventive and corrective maintenance being done.

4. Current Position

The physical facilities under the project are now completed and in use excepting the Women's Hostel which has not yet been formally furnished. Release of funds from the treasury is now awaited to formally furnish and occupy the Hostel. As this Hostel was not included in the original project and it was included by a project amendment, it appears that no provision was made in the GSL budget for 1987 to furnish the Hostel. Occupation of this hostel, which is designed to accommodate 54 students and a flat for the Warden, is likely to be delayed till 1988 unless funds are readily available to furnish it.

5. Project Outputs

The table given below compares the actual project outputs with those contained in the logical framework of the Project Paper (P.P). Utilities such as Internal Roads, Electricity, Water Supply and Sewerage have not been included in the table, but the output on these items is as projected in the P.P. The only significant change is in the output of the Cafeteria which is 3,375 Sq.ft. compared to a projected 1,500 Sq.ft. In addition, there are some outputs, namely; Links, Women's Hostel, Maintenance Shop and Landscaping which were not included in the PP. Outputs of this project are more than was expected.

See Annex C for logical framework of PP.

MAGNITUDE OF PROJECTED AND ACTUAL OUTPUTS

	FLOOR AREA Sq.ft.	
	ESTIMATED	ACTUAL
1. Auditorium	5,000	5,000
2. Lecture Halls	4,200	4,600
3. Seminar Rooms	2,000	2,000
4. Laboratory Rooms	4,200	4,480
5. Audio-Visual Laboratory) Demonstration Centre)	4,000	3.600
6. Cafeteria	1,500	3,375
7. Links *		33,000
8. Womens Hostel *		12,000
9. Maintenance Shop *		------
10. Landscaping *		------

* These were not included in the PP.

V. POST PROJECT ISSUES

1. Balance Physical Facilities

Expansion of physical facilities of the NIHS campus that has been accomplished under this Project were limited by availability of funds. The balance of the physical facilities which are still required according to the Master Plan recommendations are:

- a Male Hostel with 21 double rooms and 12 single rooms to accommodate 54 students and a flat for the Warden.
- 6 No. Staff Quarters, each having 1,600 Sq. ft. floor area
- Recreational facilities

The entire requirement of physical facilities for training and research has been provided under the project. Thus the Institute is now equipped to achieve the overall NIHS program of training the requisite quantity and quality of Primary Health Care workers, namely:

180 AMP Students (3 batches of 60)
160 PHI Students (2 batches of 80)
100 PHM Students (2 batches of 50)
50 PHN for post basic training

As of now, the residential facility is available for only about 200 students while the student population is about 500. Thus the problem in hand is the construction and furnishing of the proposed Men's Hostel and Staff Quarters at the NIHS, Kalutara Campus in order to obtain the maximum benefit from the facilities already provided.

Recommendation:

Early action to be taken to furnish the Women's Hostel and to complete the construction and furnishing of Men's Hostel and Staff Quarters as proposed in the Master Plan.

2. Additional physical facilities to the Moat

Though the moat is an attractive centre piece and ornament in nature, it is not functioning the way it was intended in the Master Plan. The entire water collected up to its normal pool elevation of + 11.75 feet MSL, amounting to 450,000 gallons, remains stagnant causing noxious odour and mosquito breeding. By accident rather than design it has turned out to be a perfect laboratory for integrated vector control.

The commitment of funds by USAID for the construction of Women's Hostel Block was on the condition that GSL takes speedy action:

- for maintenance, proper circulation and aeration of water in the moat,

- to provide a means to drain the moat when necessary to clean the moat bed.

At the time of this evaluation, no such action has been taken.

A sluice arrangement with outfall canal to drain the moat was proposed in the Master Plan but it does not appear to have been pursued during detailed design stage. Speedy action is necessary to construct a suitable sluice and outfall canal to facilitate emptying of the moat.

Recommendation

Speedy action to be taken to provide:

- for proper circulation and aeration of water in the moat

- a cost effective means to drain the moat when necessary to clean the moat bed.

3. Summary

With the provision of the above added facilities and with adequate preventive and corrective maintenance of the whole campus, NIHS would be able to provide the necessary physical infrastructure and suitable environment to achieve its ultimate objectives.

VI. CONCLUSIONS AND RECOMMENDATIONS

1. Overall Assessment of the Project

Conclusions

1. There were initial delays in the procurement of Architectural & Engineering Services and awarding of construction contract. But, by any reasonable standard, the project as a whole has been a success:

- A site which was subjected to poor drainage and water logging was landscaped and improved

- Standard of design and construction are of a high order and work was accomplished within the prescribed construction period.

- Construction contract was awarded at a time when there was a lull in the construction industry. The pricing was realistic, competetive and based on sound judgement. The project is cost effective.

- Outputs have far exceeded expectation. One Hostel Block was added to the original project and completed in April 1987 with the uncommitted balance from the grant fund.

2. Project Strategy and Components

The implementation strategy has worked well. A fixed unit price contract has induced the contractor to complete the work on time.

3. Master Plan

Sound architectural and Engineering concepts were embodied in the Master Plan. Proposal to construct a central moat to deal with surface runoff was technically and aesthetically sound.

A means to drain the moat had not received the attention it needed during detailed design and construction stages. End of project status is that the moat cannot be freely drained as originally proposed, and it is now a source of discomfort and disease.

4. Construction of Physical Facilities

(a) Construction management and supervision was well organized.

(b) A full-time technical officer from MOH or NIHS would not only have ensured compliance with approved Master Plan and construction contract, but also seen to the appropriateness and acceptability of some of the utilities provided under the contract. This officer could later have taken charge of the maintenance unit.

5. Contract Payment Procedure

Under the original arrangements payment to the contractor by a direct letter of commitment had to pass through several procedural obstacles. As a result there was a delay in payment of over two months after the voucher was certified by the Architect.

After several months MOH stepped in when the contractor was heading for a major cashflow deficit and shouldered the burden. After that MOH paid the contractor direct, and then claimed reimbursement from AID.

6. Maintenance of Project Facilities

Maintenance has not received proper attention though it was a condition precedent for disbursement for construction. An adequate maintenance unit is yet to be established.

7. Planned Inputs of the Multi-Donor Program.

It was mutually agreed with USAID staff to exclude the evaluation of multi-donor inputs as it would involve an evaluation of the overall NIHS program which is beyond the scope of this evaluation.

Recommendations

1. The following recommendations are drawn from the conclusions above and discussion and analysis in the report:

- NIHS to establish without delay a facilities operation and maintenance office with sufficient staff and budget to operate and maintain all the physical facilities.
- collect and compile all as built details of physical facilities and maintenance manual on equipment installed.
- establish maintenance program on a systematic basis
- fund allocation must be based on a detailed annual maintenance program

- a low level outlet with gate control arrangement must be provided to the moat to facilitate emptying and cleaning up operation.

- examine and monitor waste discharges from the sewage treatment plant and reduce contaminants to acceptable level

- in the case of payment by a direct letter of commitment, where long procedural delays are inevitable in effecting payment, cooperating country must arrange to make payment direct to the contractor once it is approved, and then seek reinbursement from AID.

- because the contract price was designated in Sri Lanka rupees and the contractor was paid in the same currency, interest at lending rates of the Central Bank of Sri Lanka are more appropriate than the rates fixed by the US Secretary for the treasury, as specified for delays in payment, in the construction contract

2. <u>Lesson Learned</u>

Evaluation at mid-point of construction would have had a more useful impact on the project as any corrective measures recommended would have had ready applicability to the project.

SCOPE OF WORK

1. General

A comprehensive mid-term evaluation of the project was was undertaken in 1983. As a result of the evaluation the project was extended until 1986.

This evaluation is a) to assess whether the construction financed under this project has been satisfactorily completed, b) whether equitable plans have been made for the maintenance and the use of the facilities and c) whether planned inputs of the GSL and other donors to the multi-donor program have been provided.

This end of project evaluation will be conducted in May 1987, at the end of the project to determine the level of impact the project has had on the overall NIHS program.

11. The Evaluation will answer the following questions:

1. Has the construction supported under the project been satisfactorily completed?

   (a) What is the extent of construction compared with the plans?
   (b) Has the quality of construction been satisfactory?
   (c) Were building designs appropriate?
   (d) Were sufficient resources devoted to both the design and construction efforts?
   (e) Were sufficient supervisory staff (of the construction contractor Link Engineering and consultants SWA) engaged in providing construction testing reports, field reports, engineers' reports, etc.?
   (f) Was the selection and development of the NIHS site where the buildings are located suitable?
   (g) Are there important improvements which could have been made in the design or construction?
   (h) Were the costs of construction reasonable?

2. Are the plans for maintenance of the project construction satisfactory?

   (a) What is the proposed maintenance program? Is it in line with the condition precedents of the grant agreement?
   (b) Are sufficient resources being allocated for maintenance?
   (c) How is the new facilities maintenance office operating? Is it functioning in accordance with the agreed procedures established in the conditions precedent for the project?

(d) Has the maintenance to date on the buildings completed in October 1986 been carried out in a proper and systematic manner?
(e) Is the pond on the NIHS complex adequately maintained?
(f) Are any problems forseen on any of the above?

3. Assess the performance of each of the organizations (i.e. MOH, NIHS, USAID, LINK SWA, ETC.) involved in implementing the project? What have been the strengths and weaknesses of each?

(a) How well have the contractors (SWA and Link) fulfilled their scope of work?
(b) How well did the GSL and USAID monitor the project? Were sufficient resources devoted to monitoring?
(c) Was communication between these organizations satisfactory? Did it improve after the mid-term evaluation?

4. Has this been an effective and useful project?

(a) Was the design or strategy appropriate for the project purpose and goal?
(b) Were the assumptions specified in the logframe correct? Were there other important assumptions not identified at the time of project design?
(c) What were the major problems (and strengths) in the implementation of the project? How could performance have been improved?
(d) Have the planned inputs been supplied by other donors in the larger multi-donor program to which this USAID project contributed?
(e) At the time of the evaluation, to what extent do each of the project buildings appear to be in use?

5. Are there any recommendations for any of the involved parties concerning the continued use of the assets created under the project? Are there any important lessons learned from this project that would be useful in designing or implementing a similar project in Sri Lanka or elsewhere?

LIST OF DOCUMENTS CONSULTED

1. Project Paper
2. Grant Agreement
3. Mid-Project Evaluation November 1983
4. Strategy Proposal for NIHS July 1986
5. A&E Contract Agreement between MOH and GSL
6. Construction Contract Documents for expansion of physical facilities at NIHS
7. Master Plan
8. Detailed drawings of physical facilities
9. AID bulk files

AID 1020-2011-72B

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY _____ to FY _____
Total U. S. Funding _____
Date Prepared: _____

Project Title & Number: AID PROJECT

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: To enhance human productivity and well-being in the rural sector by improving public health services.	Measures of Goal Achievement: Reduction in major preventable illnesses. Lowered malnutrition rates.	National statistics Special surveys	Assumptions for achieving goal targets: GSL devotes increased funding to Rural health services. Graduates are willing to work in Rural communities throughout Sri Lanka. Graduates are accepted by and able to work effectively in Rural communities.
Project Purpose: Expand physical facilities of NIHS in support of multi-donor program as described in Program Log frame.	Conditions that will indicate purpose has been achieved: End of project status. Facilities fully equipped, furnished and being used for teaching and research.	Joint evaluations Site visits	Assumptions for achieving purpose: GSL provides furnishings for buildings. NIHS is able to retain its staff.
Outputs: Construction of physical facilities	Magnitude of Outputs: Auditorium Library 6 Lecture halls 2 Seminar rooms 6 Lab rooms, audio visual lab, Demonstration room, demonstration center, Cafetaria, utilities, site preparation and roadway	A/E reports Site visits	Assumptions for achieving outputs: Local construction industry has capacity and willingness to construct the NIHS building
Inputs: AID - construction, architech/engineering services GSL - Land, furnishings, equipment, landscaping, related buildings	Implementation Target (Type and Quantity) AID - $ 2.2 million grant GSL - $ 1.0 million	AID documents	Assumptions for providing inputs: GSL provides its inputs

AID 1020-28 (11-73)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY _____ to FY _____
Total U. S. Funding _____
Date Prepared: _____

Project Title & Number: NIHS PROGRAM

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: To enhance human productivity and well-being in the rural sector by improving public health services.	Measures of Goal Achievement: Reduction in major preventable illnesses. Lowered malnutrition rates.	National statistics Special surveys	Assumptions for achieving goal targets: GSL devotes increased funding to Rural health services. Graduates are willing to work in Rural communities throughout Sri Lanka. Graduates are accepted by and able to work effectively in Rural communities.
Project Purpose: To increase the capacity of the National Institute of Health Sciences (NIHS) to train the quantity and quality of health care workers required to improve GSL health delivery services and environmental sanitation.	Conditions that will indicate purpose has been achieved: End of project status. A) NIHS training annually about 60 AMP 80 PHI 50 FHW 40 PHN B) NIHS providing short-term courses. C) Health delivery models being designed and tested.	NIHS Reports Joint Evaluations Site Visits	Assumptions for achieving purpose: NIHS is able to retain qualified staff. NIHS is able to attract enough qualified students for long and short-term training program. GSL provides adequate budgetary support for NIHS.
Outputs: 1. Additional physical facilities constructed. 2. Staff increased and skills upgraded. 3. Curricula revised to address current rural health needs.	Magnitude of Outputs: 1. Auditorium Library Teaching facilities Hostels, related utilities internal roads, landscaping etc. 2. Staff expanded to 125 professionals 3. Revised curriculum installed for AMP, PHI & PHNs.	A/E reports Site visits	Assumptions for achieving outputs: Local construction industry is willing and able to construct the NIHS buildings. NIHS is able to recruit sufficient staff. Other donors provide sufficient TA to revise curriculum
Inputs: UNICEF—Construction, scholarships TA WHO - TA and Adm, Assistance UNDP - TA and Adm, Assistance AID - Construction, Evaluation GSL - Land, construction, furnishings.	Implementation Target (Type and Quantity) UNICEF - $ 770,000 WHO - 310,000 UNDP - 500,000 AID - 2,200,000 GSL - 1,000,000	GSL and donor documentation	Assumptions for providing inputs: GSL and other donors provide sufficient money for all inputs.

PERSONS INTERVIEWED

USAID/SRI LANKA

Mr John J. Pinney	Chief, Engineering & Water Resources Development
Mr William A. Binns	Project Development Officer
Dr. Jan P. Emmert	Evaluation Officer
Mr Jayantha Perera	Engineering Assistant

Ministry of Health

Mr A.N.R. Amaratunge	Director Buildings

National Institute of Health Sciences

Dr. N. T. Coorey	Director
Dr. (Mrs) S.D. de Silva	Head, Maternal Child Health Unit.
Mr A. Jayawardane	Administrative Officer
Mr T. Piyasena	Accountant
Mr Bertie Fernando	Pharmacist
Mr L. R. Amarakone	Librarian

Surath Wickramasinghe Associates

Mr Asoka de Silva	Associate
Mr Deepal Wickramasinghe	Civil Engineer
Mr Edmond Hettigoda	Quantity Surveyor

Link (Engineering) Ltd.

Mr Siripala Jayasinghe	Director
Mr Nath Gunasekera	Civil Engineer
Mr Jaliya Kumarasinghe	Civil Engineer

METHODOLOGY

The evaluation consisted of two phases. The first phase involved collection of relevant documents and some preliminary interviews. This was followed by briefings on the NIHS project by USAID staff. An afternoon trip to NIHS campus in the company of Mr William Birns, Project Development Officer USAID was made during this phase. Two senior engineers from Link (Engineering) Ltd. were there to show us around and give an idea of the physical facilities of the NIHS campus.

In the second phase most of the time was spent on reviewing relevant files and documents and interviewing officials from SWA, Link, MOH and USAID. A field visit was made with A&E representative. Interviewed staff and students at the NIHS campus. Rest of the time was spent on preparing preliminary report followed by a debriefing in USAID office. While finalising the report, further interviews were held with staff of Link and SWA.

Recommendation

A mid-project evaluation during construction period would have given more insight into the construction and supervision activities. The previous evaluation was carried out before construction began and the present evaluation is done after construction. Corrective measures, if any, are best suggested during construction than afterwards.

SUMMARY COST ANNEX F

AID FINANCED (PHASE I) 2/	COST US $000	
	ESTIMATE	ACTUAL
1. General Preliminaries	35.09	23.56
2. Demolition Work	7.02	5.16
3. Teaching Block	150.88	138.64
4. Library Block	157.89	159.54
5. Auditorium	333.33	269.54
6. Laboratory	126.32	112.30
7. Cafeteria	77.19	70.70
8. Covered Garages	24.56	11.57
9. Maintenance Shop and Garage	35.09	31.13
10. Generator Room/Substation 1 & Generating Set	77.19	61.83
11. Security Sheds	24.56	19.39
12. Covered Links including 2 No.External Staircases	119.30	105.70
13. Sewer Pump House (Electrical-Work)	1.75	0.36
14. Substation 2 - Pump House Lighting & Power (Electrical Work)	1.75	0.76
15. Main Switch Boards & Main Feeders Including Service Mains	78.95	74.16
16. Landscaping	150.88	136.55
17. Telecommunication System	29.82	29.63
18. Water Supply & Sewerage	210.53	212.83
SUB TOTAL	1642.11	1463.35
AID FINANCED (PHASE II) 2/		
19. Women's Hostel	258.62*	258.62
SUB TOTAL (PHASE I & II)	1900.73	1722.97

*Price negotiated

GSL FINANCED

20.	Storm Water Drainage	42.11	45.00
21.	Moat	15.79	14.14
22.	Existing Administration Block (Electrical Work)	17.54	13.31
23.	Existing Hostel Blocks (Electrical Work)	14.03	10.38
24.	Existing Quarters Type "A" & "B" (Electrical Work)	1.75	1.74
	SUB TOTAL	91.22	84.57
	GRAND TOTAL	1991.95	1806.64

NOTE

1. Cost figures rounded to two decimal places.
2. Total USAID Funding (90 % Phase I & II) = $1.55 Million.
3. Total GSL Funding (10% Phase I & II and items 20 - 24) = $0.26 Million.
4. Currency conversion: Rs 28.5 = 1 US $