PROCEEDINGS

of the

EIGHTH MEETING

of the

DIRECTING COUNCIL

of the

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

Dacca, East Pakistan

December 11-12, 1968

Second Edition

FOREWORD

The Pakistan-SEATO Cholera Research Laboratory is a part of the SEATO Cholera Research Program and is supported by the U. S. Agency for International Development, Department of State; the National Institutes of Health and the National Communicable Disease Center of the U. S. Department of Health, Education and Welfare; and by the Governments of Pakistan, United Kingdom and other SEATO nations. The NIH Cholera Advisory Committee coordinates the research program.

These studies were supported in part by Research Agreement No. 196802 between the National Institutes of Health, Bethesda, Maryland, U.S.A., and the Pakistan-SEATO Cholera Research Laboratory, Dacca, East Pakistan.

HONORS AND AWARDS

With justifiable pride the Pakistan-SEATO Cholera Research Laboratory wishes to mention the following Honors and Awards:

The January 4, 1969 issue of Nature reported that Dr. James W. Howie, Director of the Public Health Laboratory Service in London, has been knighted. Sir James has served as a member of the Technical Committee since 1967.

At a ceremonial luncheon given by the Albert and Mary Lasker Foundation, New York City, on November 9, 1967, Dr. Robert A. Phillips, Director of the Pakistan-SEATO Cholera Research Laboratory, received the Albert Lasker Award for Clinical Research. Dr. Phillips has served as Director of the Laboratory since 1965.

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Dacca, East Pakistan

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December 11-12, 1968

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II.

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PAKISTAN–SEATO CHOLERA RESEARCH LABORATORY
DACCA, EAST PAKISTAN

COPY OF
RESOLUTIONS OF THE 7TH MEETING OF THE DIRECTING COUNCIL FOR REVIEW

The seventh meeting of the Directing Council of the Pakistan–SEATO Cholera Research Laboratory was held in Dacca on 17 and 18 January 1968.

The designated members of the Council were:

Colonel S. A. Mallick Chairman of the Directing Council (Director of Health Services Government of East Pakistan Dacca, East Pakistan)	Representing the Government of Pakistan
Dr. Willard Boynton Vice-Chairman of the Directing Council (Senior Public Health Officer U. S. Agency for International Development in Pakistan, Lahore, Lahore, West Pakistan)	Representing the Government of the United States of America
Professor Robert Cruickshank (Department of Social and Preventive Medicine, University of the West Indies, Jamaica)	Representing the Government of the United Kingdom
Dr. John R. Seal (Director of Intramural Research and Chairman of the NIH Cholera Advisor Committee National Institute of Allergy & Infectious Diseases U.S.National Institutes of Health Bethesda, Maryland, U.S.A.)	Representing the Director of the National Institutes of Health

Mr. David A. Wraight
(Deputy Secretary General
South-East Asia Treaty
Organization
Bangkok, Thailand)

Representing the Secretary General of South-East Asia Treaty Organization

Also in attendance at the meeting were:

Dr. Jean F. Rogier
Chief Public Health Advisor
U. S. Agency for International Development in Dacca
Dacca, East Pakistan

Mr. Louis Sekutowitz
Consul General for France
Dacca, East Pakistan

Mr. Walter H. Magruder, Executive Officer
National Institute of Allergy
and Infectious Diseases
National Institutes of Health
Bethesda, Maryland, U.S.A.

Dr. Robert A. Phillips, Director
Pakistan-SEATO Cholera
Research Laboratory
Dacca, East Pakistan

Dr. W. Kendrick Hare, Deputy Director
Pakistan-SEATO Cholera
Research Laboratory
Dacca, East Pakistan

Mr. Patrick G. Talmon, Executive Officer
Pakistan-SEATO Cholera
Research Laboratory
Dacca, East Pakistan

RESOLUTIONS OF THE 7TH MEETING OF THE DIRECTING COUNCIL

The meeting was called to order by the Chairman at 0930 hours on 17 January 1968.

Item 1. Adoption of the Proposed Agenda.

The proposed agenda was presented and adopted.

Item 2. Confirmation of the Minutes of the Sixth Meeting of the Directing Council Held on 8-9 March 1967

The Council reviewed and approved the Minutes of the Sixth Meeting.

Item 3. Report of the Technical Committee

The Council adopted the Report of the Technical Committee and accepted its recommendations. It wished to record its appreciation of the Technical Committee for its comprehensive and interesting report, and noted in particular the remarks of the Committee in connection with its appreciation of the high quality of leadership provided by the Director and the Deputy Director of the Laboratory.

The Council was pleased to note Appendix I of the Technical Committee's Report by Dr. Ali Nawab Khan, the Pakistan Representative on the Committee. The report outlined the significance of the Laboratory's activities insofar as they affected Pakistan, and expressed appreciation of the Laboratory's efforts.

The Council noted recommendations regarding vaccine evaluations in future years but recognized that availability of promising vaccines would determine schedules and populations to be studied.

With regard to the program of Dr. K.M.S. Aziz, it noted that the Laboratory would shortly be bringing to Dacca an advisor in chemistry to review the Laboratory's program in cholera toxins up to the present time and to recommend the degree of emphasis to be placed on these studies in the future.

The U.S. Government representative on the Council wished to record that his Government was impressed with the progress of the Laboratory's work which had brought credit to SEATO and increased the knowledge of cholera to the benefit of SEATO countries and the world in general. It was pleased that the Agreement had been extended for a further three years and expected to continue to support the Laboratory in the future.

The Council took note of the fact that the Director of the Laboratory had been presented with the 1967 Albert Lasker Award for Clinical Research and was proud of the distinction this presentation brought to the Laboratory. The U.S. Government representative emphasized the importance of this award as an indication of scientific accomplishment and leadership.

Item 4. Director's Administrative Report

The Council noted and accepted the report.

Item 5. Director's Financial Report

The Council noted and accepted the report. It noted the need for solving the capital investment needs of the Laboratory since adequate provision for replenishment of this fund was not included in the earlier agreements. The only funds available at present for transfer to the Capital Reserve Fund are the unexpended rupees from the Government of Pakistan contribution to the Operating Fund.

Item 6. Review of the Auditor's Report and the Director's Comments

The Council reviewed the auditor's report.

It took note of a proposal to bring to Dacca a suitably qualified officer to look at the Laboratory's supply and accounting system. It also took note that a report on an investigation into expenditure of fuel at Matlab would be forthcoming.

The Council emphasized the importance of a regular audit of the accounts, and was very appreciative of the competent way this was conducted by AID. The Council agreed that an audit of this kind could best be carried out by AID auditors because of their understanding of and familiarity with the financial practices of the Pakistan and U.S. Governments, and hoped they would continue to perform the audit in the future.

The Council noted that Mr. Walter H. Magruder, Executive Officer, National Institute of Allergy and Infectious Diseases, was visiting the Laboratory to review its administration and to make recommendations to the Director, PSCRL, and to NIH for improvements in administrative practices. Mr. Magruder had been informed of deficiencies pointed out by the auditors.

Item 7. Presentation of Appendices to Personnel Regulations

The Council noted and accepted the changes to the personnel regulations. An increase in probationary period from six to twelve months (P.R. Amendment 3.2) was recommended.

Item 8. Review of the PSCRL Budget Plan for 1968-69 and Determination of the Level of the General Operating Fund

The Council accepted the Budget Plan for 1968-69 as presented. The budget represented an approximate ten per cent increase over the budget for 1967-68.

The Council noted that the United Kingdom contribution was likely to be increased from £10,000 per annum to £12,500 per annum. This was not a firm commitment at the time of the meeting since the effect of devaluation of the U.K. aid program was not yet fully known.

The Council noted that the budget as presented made no provision for a contribution by the Australian Government in FY69. It was hoped that the Australian Government would make a contribution in kind equivalent at least to the level of the previous year.

The Pakistan representative said that at present the actual contribution by the Government of Pakistan to the Operating Fund was Rs.350,000, with an additional amount for patient care of Rs.50,000. He anticipated that both the regular contribution and the patient care grant would be increased by ten per cent.

Item 9. Facilities Report

The Council was pleased to learn that a competent maintenance engineer had arrived and initiated a preventive maintenance program. Also that equipment had been procured for the first stage of renovation of the Bacteriology laboratory and to meet some of the needs of the animal house.

The Council was informed that the plans for improving the electrical supply at the Laboratory, recommended at its Sixth Meeting, had not progressed beyond the procurement of a 250 KVA diesel powered electrical generator for emergency services. The Council reiterated its recommendation for a more reliable power source for the Laboratory. The need for rewiring the building presently occupied by the Laboratory is a separate urgent requirement since both personnel and fire hazards are involved in the present antiquated and improper wiring.

The Council requested its Chairman to discuss with the Director of the Institute of Public Health the possibility of an increase in space for the joint library.

The Council was informed of the present plans of the Government of East Pakistan to erect a new building for the use of the Laboratory, and examined the plans with interest. The Council welcomed this proposal with its promise of eventual alleviation of the urgent requirements for space by the Laboratory. It was assured that the proposed new building could be utilized without major additional expense by transferring equipment and furniture from the present overcrowded facilities and by normal replacement from local sources as provided for in the present budget.

The Council noted that although the equipment for the Chemistry and Bacteriology laboratories had been partly updated to provide for the present planned programs, the space and facilities were still insufficient. It therefore stressed that more space should be made available immediately by enclosing the verandas and further renovations in other spaces.

The Director of the Laboratory was urged by the Council to develop appropriate plans for isotope and sewage disposal, also for ensuring a constant supply of hot and cold water.

Item 10. Clinical Investigation Committee

The Council noted that the Clinical Investigation Committee held its last meeting in November 1966, and that the next meeting was planned for November 1968. In the meantime all members of the Clinical Investigation Committee are informed by mail of all the research proposals and their comments solicited.

Item 11. Extension of the PSCRL Program

The Council noted that the present Agreement expires on 30 June 1970 and recommended that negotiations be commenced to extend this Agreement up to 30 June 1977. The Director will initiate correspondence to this end via the Provincial Director, AID, Dacca, to the Director, AID, Pakistan, with copies to the Secretary General, SEATO, and the Chairman of the National Institutes of Health Cholera Advisory Committee. The Chairman of the NIH Cholera Advisory Committee will notify appropriate authorities in Washington of the proposed action.

Item 12. Other Business

The Council noted with deep regret the untimely death of Dr.Kenneth Goodner who had had close and distinguished association with the activities of the Laboratory since its inception. It learned with regret of the death of Dr. A.J.H. Tomlinson of the Public Health Laboratory Service, England, who had intended to take up a short term appointment with the Laboratory.

The Council noted the increased resources of the Laboratory and the variable, seasonal occurrence of cholera. The Director stated the desire of his staff to make full use of these resources for other medical research opportunities appropriate to its relations within Pakistan whenever it did not detract from the primary mission. The freedom of the Director to encourage such activities was endorsed.

The Director, PSCRL, stated his understanding that any formal enlargement of mission involving demands for increased resources for research not related to the primary mission of cholera research would require recommendation of the Directing Council and amendment of agreements for the funding and operation of the Laboratory.

The Council learned that a new training film, "Cholera Today; Practical Laboratory Diagnosis," would become available for distribution within a few months. This film, partly sponsored by the SEATO Cholera Research Program, was stimulated by the former Director, PSCRL, and much of the footage was filmed at the Laboratory and at Matlab. It should be a valuable educational adjunct.

Item 13. Election of Chairman and Vice-Chairman for the Ensuing Year

The United Kingdom representative was elected Chairman and the Government of Pakistan representative was elected Vice-Chairman for the ensuing year.

Item 14. Selection of Dates for the Eighth Meeting of the Directing Council

The next meeting would be held in February 1969, the exact dates to be determined by the Chairmand and the Director of the Laboratory. It was further agreed that the amount of business justified a three-day meeting.

The Chairman thanked the Council members for their careful scrutiny and evaluation of the Laboratory's activities and expressed the Council's thanks to the Director and his staff.

The Meeting was adjourned at 1730 hours on 18 January 1968.

(Signed)
Robert A. Phillips, M.D
Director, PSCRL

(Signed)
Colonel S. A. Mallick
Chairman
Directing Council

PAKISTAN–SEATO CHOLERA RESEARCH LABORATORY
DACCA, EAST PAKISTAN

MINUTES AND RESOLUTIONS OF THE 8TH MEETING OF THE DIRECTING COUNCIL

The eighth meeting of the Directing Council of the Pakistan–SEATO Cholera Research Laboratory was held in Dacca on 11 and 12 December 1968.

The designated members of the Council were:

Professor Robert Cruickshank Chairman of the Directing Council (University of Edinburgh Edinburgh, Scotland)	Representing the Government of the United Kingdom
Dr. Mohammed Asiruddin Vice-Chairman of the Directing Council (Director of Health Services Government of East Pakistan Dacca, East Pakistan)	Representing the Government of Pakistan
Dr. Jean F. Rogier (Chief Public Health Advisor U. S. Agency for International Development in Dacca Dacca, East Pakistan)	Representing the Government of United States of America
Dr. John R. Seal (Director of Intramural Research and Chairman of the NIH Cholera Advisory Committee National Institute of Allergy & Infectious Diseases National Institutes of Health Bethesda, Maryland, U.S.A.)	Representing the Director of the National Institutes of Health

Mr. David A. Wraight (Deputy Secretary General South-East Asia Treaty Organization Bangkok, Thailand)	Representing the Secretary General of South-East Asia Treaty Organization

Also in attendance at the meeting were:

Mr. A. R. Taylor (Third Secretary Australian High Commission in Pakistan Rawalpindi, West Pakistan)	Delegate of the Government of Australia

Dr. Robert A. Phillips, Director
Pakistan-SEATO Cholera
Research Laboratory
Dacca, East Pakistan

Dr. W. Kendrick Ware, Deputy Director
Pakistan-SEATO Cholera
Research Laboratory
Dacca, East Pakistan

Mr. Patrick G. Talmon, Executive Officer
Pakistan-SEATO Cholera
Research Laboratory
Dacca, East Pakistan

Mrs. Constance Miccio, Secretary to Dr. Phillips
Pakistan-SEATO Cholera
Research Laboratory
Dacca, East Pakistan

MINUTES AND RESOLUTIONS

The meeting was called to order by the Chairman at 0930 hours on 11 December 1968.

Item 1. Adoption of the Proposed Agenda

The proposed agenda was presented and adopted.

Item 2. Confirmation of the Minutes of the Seventh Meeting of the Directing Council Held on 17-18 January 1968.

The Council reviewed and approved the Minutes of the Seventh Meeting.

Item 3. Report of the Technical Committee

The Council adopted the Report of the Technical Committee and accepted its recommendations.

It recorded its appreciation of the comprehensive report by the Technical Committee and asked to be associated with its commendation of the high quality of leadership provided by the Director and Deputy Director of the PSCRL.

The Council noted with interest the immunological studies indicating the probable indentity of the cholera toxin responsible, respectively, for the fluid response in inoculated rabbit intestinal loop and the skin permeability reaction.

The Council noted that the demographic data accumulated by the Laboratory in its development of rural population groups as a vaccine test population has become an increasingly important resource of the Laboratory, and that various agencies have expressed interest in utilizing this resource in the conduct of studies related to reproductive physiology.

It approved the recommendation that PSCRL should collaborate with appropriate agencies in studies related to demography and reproductive physiology provided that such studies will in no way restrict the primary mission of the Laboratory, will be financed from independent sources, and will have the support of the Pakistan Government and USAID.

The Council also noted the many interesting studies being carried out in the Clinical Investigation Section, which were: (a) shedding new light on the pathophysiology of cholera, (b) proving the practicability of combining limited intravenous and early oral fluid replacement, and (c) testing new forms of therapy.

The support given to the clinical studies by a well organized and well-equipped biochemical unit was very gratifying. It was noted that the Bacteriology Section suffers from cramped and inconvenient premises for the very large through-put of routine work. The Council endorsed the recommendation that the Director seek to improve the facilities of the Bacteriology laboratory according to plans drawn up with the help of a consultant in bacteriology.

The facilities of the Animal Resources Section, although now greatly improved, still lack certain amenities. The Council concurred in the advice given by the Technical Committee regarding the scope and direction of some of the experimental activities.

Item 4. Director's Administrative Report

The Council noted and accepted the report.

In view of the dependence of the vaccine evaluation studies and treatment of cholera in village areas on a wide variety of river craft, the Directing Council would welcome contributions of boats by SEATO member nations to augment the limited fleet presently available.

Item 5. Director's Financial Report

The Council accepted the report. It was noted that no expenditures were charged to the GOP additional contribution to the Operating Fund for patient care. This is explained as an accounting artefact arising from the deduction of this sum from the residual monies in the Operating Fund before determining the amount transferable to the Capital Reserve Fund by formula.

Item 6. Review of the Auditor's Report and the Director's Comments

The Council reviewed the Auditor's report.

It took note of the completion of the inventory of non-expendable equipment provided through the NIH and of the progress made in establishing inventory controls over expendable property. The need for continuing interest and assistance from the National Institutes of Health to achieve and maintain adequate property controls was recognized. The Council recommended that the Director, PSCRL, relay its appreciation to the Director, NIH, for the assistance so far given and the hope that periodic visits by well qualified personnel can be made possible until such time as a full time supply management specialist can be assigned.

The Council approved the Director's proposal to allocate a sum of Rs. 54,849 received from the Chittagong Port Health Authorities in 1967 for services rendered to pilgrims to Mecca to the Capital Reserve Fund.

Item 7. Presentation of Appendices to Personnel Regulations

The Council noted the changes in the personnel regulations. It was agreed that the Director, PSCRL, would review the Laboratory policy and practices on Leave and report on this at the next meeting of the Council.

Item 8. Review of the PSCRL Budget Plan for 1969-70 and Determination of the Level of the General Operating Fund

The Council accepted the Budget plan for 1969-70 as presented. The budget represented an approximate ten percent increase over the budget for 1968-69. This increase is necessitated mainly by pay increases which followed a U. S. agencies/Pakistan area survey of wages, by the increased cost of transportation, locally procured supplies and equipment, and by the additional personnel required by the greatly expanded population involved in vaccine evaluation studies.

It also noted with appreciation the important contributions made by the Australian Government in past years and hoped that this would be continued at the same or greater levels in FY 1970. It hoped that other SEATO nations will be encouraged to make similiar contributions.

The Council also noted that an increase of approximately 20% was being sought in the United Kingdom contribution, from £12,500 to £15,000. In view of the importance to the research effort of certain items of supply and equipment obtainable only from the United Kingdom it hoped that the request can be met.

The Council also noted the complexity of efforts to present detailed estimates of all funding of PSCRL and advised that such efforts were unnecessary. A detailed presentation of the requirements for the Operating and Capital Reserve Funds with explanation of needs for the amounts requested should be continued. There should also be a detailed presentation of the contributions being requested from other SEATO nations. A tabular accounting of the total funding of the PSCRL from all sources, showing amounts being sought in all funds should be included in the document for the information of the Council.

The Pakistan representative noted that at present the actual contribution by the Government of Pakistan to the General Operating Fund was Rs.385,000 with an additional amount of Rs.55,000 for patient care, and acceded to the desirability of a ten percent increase in the contribution by the Government of Pakistan to the General Operating Fund, plus a similarly increased amount for patient care. In discussions the Council was informed that PSCRL is still performing all stool cultures required for pilgrims to Mecca. The PSCRL was reimbursed Rs.54,849 for this service in the 1966 pilgrimage, but since the pilgrims are no longer assessed for this service there is now no reimbursement.

At the request of the U. S. representative, the Council urged the Director, PSCRL, to observe the strictest economies in all aspects of the PSCRL research program and limit planning to those items essential to attainment of objectives. This is essential in view of the extreme limitations of USAID funds.

Item 9. Facilities Report

The Council observed the considerable progress which had been made in many areas, in renovation of laboratories, better repair and maintenance of equipment and motor vehicles, and in establishing an adequate facility for preparation of intravenous fluids needed in the treatment of cholera. It also had an opportunity to view the building which is in an advanced stage of construction and which will provide needed facilities for Supply Management and Maintenance.

It learned with some distress that plans for construction of the new wing apparently have notprogressed to any definitive decision. This failure to obtain the much needed additional space which would permit alleviation of present over crowded and unsatisfactory conditions in the Ward, laboratories and Library is disappointing. The Council urges the Director, PSCRL, to undertake discussions with the Government of Pakistan and U. S. AID/Pakistan to resolve these matters and to seek interim solution to the space needs of the Laboratory.

It also learned that progress in improving the electric supply of the Laboratory had been less than had been hoped. The Council reiterated its recommendation for accelerated action in this area in view of the safety problems involved and the difficulties created in the research program by unreliable and inadequate power supply.

The Director of the Institute of Public Health has made some additional space available to the Library for stacks of bound volumes but this does not significantly alter the growing problem of inadequate Library space. The Director, PSCRL, was requested to continue his efforts to obtain additional space for this Library which services both PSCRL and the Institute of Public Health. The Council again wished to recognize the outstanding work of the Library staff and their accomplishments in making high quality Library services available.

In regard to the disposal of sewage, including isotope waste, the Council was assured that no further specific action was necessary.

Item 10. Clinical Investigation Committee

The Council noted with pleasure the joint meeting of the Clinical Investigation Committee with the Technical Committee on December 9 and 10, 1968. It believed that such joint meetings are desirable in the future.

Item 11. Extension of the PSCRL Program

The Council heard reports on the status of negotiations between the NIH and AID/Washington on the extension of the SEATO Cholera Research Program, and between AID/Pakistan and the Government of Pakistan for extension of the agreement under which PSCRL operates.

Item 12. Election of Chairman and Vice Chairman for Ensuing Year

Since all members envisioned being able to serve for an additional year, no change in these positions will be required before the next meeting of the Council with representatives of the U.K. and GOP standing as Chairman and Vice Chairman.

Item 13. Selection of Dates for the 9th Meeting of the Directing Council, Technical Committee and the Clinical Investigation Committee.

The Council recognized the advantages of this joint meeting with the Technical Committee and Clinical Investigation Committee. It is recommended that the meeting again be jointly held next year about the first of December but suggested that more time be allowed for the Technical Committee to complete its report before the Directing Council meetings begin. The intervening day could be well spent by Council members in more extensive inspection of the facilities, or in a visit to Matlab or other study areas. The Director, PSCRL, was requested to initiate plans for the next meeting with the Chairman of the Directing Council and the Technical Committee at an early date in order for members to plan an adequate stay for this purpose.

Item 14. Other Business

The U.S. continues to value the PSCRL as an outstanding example of constructive international cooperation. It should be noted as significant that the work being undertaken by the PSCRL benefits not only SEATO nations but non-SEATO nations as well.

The Chairman thanked the Council members for their careful scrutiny and evaluation of the Laboratory's activities and expressed the Council's thanks to the Director and his staff.

The meeting adjourned at 1730 hours on December 12, 1968.

Signed by the Chairman of the
Directing Council

(Signed)

Prof. Robert Cruickshank

Signed by the Director of the
Pakistan-SEATO Cholera Research Laboratory

(Signed)

Dr. Robert A. Phillips

Dacca, East Pakistan
December 12, 1968

III.

ADMINISTRATIVE PROGRAM

Director's Comments
on
Administrative Program

While there have been many and marked improvements in the Laboratory administration in FY 1968, much needs to be accomplished. The addition of a trained Maintenance Officer has enabled the Laboratory to set up a preventive maintenance program. The decision by NIAID to assist in setting up a proper supply system and the near completion of a new godown which will house Maintenance and Supply are important accomplishments.

However, the existing utilities, as reported to you by the Deputy Director, are still very inadequate and the development of proper housing and breeding colonies for the Animal Resources facility has been much slower than had been hoped.

ADMINISTRATIVE REPORT

Fiscal Year 1968

(July 1, 1967 - June 30, 1968)

Introduction

The Administrative Report for the fiscal year 1968 will stress the importance of providing proper administrative support to the research of the Laboratory. This "theme" was also the focal point in the Administrative Report for fiscal year 1967 in which it was stated that "whether or not the objectives of the research programs of this Laboratory will be met on schedule will, to a considerable degree, be dependent on the quality of the administrative support available to those programs". However, despite the fact that the Laboratory continued to expand during fiscal year 1968 in terms of personnel and research activities, the Laboratory also continued to do with inadequate supportive staff. Specifically, what is needed in terms of staff in administration, are properly qualified NIH-assigned administrative specialists at least in the areas of personnel, finance and supply. These three areas are vital to the operation of the Laboratory. At the present time one NIH-assigned staff is allocated to not only administer these three areas but also transportation and general services, and in addition has to provide staff support to the Director. Not only must this individual deal with all of the above in day-to-day operations, but also find time to decide problems, some of which are unique, that invariably crop up in an organization of this size operating under adverse conditions.

In other words, if the objective of this Laboratory is first class research then first class support should and must be provided, not only in terms of supportive administrative personnel but also in terms of adequate space and proper facilities and utilities.

The rest of this report will deal more specifically with the various areas of administration and items of special interest.

Personnel

Total staff increased from 576 on July 1, 1967 to 616 on June 30, 1968 - a smaller increase than during the previous year. Please refer to Table A for a break-down of the staff by section. During fiscal year 1968 two new sections were created - Maintenance and Nursing & Hospital Services. Staff from the

Administrative Section were transferred to Maintenance Section and, similarly, staff from Clinical Investigation Section were transferred to Nursing & Hospital Services Section.

It should be noted that of the total staff of 616 as of June 30, 1968, 418 were regularly appointed staff while 198 were of a temporary or seasonal type, such as the dais and boatmen at Matlab. For comparison, the respective figures as of July 1, 1967, were 380 and 196. Therefore, the main increase in staff actually occurred at headquarters. For example, Animal Resources Section increased its staff from 9 to 23 as a result of increased demand for experimental animals. Administrative Section also increased somewhat even though the new Maintenance Section was transferred from the former. Extra drivers were hired when weekly duty hours of drivers were reduced from 60 to 48; extra positions were also created in Supply.

Table B is a list of Laboratory staff either sent on foreign training during fiscal year 1968 or staff who have not yet returned and who were sent for training prior to fiscal year 1968. Table C is a list of key personnel changes for FY68.

Physical Facilities

As mentioned in last year's report, adequate space is still an acute problem. While the Laboratory has taken on new staff, actual space available to the Laboratory has not increased, and furthermore, the probability of acquiring more space in the near future is not hopeful. No progress has been made in implementing the planned new four-storey building since las year's report. No extra space has been made available to the Institute of Public Health and this Laboratory's combined Library.

However, the Laboratory has been fortunate to plan and finance a one-storey 100' x 80' structure to house both the Maintenance Section workshops and the storage of supplies. As of the date of this report (November 1,1968) this building is expected to be completed by the first of the new year. As a footnote to the acute shortage of space, the Laboratory was forced to lease storage in the industrial area of Dacca city to store bulk supplies and equipment.

Utilities

The Laboratory is still lacking in proper utilities. The Laboratory has no central hot water supply and gas for Laboratory use. Regarding the improvement of electrical power to the Laboratory, a report is in the process of being prepared by a Dacca consulting firm and is expected to be ready by the end of November, after which bids will be let. The 250KW standby electrical generator arrived this summer that will be incorporated in a new substation, as yet incomplete, which will service both the Institute of Public Health and the Laboratory to provide a constant and dependable source of electrical power.

Maintenance

Since the arrival of the Maintenance Officer from NIH in August, 1967, the quality and scope of maintenance support to the Laboratory has greatly improved despite a paucity of proper maintenance facilities and tools. Proper tools and maintenance and replacement supplies have been ordered from NIH, and some of these have been received. However, the Maintenance Section will not be functioning at optimum level until it moves into its new quarters when the new one-storey maintenance and supply building is completed and when additional requested supplies and shop equipment have been received. Additional staff will be necessary when the move to the new quarters is made.

Aside from routine maintenance and preventive maintenance, the Maintenance Officer and his staff have undertaken or have supervised contractors' work for the following projects:

1. Major repairs and renovations of existing facilities.
2. Renovation of animal quarters.
3. Supervision of plans and construction for the new Maintenance and Supply Branch.
4. Designed, contracted and supervised the glass enclosure of all verandas.
5. Assisted in design and supervised complete renovation of Bacteriology Section.
6. Installed two walk-in cold rooms and one walk-in incubator obtained from the National Institutes of Health on surplus.
7. Assisted local electric contractors in planning modern electrical power supply for the Laboratory.

Transportation

The Laboratory is currently operating 22 vehicles including the Director's and Deputy Director's personal vehicles on loan to the Laboratory. The Laboratory received three new Jeeps donated by the Australian Government during fiscal year 1968 in September of this year. A Microbus ambulance is expected shortly from the same source.

Despite these welcomed additions to the Laboratory fleet of vehicles, a glance at Table D will reveal that the majority of vehicles have very high mileage, and as a result 5 to 7 vehicles will be out of commission at any one time due to breakdowns.

Obviously, most of these vehicles need replacing. It is strongly suggested that a request be made to the Australian Government to make a similar contribution of vehicles for fiscal year 1969 as they did in 1968.

Due to the increased area of surveillance in Matlab four new Boston Whaler outboards and ten new outboard engines (including replacements) were ordered in fiscal year 1968 and have now been received and put into service.

Communications

As of November 1, 1968, the Laboratory has not received the wireless set from Australia, although the Laboratory did finally receive the license to operate the set effective December 1967 from the Government of Pakistan. The wireless set was originally offered to improve communications between headquarters in Dacca and the Matlab field station.

Supplies and Equipment

The Laboratory was very fortunate to receive from the Central Board of Revenue, Government of Pakistan, an order exempting it from all custom and import duties on all supplies and equipment received from donating countries. Furthermore, the exemption was made retroactive to the inception of the Laboratory. This action overcame a problem that for a long time had been troubling the administrative staff.

Improvements are being made to streamline supply operations by initiating stock control on expendable supplies and setting up appropriate re-order levels.

TABLE 'A'

BREAKDOWN OF PSCRL PERSONNEL BY SECTION

	A.S.	A.R.S.	B.S.	C.I.S. R.	C.I.S. CRL W.	C.S.	D.O.	E.S. HQ	E.S. M. VTS	M.S.	N&H S.S.	C.	Total
July 1,1967													
Local	92	9	32	33	45	23	2	37	286	-	-	3	562
Foreign	-	-	1	3	1	1	4	4	-	-	-	-	14
June 30,1968													
Local	95	23	35	37	-**	32	2	38	279	17*	42**	3	603
Foreign	-	-	-	3	-**	1	4	3	-	1	1**	-	13

* The Maintenance Section was organized on October 2, 1967 with staff transferred from the Administrative Section.

** The former CRL Ward under Clinical Investigation Section was organized on February 21, 1968 as Nursing & Hospital Services Section.

Key:

A.S. Administrative Section
A.R.S. Animal Resources Section
B.S. Bacteriology Section
C.I.S. Clinical Investigation Section
R. Research
CRL W. CRL Ward
C.S. Chemistry Section
D.O. Director's Office
E.S. Epidemiology Section
H.Q. Headquarters
M.VTS Matlab Vaccine Trial Surveillance
M.S. Maintenance Section
N&HS.S. Nursing & Hospital Services Section
C. Consultant

TABLE 'B'

FOREIGN TRAINING DURING FISCAL YEAR 1967 - 1968

	Name & Designation	Date Departed	Date Returned Or Expected Date of Return	Purpose of Training	Place of Training	Remarks
1.	Dr. A.K.M. Jamiul Alam Physician	Jan. 7, 1966	Sept. 9,1968	Higher training in medicine and gastroenterology	Birmingham General Hospital (British Post-Graduate Medical Federation), Birmingham, England.	
2.	Dr. (Mrs.) K.M. Ally Physician	June 1966	-	Higher training at Bellevue Hospital, Univ. of Columbia New York, N.Y., U.S.A. and various hospitals in U.K.	Dept. of Medicine, College of Physicians and Surgeons, Univ. of Columbia, New York, N.Y., U.S.A. and U.K.	Staying in her own expense. Released from PSCRL on Feb.18, 1968.
3.	Dr. (Mrs.) Rezia Akbar Physician	Feb. 18, 1967	-	Post graduate Student in Public Health, Univ. of Calif., Los Angeles,Calif. U.S.A.	Univ. of California, Los Angeles, Calif. U.S.A.	Continuing on her own. Released from PSCRL on Feb.18, 1968.

TABLE 'B' (CONTD)

	Name & Designation	Date Departed	Date Returned Or Expected Date of Return	Purpose of Training	Place of Training	Remarks
4.	Mr. Yousuf A. Saeed Sr. Research Assistant	Oct. 12, 1966	Nov. 1968	Training in Bacterial Genetics	Dept. of Biology, Univ. of Calgary, Alberta, Canada	Training period extended at his own expense for one year from Nov. 22, 1967
5.	Dr. R.K. Barui Physician	June 21, 1968	Oct. 1, 1968	Epidemic Intelligence Service Officer's Training course in Epid.	National Communicable Diseases Center, Epid. Program., Atlanta, Georgia U.S.A.	
6.	Mr. M. Sobhani Electronic Specialist	May 13, 1968	June 26, 1968	Training on Xerox Copier	Rank Xerox Central Training School, London, England	

TABLE 'C'

KEY PERSONNEL CHANGES DURING FY 68

	Name & Designation	Section	Date of joining	Date of departure
1.	Dr. James O. Taylor Chief	Clinical Inv.	July 12, 1965	May 15, 1968
2.	Dr. W. McCormack Research Physician	Epidemiology	June 10, 1966	May 22, 1968
3.	Miss Marian R. Smith Private Secretary	Director's Office	June 24, 1966	March 1, 1968
4.	Dr. Joseph L. Kinzie Research Physician	Clinical Inv.	Sept. 18, 1966	May 1, 1968
5.	Dr. Albert R. Martin Research Physician	Epidemiology	Dec. 25, 1966	May 1, 1968
6.	Mr. Nuran Nabi Administrative Officer	Administrative	July 1, 1967	-
7.	Mr. Mark P. Tucker Chief	Maintenance	Aug. 8, 1967	-
8.	Dr. David R. Nalin Research Physician	Clinical Inv.	Aug. 13,1967	-
9.	Dr. Richard A. Cash Research Physician	Clinical Inv.	Aug. 17, 1967	-

TABLE 'C' (CONTD.)

	Name & Designation	Section	Date of joining	Date of departure
10.	Mrs. Constance G. Miccio Private Secretary	Director's Office	April 13, 1968	-
11.	Dr. William E. Woodward Research Physician	Epidemiology	May 2, 1968	-
12.	Dr. Kenneth J. Bart Research Physician	Epidemiology	June 1, 1968	-
13.	Dr. Jon E. Rohde Research Physician	Clinical Inv.	Aug. 15, 1968	-

TABLE 'D'

STATUS OF PSCRL VEHICLES

NOVEMBER 1, 1968

	MAKE	MODEL	LOCAL REGISTRATION NUMBER	MILEAGE AS OF DECEMBER 1,1967	MILEAGE AS OF NOVEMBER 1, 1968
1.	Plymouth	1964	7156	61,006	80,368
2.	Wagoneer	1967	7449	9,000	34,570
3.	Wagoneer	1967	7450	8,447	30,433 *
4.	Austin 850	1963	6033	81,312	99,699
5.	Austin 850	1963	6034	60,009	78,114 **
6.	Austin 850	1964	7026	70,480	85,360 **
7.	Austin 850	1964	7027	60,150	70,544 *
8.	Austin 1100	1963	6032	64,065	88,216 **
9.	Austin 1100	1966	4677	50,726	65,918 **
10.	Austin 1100	1966	4678	- ***	68,820
11.	Austin 1100	1967	7198	18,475	51,017
12.	Austin 1100	1967	7199	21,125	59,904

TABLE 'D' (CONTD.)

MAKE	MODEL	LOCAL REGISTRATION NUMBER	MILEAGE AS OF DECEMBER 1,1967	MILEAGE AS OF NOVEMBER 1,1968
13. Jeep Station Wagon	1964	8721	81,071	100,307
14. Dodge Ambulance	1962	2003	41,256	60,000 *
15. Land Rover	1962	2781	67,523	76,523 *
16. Land Rover	1962	2899	45,858	60,229 **
17. Chevrolet Carryall	1961	8978	60,148	79,453 *
18. Australian Willys Jeep	1968	474	-	263 **
19. Australian Willys Jeep	1968	475	-	1,974
20. Australian Willys Jeep	1968	482	-	1,551
21. Mercedes Benz	1962	5569	87,500	104,934 Km **
22. Dodge Sedan	1964	3423	30,500	41,079

* Estimated mileage; speedometer out of order.

** Under repair.

*** Speedometer out of order.

TABLE 'E'

STATUS OF PSCRL BOATS & OUTBOARD MOTORS

NOVEMBER 1, 1968.

BOATS:

	TYPE & LENGTH	QUANTITY	SOURCE	YEAR PURCHASED	CONDITION
*	Boston Whaler 13½'	3	U.S.	1966	Good
*	Boston Whaler 13½'	4	U.S.	1968	New
**	Sears Boat 14'	1	U.S.	1965	Poor
**	Sears Boat 14'	1	U.S.	1964	Poor
**	Sears Boat 10'	1	U.S.	1964	Good
**	Sears Boat 10'	1	U.S.	1963	Good
*	Dowty Jet Boat 14½'	1	U.K.	1966	Poor
*	Pakbay Boat 12'9"	1	Local	1963	Poor
*	Pakbay Boat 12'9"	2	Local	1964	Poor
*	Pakbay Boat 12'9"	1	Local	1966	Poor
	TOTAL:	16			

* Fiberglass

** Aluminum

TABLE 'E' (CONT'D)

OUTBOARD MOTORS:

MAKE & HP	QUANTITY	SOURCE	YEAR PURCHASED	CONDITION
Johnson, 5½hp	1	Local	1963	Poor
Johnson, 7½hp	2	U.S.	1964	Poor
Johnson, 9½hp	4	U.S.	1968	Good
West Bend, 18hp	1	Local	1963	Poor
Johnson, 28hp	1	U.S.	1964	Poor
Johnson, 28hp	1	Local	1964	Poor
Johnson, 33hp	1	U.S.	1964	Good
Johnson, 33hp	9	U.S.	1966	Good
Johnson, 33hp	8	U.S.	1968	Good
Evinrude, 40hp	1	Local	1966	Good
TOTAL:	29			

PRESENTATION OF FINANCIAL REPORT FY68

at the

EIGHTH MEETING OF THE DIRECTING COUNCIL

December 11, 1968

FINANCIAL REPORT
FY68

(July 1, 1967 - June 30, 1968)

1. PSCRL OPERATING FUND

During FY68 a total of Rs.772,377.51 was available, of which Rs.663,782.57 was expended leaving a balance of Rs.108,594.94 (Appendix I). This fund included an additional Rs.50,000 provided by the Government of East Pakistan for cholera patient-care expenses at PSCRL as per the recommendation of the 6th Meeting of the Directing Council. Excluding the additional Rs.50,000 for patient-care, 49% of this fund represented the unrestricted portion contributed by the GOEP and 51% represented the restricted portion contributed by the U. S. Government. Therefore, out of the balance of Rs.58,594.94 (excluding the Rs.50,000) Rs.29,883.42 representing the U.S. Government balance was carried over to the Operating Fund for FY 69 and Rs.28,711.52 representing the GOEP balance was transferred to the Capital Reserve Fund for FY 69. The Rs.50,000 contributed by the GOEP for patient-care was also transferred to the Capital Reserve Fund at the end of the year. Total expenditure during FY 68 exceeded the previous year's expenditure of Rs.610,036.01 by 9%.

2. NIH RESEARCH AGREEMENT

Rupee

During FY 68 Amendment No.5 of NIH/CRL Research Agreement No.196802 made available Rs.3,551,200. With the previous year's carry-over and interest earned on fixed deposits the total fund available for obligation during the year was Rs.3,714,235.22, out of which Rs.3,424,027.52 was expended, leaving a balance of Rs.290,207.70 (Appendix IIA). Total expenditure during FY68 exceeded the previous year's expenditure of Rs.3,168,652 by 8.06%. The uncommitted balance of Rs.290,207.70 was carried over to FY 69.

Dollar

According to paragraph 1, Section IV of Research Agreement No.196802, Amendment No.5, NIH released $95,500 to the Bank of Bethesda account maintained and operated by PSCRL. With the previous year's carry-over of $11,355.49, the total fund available during FY 68 was $106,855.49, out of which $72,300.17 was expended (Appendix IIB). The balance of $34,555.32 was carried over to FY 69. Appendix IIB shows the income and expenditure of the fund during FY 68. (Due to sending minimum number of employees for short training abroad, total expenditure of $72,300.17 decreased by 4.53% in comparison to last year's expenditure of $75,730.65.)

3. CAPITAL RESERVE FUND

The status of the Capital Reserve Fund for FY 68 is shown in Appendix III. The unrestricted portion of the unspent balance from the PSCRL Operating Fund from FY 67 amounting to Rs.8,624 was transferred, and Rs.5,459 in interest was earned on Fixed Deposits during FY 68. Total amount available for obligation was Rs.152,779. Since NIH has authorised that a certain portion of its Research Funds may be used for renovation of facilities, the Laboratory did not obligate this fund during FY 68. The total amount of Rs.152,779 was carried over to FY 69.

4. U.K./CRL FUND

During the U.K. Fiscal Year (April 1, 1967 - March 31, 1968) the Ministry of Overseas Development made available £14,117-0-0 out of which £9,117-0-0 was expended by the PSCRL through the Crown Agents. The remaining £5,000-0-0 was held by the Ministry of Overseas Development for the support of U.K. deputed personnel and PSCRL personnel on training in U.K.

Following is the breakdown of support received by the PSCRL from the Government of United Kingdom during FY 68.

		£
1. Personal Services	...	7,142-0-0 1/
2. Travel & Transportation of Persons	...	-
3. Transportation of Things	...	834-0-0
4. Rent, Communication & Utilities	...	-
5. Printing & Reproduction	...	-
6. Other Contractual Services	...	1,287-0-0
7. Supplies & Materials	...	2,621-0-0
8. Equipment	...	2,233-0-0
		14,117-0-0

1/ Breakdown of expenditure of £5,000-0-0 by the Ministry of Overseas Development for the PSCRL is not available.

5. SEATO-AID-NIH CHOLERA FUND:

The PSCRL utilized $392,953 out of the SEATO-AID-NIH Cholera Fund in FY 68, which is controlled by the Chairman of the NIH Cholera Advisory Committee, compared to $322,884 in FY 67, an increase of 22% and $95,500 was transferred to the Bank of Bethesda account from this fund.

A breakdown of expenditures provided by NIH is given below:

		$	
1. Personal Services	...	15,655	
2. Travel & Transportation of Persons	...	23,441	
3. Transportation of Things	...	64,105	
4. Rent, Communication & Utilities	...	-	
5. Printing & Reproduction	...	-	
6. Other Contractual Services	...	115,079	1/
7. Supplies & Materials	...	92,921	
8. Equipment	...	82,152	
		392,953	

1/ Includes $95,500 transferred to Bank of Bethesda account.

6. USAID TRUST FUND

The estimated logistic support received by the PSCRL from the USAID Trust Fund in terms of paragraph G.3 of the Revised Agreement between GOP and USAID dated December 30, 1961, amounted to Rs.428,334. This covered expenses in connection with support of American personnel assigned to PSCRL, the cost of fuel for PSCRL vehicles and boats for their maintenance.

The following is a breakdown of support received by the PSCRL:

			Rs.
1.	Personal Services	...	15,848
2.	Travel & Transportation of Persons	...	25,740
3.	Transportation of Things	...	13,064
4.	Rent, Communication & Utilities	...	133,800
5.	Printing & Reproduction	...	-
6.	Other Contractual Services	...	108,693
7.	Supplies & Materials	...	131,189
8.	Equipment	...	-
			428,334

7. OTHER SUPPORT

a. US Government

The total committments by the National Institutes of Health (NIAID & OIR) and the National Communicable Diseases Center in support of personnel assigned to PSCRL was $156,985 broken down as follows:

		$
1.	Personal Services	154,195
2.	Travel & Transportation of Persons	2,790
		156,985

b. Government of Pakistan

This covered support received by PSCRL in terms of accommodation (space for the Laboratories and hospitals), electricity, water supply telephone bills and other incidental costs provided by the GOEP as stated in paragraph C.1 of the Revised Agreement between the GOP and USAID dated December 30, 1961. Estimated total support by the GOEP amounted to Rs.450,000.

c. Government of Australia

The total committment of the Government of Australia during FY 68 was $9,200 (approximately Pak.Rs.39,568), the cost of three new Jeeps.

8. FY 69 PROVISIONS

Appendix IV provides a current account of expenses for the Operating Fund and the NIH Research Agreement (Rupee) Fund. Appendix V shows the current accounts of expenditure for the Bank of Bethesda account nd the SEATO-AID-NIH Cholera Fund, respectively administered by the Director, PSCRL, and the Chairman, NIH Cholera Advisory Committee.

Appendix VI provides a current account of expenses for the U.K. contribution.

9. SUMMARY

Appendix VII indicates the total support available to the PSCRL by sources with the total expenditure and carry-over in currency of the respective contributing nations.

Appendix VIII shows the total support available to the PSCRL by source with total expenditure for each source and with all funds converted to Pakistan currency. Appendix VIII also shows the total support by the contributing nations broken down by percentage.

Appendix I

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

CRL OPERATING FUND

STATEMENT OF EXPENDITURES FOR FISCAL YEAR 1968

(JULY 1, 1967 TO JUNE 30, 1968)

INCOME		EXPENDITURES	
Opening balance for Fiscal Year 1967-68 after transfer of GOEP portion of unutilized balance of Fiscal Year 1966-67 ..	Rs. 8,975.09	1. Personal Services ..	Rs.501,929.50
Contribution by GOEP for Fiscal Year 1967-68 (includes Rs.50,000 for patient-care) ..	Rs.400,000.00	2. Travel & Transportation of Persons ..	Rs. 17,685.92
Contribution by US Government PL 480 (Sec.104K) for Fiscal Year 1967-68. ..	Rs.350,000.00	3. Transportation of Things ..	Rs. 4,615.59
Interest earned on fixed deposit ..	Rs. 13,402.42	4. Rent, Communication & Utilities ..	Rs. 11,540.25
		5. Printing & Reproduction ..	Rs. 374.00
		6. Other Contractual Services ..	Rs. 22,095.98
		7. Supplies & Materials..	Rs. 99,457.03
		8. Equipment ..	Rs. 6,084.30
	Rs.772,377.51		Rs.663,782.57

FINAL ACCOUNT

Total Income ...	Rs. 772,377.51
Minus total expenditure...	Rs. 663,782.57
	Rs. 108,594.94
GOEP patient-care fund transferred to CRF for Fiscal Year 69.	Rs. 50,000.00
Balance	Rs. 58,594.94

U.S. Govt. share of unutilized balance ...	51% ...	Rs. 29,883.42
GOEP share (Un-restricted portion)	49% ...	Rs. 28,711.52

Appendix IIA

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY
NIH RESEARCH AGREEMENT (RUPEE)
STATEMENT OF EXPENDITURES FOR FISCAL YEAR 1968
(JULY 1,1967 TO JUNE 30,1968)

INCOME		EXPENDITURE	
Opening balance for Fiscal Year 1967-68	Rs. 74,115.06	1. Personal Services ..	Rs.2,155,027.76
Contribution by NIH for Fiscal Year 1967-68	Rs.3,551,200.00	2. Travel & Transportation of Persons ..	Rs. 633,480.76
Interest earned on fixed deposit	Rs. 88,920.16	3. Transportation of Things ..	Rs. 56,741.12
		4. Rent,Communication & Utilities ..	Rs. 31,063.56
		5. Printing & Reproduction ...	Rs. 10,020.50
		6. Other Contractual Services ..	Rs. 96,530.07
		7. Supplies & Materials	Rs. 333,356.66
		8. Equipment ..	Rs. 107,807.09
	Rs.3,714,235.22		Rs.3,424,027.52

FINAL ACCOUNT

Total Income ...	Rs.3,714,235.22
Minus total expenditure	Rs.3,424,027.52
Total uncommitted balance available for carry-over to Fiscal Year 1969.	Rs. 290,207.70

Appendix IIB

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

DOLLAR PORTION

ACCOUNT WITH BANK OF BETHESDA
OPERATED BY PSCRL

INCOME		EXPENDITURES	
Opening balance as of July 1, 1967 (Carry-over of Fiscal Year 1967 unspent balance) ..	$ 11,355.49	1. Personal Services ..	$ 61,712.09
NIH Contribution for Fiscal Year 1967-68 ..	$ 95,500.00	2. Travel & Transportation of Persons ..	$ 4,957.00
		3. Transportation of Things ..	$ 455.15
		4. Printing & Reproduction	$ 74.00
		5. Rent, Communication & Utilities ..	$ 484.01
		6. Other Contractual Services ..	$ 1,113.88
		7. Supplies & Materials..	$ 2,252.68
		8. Equipment ..	$ 1,251.36
	$106,855.49		$ 72,300.17

FINAL ACCOUNT

Total Income ...	$106,855.49
Minus total expenditure for fiscal year 1968 ...	$ 72,300.17
Uncommitted balance available to carry-over to Fiscal Year 69.	$ 34,555.32

STATEMENT OF EXPENDITURES FOR FISCAL YEAR 68

CAPITAL RESERVE FUND

JULY 1, 1967 TO JUNE 30,1968

INCOME		EXPENDITURE	
1. Opening balance	Rs.138,696	1. Balance carry-over to Fiscal Year 69.	Rs.152,779
2. Uncommitted balance of GOEP share of CRL Operating Fund for Fiscal Year 67.	Rs. 8,624		
3. Interest earned on bank deposits during Fiscal Year 68.	1/ Rs. 5,459		
	Rs.152,779		Rs.152,779

FUND STATUS AS OF JULY 1, 1968

Fund Available	...	Rs. 152,779
Minus Expenditure	...	-
		Rs. 152,779
GOEP Patient care fund for Fiscal Year 68 transferred to CRF for Fiscal Year 69.		Rs. 50,000
Uncommitted balance of GOEP share of CRL Operating Fund for Fiscal Year 68 transferred to CRF for Fiscal Year 69.		Rs. 28,712
		Rs. 231,491
Amount obligated for construction of Godown on August 12, 1968		Rs. 200,000
Unobligated balance	...	Rs. 31,491

1/ Payment received on July 5,1968.

STATEMENT OF BUDGET PROVISION AND OBLIGATION FOR THE PERIOD FROM JULY 1, 1968 TO OCTOBER 31, 1968

RUPEE FUNDS

HEADS OF ACCOUNTS	CRL OPERATING FUND					MUH RESEARCH AGREEMENT				(RUPEE)
	Budget Provision for FY 1968-69 1/	Proportionate Provision thru October 31, 1968.	Obligations thru October 31, 1968	Savings or excess as per proportionate Provision for 4 months	Balance left over for remaining of FY 69	Budget Provision for FY 1968-69 1/	Proportionate Provision thru October 31, 1968	Obligations thru October 31, 1968	Savings or excess as per proportionate provision for 4 months	Balance left over for remaining of FY 69
PERSONAL SERVICES	594000	198000	192956	5044	401044	2526000	842000	756255	85745	1769745
TRAVEL & TRANSPORTATION OF PERSONS	22000	7330	7350	- 20	14650	720000	240000	343356	-103356	376644
TRANSPORTATION OF THINGS	16000	5330	130	5200	15870	66000	22000	179	21321	65821
RENT, COMMUNICATION & UTILITIES	19000	6330	6510	- 180	12490	121000	40330	39269	1061	81731
PRINTING & REPRODUCTION	11000	3670	676	2994	10324	66000	22000	2936	19064	63064
OTHER CONTRACTUAL SERVICES	44000	14670	6616	8054	37384	452000	150670	52825	97845	399175
SUPPLIES & MATERIALS	132000	44000	35905	8095	96095	395200	131730	134382	- 2652	260818
EQUIPMENT	17000	5670	(12019)	17689	29019	210000	70000	47471	22529	162529
TOTALS	855000	285000	238124	46376	616876	4556200	1518730	1376673	142057	3179527

1/ Budget provisions based on Proposed Revised Budget of November 15,1968.

STATEMENT OF BUDGET PROVISION AND OBLIGATION FOR THE PERIOD FROM JULY 1, 1968 TO OCTOBER 31, 1968

SEATO-AID-NIH DOLLAR FUND & BANK OF BETHESDA ACCOUNT

HEADS OF ACCOUNTS	1/ SEATO-AID-NIH-DOLLAR FUND					2/ BANK OF BETHESDA ACCOUNT				
	Budget Provision for FY 1968-69 3/	Proportionate Provision thru October 31, 1968	Obligations thru October 31, 1968	Savings or excess as per Proportionate Provision for 4 months	Balance left over for remaining of FY 69	Budget Provision for FY 1968-69 4/	Proportionate Provision thru October 31, 1968	Obligations thru October 31, 1968	Savings or excess as per Proportionate Provision for 4 months	Balance left over for remaining of FY 69
PERSONAL SERVICES	25817	8606	8454	152	17363	98255	32752	21778	10974	76477
TRAVEL & TRANSPORTATION OF PERSONS	24000	8000	1317	6683	22683	10500	3500	258	3242	10242
TRANSPORTATION OF THINGS	62000	20670	3981	16689	58019	5000	1667	30	1637	4970
RENT, COMMUNICATION & UTILITIES	-	-	-	-	-	1000	333	232	101	768
PRINTING & REPRODUCTION	-	-	-	-	-	-	-	-	-	-
OTHER CONTRACTUAL SERVICES	134200	44730	105757 5/	-61027	28443	12000	4000	120	3880	11880
SUPPLIES & MATERIALS	119800	39935	63257	-23322	56543	8000	2667	133	2534	7867
EQUIPMENT	83200	27730	9429	18301	73771	5000	1666	100	1566	4900
TOTALS	449017	149671	192195	-42524	256822	139755	46585	22651	23934	117104

1/ Fund controlled by the Chairman, NIH Cholera Advisory Committee.

2/ Fund controlled by the Director, PSCRL.

3/ Based on information received from Mrs. Doris D. Parkinson in her letter of September 4,1968.

4/ Based on Proposed Revised Budget of November 15,1968

5/ Includes transfer of $105,200 to Bank of Bethesda account.

Appendix VI

STATEMENT OF BUDGET PROVISION AND OBLIGATION FOR THE PERIOD FROM APRIL 1,1968 TO SEPTEMBER 30,1968

UK/CRL FUND

HEADS OF ACCOUNTS	Budget Provision for FY 1968-69 1/	Proportionate Provision from April thru Sept.'68	Expenditure from April thru Sept.'68	Savings or excess as per proportionate provision	Balance left over for remaining period of FY 69
PERSONAL SERVICES 2/	5000	2500	-	-	-
TRAVEL & TRANSPORTATION OF PERSONS 2/	250	125	-	-	-
TRANSPORTATION OF THINGS	250	125	720	- 595	- 470
RENT,COMMUNICATION & UTILITIES	-	-	660	- 660	- 660
PRINTING & REPRODUCTION	-	-	-	-	-
OTHER CONTRACTUAL SERVICES	500	250	106	144	394
SUPPLIES & MATERIALS	3000	1500	1066	434	1934
EQUIPMENT	3500	1750	186	1564	3314
TOTALS	12500	6250	2738	887	4512

1/ U.K. Fiscal year from April 1 thru March 31, next year.

2/ Breakdown of obligations of £5250 by the Ministry of Overseas Development for the PSCRL is not available.

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

APPENDIX VII

STATEMENT OF EXPENDITURE FOR FISCAL YEAR 1967-68
(July 1, 1967 to June 30, 1968)

HEADS OF ACCOUNT	RUPEE FUND			DOLLAR FUND		STERLING FUND	OTHER SUPPORT			
	CRL Operating Fund	NIH Research Agreement Rupee Fund	CRL Capital Reserve Fund	Bank of Bethesda account	NIH/SEATO Fund	UK/CRL Fund	US/AID Logistic Support	NIH-US Technician Fund	GOEP	Govt. of Australia
	Rs.	Rs.	Rs.	$	$	£	Rs.	$	Rs.	$A
TOTAL FUND AVAILABLE :	772377	3714235	152779	106855	387400	14117	-	-	-	-
EXPENDITURE										
PERSONAL SERVICES	501930	2155028	-	61712	15655	7142	15848	154195	-	-
TRAVEL & TRANSPORTATION OF PERSONS	17686	633481	-	4957	23441	-	25740	2790	-	-
TRANSPORTATION OF THINGS	4616	56741	-	455	64105	334	13064	-	-	-
RENT,COMMUNICATION & UTILITIES	11540	31063	-	484	-	-	133800	-	-	-
PRINTING & REPRODUCTION	374	10021	-	74	-	-	-	-	-	-
OTHER CONTRACTUAL SERVICES	22096	96530	-	1114	115079	1287	108693	-	450000	-
SUPPLIES & MATERIALS	99457	333357	-	2253	92521	2621	131189	-	-	-
EQUIPMENT	6084	107807	-	1251	82152	2233	-	-	-	9200
TOTAL EXPENDITURE	663783 1/	3424028	-	72300	392953 2/	14117 3/	428334 4/	156985 5/	450000 6/	9200
BALANCE	108594	290207	152779	34555	- 5553	-	-	-	-	-
GRAND TOTAL	772377	3714235	152779	106855	387400	-	-	-	-	-

1/ Of Rs.108,594 the GOEP share of Rs.28,711.54 and GOEP Patient care fund of Rs.50,000 totalling Rs.78,711.54 was transferred to the CRL Capital Reserve Fund according to paragraph D.1.e. of Revised Agreement between Pakistan-AID December 30,1961.

2/ Fund controlled by NIH and includes $ 95,500 transferred to Bank of Bethesda account.

3/ Expenditure related for the period from April 1,1967 to March 31,1968. Part of this fund directly controlled by the Ministry of Overseas Development, Govt. of U.K. and part by the PSCRL through Crown Agents. Breakdown of expenditure of £5000 by the Ministry of Overseas Development for the PSCRL is not available.

4/ Estimated logistic support received by the PSCRL from US/AID/P according to paragraph G.3 of the revised agreement between Pakistan-AID,December 30,1961.

5/ Total support of the US PHS Personnel assigned to the PSCRL.

6/ Estimated logistic support received by the PSCRL from the GOEP according to paragraph G.1 of the revised agreement between Pakistan-AID,December 30,1961.

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

APPENDIX VIII

STATEMENT OF EXPENDITURE FOR FISCAL YEAR 1967-68
(July 1, 1967 to June 30, 1968)

ALL FUNDS IN PAK CURRENCY

HEADS OF ACCOUNTS	RUPEE FUND			DOLLAR FUND		STERLING FUND	OTHER SUPPORT				Grand Total
	CRL Operating Fund	NIH Research Agreement Rupee Fund	CRL Capital Reserve Fund	Bank of Bethesda Account	SEATO-AID-NIH Fund	UK/CRL Fund	US/AID Logistic Support	NIH-US Technician Fund	GOEP Support	Govt. of Australia	
TOTAL FUND AVAILABLE :	772377	3714235	152779	512904	1859520	161357	-	-	-	-	-
EXPENDITURE											
PERSONAL SERVICES	501930	2155023	-	296213	75144	81633	15348	740136	-	-	3865937
TRAVEL & TRANSPORTATION OF PERSONS	17686	633481	-	23794	112517	-	25740	13392	-	-	826610
TRANSPORTATION OF THINGS	4616	56741	-	2184	307704	9532	13064	-	-	-	393841
RENT, COMMUNICATION & UTILITIES	11540	31063	-	2323	-	-	133800	-	-	-	178726
PRINTING & REPRODUCTION	374	10021	-	355	- 1/	-	-	-	-	-	10750
OTHER CONTRACTUAL SERVICES	22096	96530	-	5347	93979	14710	108693	-	450000	-	791355
SUPPLIES & MATERIALS	99457	323357	-	10814	444100	29958	131189	-	-	-	1048875
EQUIPMENT	6084	107307	-	6005	394330	25524	-	-	-	39568	579318
TOTALS	663783	3424028	-	347040	1427774	161357	428334	753528	450000	39568	7695412

1/ US $95,500 equivalent to Rs.463,200 transferred to Bank of Bethesda account has not been included.

BREAKDOWN OF SUPPORT BY CONTRIBUTING NATIONS BY PERCENTAGE

Expenditure from U.S.Govt. Support

1. CRL Operating Fund ... Rs. 338,530
2. NIH Research Agreement(Rupee) Rs.3,424,028
3. Capital Reserve Fund ... Rs. -
4. Bank of Bethesda account.. Rs. 347,040
5. SEATO-AID-NIH Fund ... Rs.1,427,774
6. Other Support
   (a) US/AID Logistic support Rs. 428,334
   (b) NIH-US Technician Fund Rs. 753,528

Rs.6,719,234 87.31%

7. Expenditure from GOEP Support
   1. CRL Operating Fund ...Rs.325,253
   2. Capital Reserve Fund ...Rs. -
   3. Other Support ...Rs.450,000

   Rs. 775,253 10.07%

8. Expenditure from U.K.Govt.Support Rs. 161,357 2.10%
9. Expenditure from Govt.of Australia Support ... Rs. 39,568 0.52%

B.F. Rs.6,719,234 87.31%

Rs.7,695,412 100%

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY
Dacca, East Pakistan

PRESENTATION OF PSCRL BUDGET FOR FY 70 (PART I)

at the

EIGHTH MEETING OF THE DIRECTING COUNCIL

December 11, 1968

Justification for Proposed Budget for Fiscal Year 1970 (Part I)

The proposed PSCRL Budget for Fiscal Year 1970 is based on the budget for FY69 submitted to and approved by the 7th Directing Council Meeting in January 17-18, 1968. The proposed FY70 budget is a continuation of FY69 projected estimates of necessary funds required to continue the present level of research projects during the coming fiscal year. The budget includes allowances for normal year-to-year increases in the operating cost of the Laboratory, such as increases in prices for supplies, equipment, contractual services, etc.

Although the various amounts in the different budgets outlined in the attachment have been estimated on the assumption of continuing at the present level of research within the period of time under review, it does not make allowance or much leeway for any additional research projects that the Technical Committee may decide that the Laboratory should undertake. It should also be noted that the Laboratory does not yet have proper utilities, including adequate electrical power and wiring and a hot water system, and also lacks proper animal facilities. The Laboratory also desperately requires additional space. Although Rs. 360,000 in additional funds were provided by the NIH in FY69 for carrying out needed renovations, including some of the above, it appears that this figure might not be adequate. In addition to this, it is not clear, at the time of writing of this report, how much it will cost to rewire the Laboratory, including part of the cost of a new sub-station, and whether the final cost will exceed the additional Rs. 360,000 set aside for doing this and other required renovations. Also, it is not presently known to what extent the Laboratory dollar budget will be required for buying various pieces of equipment and supplies in connection with rewiring and setting up a sub-station (not procurable with rupees).

OPERATING FUND

The proposed FY70 budget (Col. 6, Part I of the attached "Proposed PSCRL Budget for FY70") is an across-the board 10% increase over the original FY69 budget (Col. 3), as approved by the 7th Meeting of the Directing Council. This nominal 10% increase in the proposed budget, it has been felt, is quite justified to pay annual increments, promotions, charge allowance, etc.; for administrative and supporting personnel; increases in prices of supplies, equipment, contractual services; additional cost due to increased volume of postal and communication services; and travel costs by administrative and supporting personnel. Contributions to be requested from each

of the participating nations should be as follows:

		Rs.
Government of the U.S.A.	...	423,500
Government of East Pakistan	...	423,500
Special contribution by the GOEP for patient-care expenses at PSCRL.	...	60,500
TOTAL	...	907,500

The U.S. Government contribution to the Operating Fund has already been approved in Amendment No. 6 of the NIH Research Agreement.

The following are the line item justifications:

PERSONAL SERVICES

The figure of Rs. 620,400 is based partly on the total salary cost of the projected payroll for FY70, with the present level of staff, and allowance made for increased payroll costs due to the revision of the local staff salary scale (based on the revised salary scale of U.S. agencies operating in Pakistan made effective during the summer of 1968). Allowances have also been made for cost of overtime and employer's contribution to the PSCRL Staff Provident Fund. A nominal 10% increase over the FY69 provision is requested for FY70.

TRAVEL & TRANSPORTATION OF PERSONS

An increase of 10% over the FY69 budget is requested to cover additional expenses due to an increased number of staff within Pakistan to cover the extended vaccine trial area and the newly established El-Tor cholera project in Chittagong.

TRANSPORTATION OF THINGS

To handle the increased freight cost of supplies for the extended vaccine trial area and for the newly-established El-Tor cholera project in Chittagong a nominal increase of 10% over the FY69 budget is requested for FY70.

RENT, COMMUNICATION & UTILITIES

A nominal increase of 10% is requested.

PRINTING AND REPRODUCTION

A small increase is requested to cover the cost of additional volume of printing of forms, publications and binding due to the increased volume of work.

OTHER CONTRACTUAL SERVICES

A nominal increase of 10% over the FY69 budget for FY70 is requested to meet the increased cost of servicing and maintaining U.K. vehicles and other vehicles when it is necessary to procure locally-available spares for vehicles to avoid extra pressure on U.K. and dollar funds and, additionally, for the maintenance of that portion of space of the Institute of Public Health building now occupied by PSCRL and the PSCRL field hospital wing at the Rural Health Center in Matlab.

SUPPLIES & MATERIALS

To meet the expenses of an increased volume of locally-available supplies an increase of 10% over the FY69 budget for FY70 is requested.

EQUIPMENT

An increase of 10% over the FY69 budget for FY70 is requested for replacement of old furniture and office equipment.

NIH RESEARCH AGREEMENT

As with the Operating Fund, there is no substantial increase proposed in this fund. The NIH Research Agreement No. 196802 Amendment No. 6 will provide Rs. 4,692,000 during FY70 for the rupee portion of this Agreement which has been revised item-wise, as shown in Col. 13. Comparing the budget provisions of FY69 (Col. 9) with those of the proposed budget, it is evident that except for line item Personal Services there is no substantial increase in any of the line items. Following are the line item justifications for these increases.

RUPEE PORTION

PERSONAL SERVICE

In addition to the projected annual payroll, provisions have also been made for the following additional costs :

a) Provisions have been made for increases in staff salaries ranging from 25% to 10% according to grade as follows (effective November 1,1968) :

i)	Grades A to C	...	25%
ii)	Grades D to F	...	20%
iii)	Grades G to I	...	15%
iv)	Grades J to O	...	10%

The revision in the salary structure was based on a survey conducted by U.S. agencies in Pakistan of prevailing salary rates and fringe benefits offered to positions in other organizations in Pakistan similar to those in U.S. agencies. The Laboratory has followed the guidelines used by U.S. agencies in revising their salary structure in revising its own salary structure. It may be recalled that the Laboratory did the same when U.S. agencies revised their salary scale in 1966.

b) 10% of the annual staff payroll for overtime is provided.

c) Estimated increase of payment in annual increments, allowances for contract personnel and payment of annual leave according to the PSCRL revised leave regulations is also included.

In order to meet the above expenses an increase of 13% over FY69 under this line item for FY70 is necessary.

TRAVEL & TRANSPORTATION OF PERSONS.

An increase of 4% over the FY69 budget provisions for FY70 has been requested for: (i) to hire extra country boats for the extended vaccine trial area, (ii) to cover the increased cost of fixed travel allowances for field personnel from Rs.50 to Rs.100 per month, (iii) to cover cost of increased travel by scientific staff for the collection of specimen and data for research work, and (iv) to pay field allowances of the staff assigned to the newly established El-Tor cholera project in Chittagong.

TRANSPORTATION OF THINGS.

A nominal increase of 6% over the FY69 budget is requested to cover the increased value of shipping and clearing charges.

RENT, COMMUNICATION & UTILITIES

A nominal increase of 3% over the fiscal year 1969 budget is requested to cover payment of postal charges for increased volume of communications.

PRINTING & REPRODUCTION

No increase is requested.

OTHER CONTRACTUAL SERVICES

An increase of 4% over FY69 budget is requested for the improvement of washing facilities, maintenance area and repair services of scientific equipment, vehicles and boats.

SUPPLIES & MATERIALS

A nominal increase of 3% over the FY69 budget is requested to cover the cost of locally-procured supplies for the extended vaccine trial area.

EQUIPMENT

An increase of 9% over the FY69 budget is requested to cover the cost of locally available equipment, furnishing of the newly-constructed godown and the replacement of old furniture and office equipment.

DOLLAR PORTION

A nominal increase of 9% for FY70 is requested over the FY69 budget to cover expenses of increased salaries of contract personnel, procurement of essential supplies and spares where the local currency or other funds cannot be used. Funds for this portion of the NIH Research Agreement have already been approved by NIH.

U. K. FUND

It is requested that the contribution by the Government of United Kingdom be increased to £15,000. It may be noted that £12,500 made available to this Laboratory during FY69 is not adequate for the supplies and equipment needed from the U.K.

CAPITAL RESERVE FUND

The unspent balance of the GOEP contribution to the Operating Fund for FY68 was Rs. 28,712 which was transferred to the Capital Reserve Fund for FY69. The GOEP patient-care fund of Rs. 50,000 for FY68 was transferred to the Capital Reserve Fund. In accordance with paragraph D.I.e of the Revised Agreement between GOP and AID dated December 30, 1961, final approval is required from the Directing Council to transfer this Rs. 50,000 to the Capital Reserve Fund. Of the total amount of Rs. 231,491 available during FY69 (including the Rs. 50,000 transfer), Rs. 200,000 has already been obligated for the construction of a godown.

Since it is not anticipated that there will be a significant amount to be transferred from the FY69 GOEP contribution to the Operating Fund to the Capital Reserve Fund for FY70, it is requested that the Directing Council consider other sources to supplement this fund for the following requirements :

		Rs.
1. Construction of an additional floor on the godown	...	100,000
2. Construction of another floor on the Matlab R.H.C. building for office accommodation	...	74,000
3. Construction of a boundary wall & improvement of Shaitnol House (Matlab area)	...	18,000
		192,000

PROPOSED PSCRL BUDGET FOR FY 1970

(July 1,1969 to June 30,1970)

Funds directly controlled by the PSCRL

PART - I

HEADS OF ACCOUNTS	PSCRL OPERATING FUND: FY 68 Actual Expenditure	Current FY 69 original Budget	Increase or decrease over FY 68 expenditure with percentage	Current FY 69 Revised Budget	FY 70 Budget	Increase or decrease over FY 69 original budget with percentage	NIH RESEARCH GRANT: FY 68 Actual Expenditure	Current FY 69 original Budget	Increase or decrease over FY 68 expenditure with percentage	Current FY 69 Revised Budget	FY 70 original Budget	FY 70 Revised Budget	Increase or decrease over FY 69 original budget with percentage	AGREEMENT FUND DOLLAR: FY 68 Actual Expenditure	Current FY 69 original Budget	Increase or decrease over FY 68 expenditure with percentage	Current FY 69 Revised Budget	FY 70 Budget	Increase or decrease over FY 69 original budget with percentage	UNITED KINGDOM CONTRIBUTIONS - POUND: FY 68 Actual Expenditure	Current FY 69 Budget	Increase or decrease over FY 68 expenditure with percentage	FY 70 Budget	Increase or decrease over FY 69 original budget with percentage	PSCRL CAPITAL RESERVE FUND: FY 68 Actual Expenditure	Current FY 69 Budget	Increase or decrease over FY 68 expenditure with percentage	FY 70 Budget	Increase or decrease over FY 69 original budget with percentage
1	2 Rs.	3 Rs.	4 Rs.	5 Rs.	6 Rs.	7 Rs.	8 Rs.	9 Rs.	10 Rs.	11 Rs.	12 Rs.	13 Rs.	14 Rs.	15 $	16 $	17 $	18 $	19 $	20 $	21 £	22 £	23 £	24 £	25 £	26 Rs.	27 Rs.	28 Rs.	29 Rs.	
PERSONAL SERVICES	501939	564000	+ 62070	594000	620400	+ 56400	2155028	2568000	+ 412972	2526000	2824000	2920000	352000	61712	72200	+ 10488	98255	79300	7100	7142	5000	- 2142	5000	-	-	-	-	-	
			12%			10%			19%				13%			17%			9%			30%							
Professional	36699	64000	-	70000	70400		473669	550000		500000	605000	716000																	
Technical & Supporting	465231	500000	-	524000	550000		1666329	1968000		1976000	2164000	2154000																	
Consultant	-	-	-	-	-	-	15030	50000		50000	55000	50000																	
TRAVEL & TRANSPORTATION OF PERSONS	17686	22000	+ 4314	22000	24200	+ 2200	633481	720000	+ 86519	720000	792000	750000	72000	4957	6100	+ 1143	10500	6700	600	-	250	+ 250	250	-	-	-	-	-	
			24%			10%			14%				4%			23%			9%										
In Pakistan	7489	6000		6000	6600		286001	305000		305000	335500	320000																	
Outside Pakistan	-	1000		1000	1100		169826	165000		165000	181500	180000																	
Consultant	10197	15000	-	15000	16500		177654	250000		250000	275000	250000																	
TRANSPORTATION OF THINGS	4616	16000	+ 11384	16000	17600	+ 1600	56741	66000	+ 9259	66000	73000	70000	4000	455	3200	+ 2745	5000	3500	300	834	250	- 584	1250	+ 1000	-	-	-	-	
			246%			10%			16%				6%			603%			9%			70%							
Shipping & Clearance	4616	16000		16000	17600		56741	66000		66000	73000	70000																	
RENT,COMMUNICATION & UTILITIES	11540	19000	+ 7460	19000	21000	+ 2000	31064	121000	+ 89936	121000	133000	125000	4000	434	900	416	1000	900	-	-	-	-	-	-	-	-	-	-	
			64%			10%			289%				3%			85%													
Rent	938	3000		3000	3400		29820	110000		110000	121000	113000																	
Communication	10602	16000		16000	17600		1244	11000		11000	12000	12000																	
PRINTING & REPRODUCTION	374	11000	+ 10626	11000	12000	+ 1000	10021	66000	55979	66000	73000	66000	-	74	-	- 74	-	-	-	-	-	-	-	-	-	-	-	-	
			2841%			10%			558%																				
OTHER CONTRACTUAL SERVICES	22096	44000	+ 21904	44000	48400	+4400	96530	149000	+ 52470	452000	164000	155000	+15000	1114	11100	+ 9986	12000	12200	1100	1288	500	- 788	1000	+ 500	-	231491	-	31491	
			99%			10%			54%				4%			896%			9%			61%							
Repair	6688	28000		28000	30800		13638	76000		370000	83600	75000																	
Other	15408	16000		16000	17600		82892	73000		82000	80400	80000																	
SUPPLIES & MATERIALS	29457	132000	+ 32543	132000	145200	+ 13200	333357	361000	+ 27643	395200	397000	380000	19000	2253	7300	+ 5047	8000	8000	700	2621	3000	+ 379	3500	+ 500	-	-	-	-	
			32%			10%			8%				3%			224%			9%			14%							
Laboratory & Hospital	28336	32000		32000	35200		103141	150000		155000	165000	160000																	
Office & Janitorial	15168	27000		27000	29700		22142	30000		35000	33000	30000																	
Research Animal & Feed	7571	12000		12000	13200		23876	25000		25000	27500	27500																	
Fuel	3837	5000		5000	5500		13305	20000		20000	22000	20000																	
Hospital Food	12440	22000		22000	24200		58264	50000		55000	55000	50000																	
Linen & Uniforms	4874	12000		12000	13200		24819	25000		25000	27500	27500																	
Educational	221	3000		3000	3300		584	5000		5000	5500	5000																	
Other	27010	19000		19000	20900		87226	56000		75200	61500	60000																	
EQUIPMENT	6084	17000	+ 10916	17000	18700	+ 1700	107807	215000	+ 107193	210000	236000	226000	21000	1251	4400	+ 3149	5000	4800	400	2233	3500	+ 1267	4000	+ 500	-	-	-	-	
			79%			10%			99%				9%			251%			9%			56%							
Laboratory & Hospital	1828	6000		6000	6600		58792	75000		85000	82500	80000																	
Transport	-	-	-	-	-	-	3111	10000		10000	11000	10000																	
Office	2745	6000		6000	6600		38126	75000		60000	82300	80000																	
Books (Permanent)	25	-	-	-	-	-	1089	5000		5000	5500	5000																	
Other	1486	5000		5000	5500		6689	50000		50000	54700	51000																	
				1/						2/	3/						4/									5/		6/		
GRAND TOTAL	663783	825000	161217	855000	907500	82500	3424025	4266000	841971	4556200	4692000	4692000	426000	72300	105200	32900	139755	115400	10200	14118	12500	- 1618	15000	+ 2500	-	231491	-	31491	
			24%			10%			24%				9%			46%			9%			12%							

1/ Deficit amount of Rs.30,000 will be met from the unspent balance of US Share of Operating Fund for FY 68 amounting to Rs.29,883.40 plus anticipated earning of interests from fixed deposits.

2/ Deficit amount of Rs.290,200 will be met from the unspent balance for FY 68 amounting to Rs.290,207.70.

3/ As incorporated in Research Agreement No.196802 Amendment No.6.

4/ Deficit of $34,555 will be met from the unspent balance of FY 68.

5/ Subject to confirmation of transfer of GOEP patient-care fund and GOEP share of uncommitted balance of Operating Fund amounting to Rs.50,000 and Rs.28,711.52 respectively to the Capital Reserve Fund as shown in appendix 1 of the Director's Financial Report for FY 68.

Rs.200,000 has already been obligated for construction of a Godown, hence actual balance available is Rs.31,491.

6/ Plus any unspent balance of the GOEP contribution to the OPF for FY 69.

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY
Dacca, East Pakistan

PRESENTATION OF PSCRL BUDGET FOR FY70 (PART II)

at the

EIGHTH MEETING OF THE DIRECTING COUNCIL

December 11, 1968.

Justification for Proposed Budget for Fiscal Year 1970 (Part II)

The Proposed PSCRL Budget Part II for FY70 is based on our past operational experience which includes logistic support for continuation of PSCRL research projects as per the commitments of the various participating agencies according to the Revised Agreement of December 30, 1961.

The Directing Council is requested to approach the respective countries and/or agencies involved in supporting this Laboratory to increase their contributions as noted below.

Australian Government Support

The Government of Australia supplied equipment costing $ A 9,200 during FY68 and has spent $A 1,190 to date during FY69 for the procurement of equipment for PSCRL. It is hoped that the Government of Australia will continue to support this Laboratory at least at the FY68 level for the remainder of FY69 and for FY70.

Government of East Pakistan Support.

According to paragraph G.1. of the revised agreement the Government of East Pakistan is committed to pay the cost of utilities of the Laboratory. Following is the detailed break-down of the support required by the PSCRL during FY69 and FY70.

Details		FY69	FY70
		Rs.	Rs.
1. Maintenance and repair services for the portion of the Institute of Public Health now occupied by the PSCRL.	...	10,000	10,000
2. Water and sewer charges for the portion of the Institute of Public Health now occupied by PSCRL	...	14,280	8,000
a) From July 1,1966 to June 30,1968	Rs. 8,280		
b) From July 1,1968 to June 30,1969	Rs. 6,000		
3. Electricity charges for the additional electric lines in the portion of the Institute of Public Health Building now occupied by the PSCRL 1/	...	82,420	60,000
a) November 1967 to June 1968	Rs. 22,420		
b) July 1968 to June 1969	Rs. 60,000		
4. Telephone charges	...	18,000	18,000
		124,700	96,000

1/ In addition to this provision the existing power supply from the Institute of Public Health Sub-station should continue.

It is expected that the Government of East Pakistan will make necessary provision for Rs. 124,700 in their revised budget for FY69 and Rs. 96,000 in their budget estimate for FY 70 in addition to the contribution to the PSCRL General Operating Fund shown in Part I of the Budget.

USAID Support

According to paragraph D.3 of the Revised Agreement and subsequent correspondence dated July 20, 1964, this Laboratory received support in form of housing to the American staff, transportation of household effects, gasoline for vehicles and boats etc., in the amount of Rs. 428,334 during FY68 and has been requested to make provision for Rs. 779,500 in FY69.

It is estimated that this support will increase to Rs. 830,700 for FY70.

SEATO-AID-NIH Dollar Fund.

According to paragraph D.1.a of the Revised Agreement the Government of the United States of America made available US $392,953. It is expected that provisions for this support, estimated at $449,017 for FY69 and $489,800 for FY70, be made available to the Laboratory. As mentioned elsewhere in the proposed Budget for FY70, it is not presently known to what extent the Laboratory dollar budget will be required to buy various pieces of equipment and supplies in connection with re-wiring the PSCRL wing and setting up a sub-station which might put an unforeseen burden on this budget.

PROPOSED P-SCRL BUDGET FOR FY 1970
(July 1,1969 to June 30,1970)

PART-II

Funds controlled by the participating agencies

HEADS OF ACCOUNTS	AUSTRALIAN GOVERNMENT CONTRIBUTIONS A$					GOEP LOGISTIC SUPPORT					US/AID LOGISTIC SUPPORT					SEATO - AID - NIH DOLLAR FUND				
	FY 68 Actual Expenditure	Current FY 69 Budget	Increase or decrease over FY 68 with percentage	FY 70 Budget	Increase or decrease over FY 69 with percentage	FY 68 Actual Expendi-ture	Current FY 69 Budget	Increase or decrease over FY 68 with percentage	FY 70 Budget	Increase or decrease over FY 69 with percentage	FY 68 Actual Expenditure	Current FY 69 Budget	Increase or decrease over FY 68 with percentage	FY 70 Budget	Increase or decrease over FY 69 with percentage	FY 68 Actual Expenditure	Current FY 69 Budget	Increase or decrease over FY 68 with percentage	FY 70 Budget	Increase or decrease over FY 69 with percentage
1	2 A$	3 A$	4 A$	5 A$	6 A$	7 Rs.	8 Rs.	9 Rs.	10 Rs.	11 Rs.	12 Rs.	13 Rs.	14 Rs.	15 Rs.	16 Rs.	17 $	18 $	19 $	20 $	21 $
PERSONAL SERVICES											15848	12500	- 3348 20%	14000	1500 12%	15655	25817	+ 10162 65%	28400	2583 10%
TRAVEL & TRANSPORTATION OF PERSONS											25740	94500	+ 68760 267%	103900	9400 10%	23441	24000	+ 559 2%	26400	2400 10%
TRANSPORTATION OF THINGS											13064	51500	+ 38436 294%	56700	5200 10%	64105	62000	- 2105 9%	68200	6200 10%
RENT, COMMUNICATION & UTILITIES						28810	124300	+ 95490 331%	96000	- 28300 23%	133800	412500	+ 278700 208%	426100	13600 3%	-	-	-	-	-
PRINTING & REPRODUCTION																				
OTHER CONTRACTUAL SERVICES											108693	50000	- 58693 54%	55000	5000 10%	115079	134200	+ 19191 17%	147500	13300 10%
SUPPLIES & MATERIALS											131189	158500	+ 27311 21%	175000	16500 11%	92521	119800	+ 27279 29%	131800	12000 10%
EQUIPMENT	9200	1190	- 8010 87%													82152	83200	+ 1048 1%	91500	8300 10%
GRAND TOTAL	9200	1190	- 8010 87%			28810	124300	+ 95490 331%	96000	- 28300 23%	428334	779500	351166 82%	830700	51200 7%	392953	449017	+ 56134 14%	489800	44805 10%

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY
Dacca, East Pakistan

REVIEW OF THE AUDITOR'S REPORT AND THE DIRECTOR'S COMMENTS

at the

EIGHTH MEETING OF THE DIRECTING COUNCIL

December 11, 1968

DIRECTOR'S COMMENTS ON THE AUDITOR'S REPORT FOR FY68

Attached is a copy of the audit report covering part of the Laboratory's financial operations for FY68, July 1, 1967 through June 30, 1968.

Referring to the one recommendation in the FY68 Audit, it should be noted that the recommendation in the Auditor's Report for FY67 has been closed in regard to the Laboratory having adequate control over expendable property, but that the auditor's recommendation on the physical inventory of non-expendable property remains open. Efforts will be made during the remainder of this fiscal year to fulfill the latter recommendation.

Also attached are copies of letters from the Laboratory to the U.S. representative (AID) on the Directing Council on the subjects of fuel consumption record keeping, and recommendation No. 1 in the FY67 Auditor's Report. On the former subject the Auditor's Report for FY68 has mentioned that records of receipts and issues are now being properly maintained. Mention has already been made in regard to the former subject in the second paragraph above.

October 23, 1968

Dr. Willard Boynton
Senior Public Health Officer
USAID Pakistan
Lahore

Through: Dr. Jean F. Rogier
Chief Public Health Adviser
USAID, Dacca

Dear Dr. Boynton:

This letter is in reference to the USAID Auditor's Report on this Laboratory for fiscal year 1967 regarding irregularities in the records for gasoline and oil provided by USAID, Dacca for the operation of boats at Matlab.

The USAID audit report for FY 67 on the supply and consumption of petrol at Matlab indicated a discrepancy between supply, receipt and consumption of same. Efforts were made to explain these deficiencies but no satisfactory reply could be produced mainly because of the lack of control and inadequate records keeping both by the Supply Management Branch and at the recipient's end as far as the receipt and consumption were concerned. In addition, certain documents related to this matter are missing. The man mainly responsible for these irregularities has been removed from his job.

Appropriate measures have been taken to maintain accurate records as per attached forms. Since the implementation of this new system no discrepancies have been detected.

Sincerely yours,

Patrick G. Talmon
Executive Officer

October 24, 1968

Dr. Willard Boynton
Senior Public Health Officer
USAID Pakistan
Lahore

Through: Dr. Jean F. Rogier
Chief, Public Health Adviser
USAID, Dacca

Dear Dr. Boynton:

This letter is in reference to the recommendation No. 1 in the FY67 USAID Auditors' Report of this Laboratory.

Recommendation No. 1 stated that "The USAID'S Public Health Division should require that CRL establish and maintain an adequate system of internal control over expendable and non-expendable property".

In this regard Lt. Gary Brown from NAMRU-2, Taipei, arrived in Dacca on May 1, 1968 to re-organise the Supply Management Branch. Lt. Brown first discussed the existing supply procedures in stock control. A physical inventory of all expendable items was completed. While new stock control cards for expendable items was being typed, Lt. Brown made flow charts for processing expendable and non-expendable requisitions and explained the procedures to the supply staff.

Unfortunately Lt. Brown did not stay at this Laboratory sufficiently long enough to complete the necessary re-organisation of supply. A complete review with recommendations for improving the Supply Management Branch of this Laboratory was not forthcoming.

Since Lt. Brown's departure a non-expendable property survey of all US Government equipment has been completed and forwarded to NIH, Washington D.C. In this connection we have just been notified that a supply expert from NIH will be forthcoming sometime this November to hopefully complete the proper re-organisation of the Supply Management Branch.

In summary while some of the steps suggested in Recommendation No.1 in the Auditor's Report have been completed other steps await to be completed, hopefully during the period of time that the supply man from NIH is here with us.

Sincerely yours,

Patrick G. Talmon
Executive Officer

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
MISSION TO PAKISTAN
LAHORE

REPORT OF AUDIT

PROJECT NO. 391-11-510-138
PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

For the period July 1, 1967 to June 30, 1968

ISSUED BY THE OFFICE OF
ASSISTANT DIRECTOR/CONTROLLER
Report No. 69-13
November 29, 1968

PROJECT NO. 391-11-510-138
PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

For the period July 1, 1967 to June 30, 1968

Scope of Examination

Background Information

1. SEATO - AID -NIH Cholera Research Fund

2. NIH - Research Agreement Fund

3. GOP - NIH General Operating Fund

4. GOP - USAID Capital Reserve Fund

5. USAID - Trust Fund Rupee Support

DETAILED FINDINGS AND RECOMMENDATIONS

Finance
Inventory Control
Unrecorded Cash Receipt
Rupee Advances to American Employees

EXHIBITS:

A - Cumulative Dollar Expenditures incurred against the SEATO-AID-NIH Cholera Research Fund for Pakistan-SEATO Cholera Research Laboratory (CRL) through 6/30/68

B - Statement of Source and Status of Rupee Funds Contributed to CRL as of June 30, 1968

C - Statement of Income and Expenditures - CRL Rupee Funds for Fiscal Year Ended June 30, 1968 (per CRL Records)

C - Schedule 1 - Statement of Expenses - CRL Rupee Funds for Fiscal Year Ended June 30, 1968 (per CRL Records)

C - Schedule 2 - Computation of transfers from General Operating Fund to Capital Reserve Fund

D - USAID Trust Fund Expenditures for the CRL

E - Distribution of Report

F - Manual Order Requirement

REPORT OF AUDIT

PROJECT NO. 391-11-510-138
PAKISTAN SEATO-CHOLERA RESEARCH LABORATORY

For the period July 1, 1967 to June 30, 1968

Scope of Examination

We have examined certain funds provided to the Cholera Research Laboratory (CRL) for the year ended June 30, 1968.

Our examination was limited to funds which are directly controlled by CRL. These funds are provided by the United States Agency for International Development (USAID), the National Institute of Health (NIH), and the Government of Pakistan (GOP).

Our examination was conducted in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures which we considered necessary in the circumstances.

Background Information

The CRL was established in the year 1960 as a part of a regional Cholera Research Program sponsored by the South-East Asia Treaty Organization (SEATO). The Governments of the United States, Pakistan, the United Kingdom and Australia have assisted the CRL's operations by providing funds, equipment and administrative and technical personnel.

The GOP and AID entered into an agreement on October 14, 1960, to establish the CRL at Dacca. This agreement has been revised several times and at the date of this report the Agreement is valid up to June 30, 1970.

1. SEATO - AID - NIH Cholera Research Fund

This fund, administered by the NIH, has given dollar support to the CRL. A portion of the support fund to date, $337,498 has been deposited in the Bank of Bethesda, Maryland, for direct use by CRL. Of this amount $292,942 has been obligated through 30 June, 1968 (Exhibit 'A').

2. NIH - Research Agreement Fund

This is a rupee fund allocated by the US Treasury to NIH under section 104(b)(3) of PL-480, Title I agreements in Pakistan. NIH has provided Rs. 11,741,200 of these funds to the CRL through June 30, 1968 including Rs. 3,551,200 during the year covered by this audit (Exhibits 'B' and 'C').

3. GOP - NIH - General Operating Fund

This is a rupee fund generated by annual contributions from NIH and the GOP. The NIH portion of the contribution is from its section 104(b) (3), Title I holdings and the uncommitted year end balance is carried forward to the next Fiscal Year. The uncommitted year end balance attributed to the GOP contribution is transferred to the "Capital Reserve Fund" described in Section 4. As indicated in Exhibits 'B' and 'C' a total of Rs. 1,858,000 had been contributed to the General Operating Fund by the GOP and Rs. 1,703,000 by NIH through June 30, 1968. GOP contributed Rs. 400,000 and NIH contributed Rs. 350,000 during this Fiscal Year.

4. GOP - USAID Capital Reserve Fund

This is a fund which was established in 1962 by a GOP contribution of Rs. 2,680 and USAID contribution of Rs. 95,200 from PL-480 , Section 104(f) formerly 104(c). Since FY 1962 contributions totaling Rs. 637,195 were made to the fund, including Rs. 78,712 during the current year. Of this total, Rs. 191,200 from AID and Rs. 148,680 from GOP represent direct contributions to the fund and the remaining Rs. 297,315 represents the uncommitted balances of GOP contributions transferred from the General Operating Fund each year.

5. USAID - Trust Fund Rupee Support

The USAID provides Trust Fund rupees for the administrative support and other local expenses for CRL's American staff and for the costs of gasoline, oil and maintenance of CRL's vehicles and motor boats. The total expenditure for this purpose amounts to Rs. 2,402,016 including Rs. 421,855 expended this fiscal year.

The only recommendation contained in our prior audit report (Report No. 68-25 dated January 1, 1968) which concerned CRL's lack of internal control over expendable and non-expendable property was still open.

DETAILED FINDINGS AND RECOMMENDATIONS

Finance

The statements and supporting schedules presented in Exhibit 'A' through 'D' of this report were prepared by us from CRL and USAID records and reports, and represent the receipt and expenditure of funds directly controlled by CRL.

Based on our test checks of the accounting records, it is our opinion that all expenditures made from funds directly controlled by CRL and from the rupee Trust Fund, have been in accordance with the applicable agreements and legislation.

Inventory Control

Our prior audit report recommended that CRL establish and maintain an adequate system of internal control over expendable and non-expendable property. Certain salient features of a good inventory control system were also listed.

We found that CRL has made adequate progress during the year in establishing inventory controls over expendable property. The services of a specialist in this field was obtained by CRL during the year and as a result a cardex system was established. All receipts and issues of expendable property are made against controlled and properly approved requisitions and these are recorded in the cards. We test checked some of the items in the store room and found that the quantities agreed with the stock balances shown in the cards. Log books for boats, which were not previously maintained, have now been prepared and are being kept current. The gasoline and oil account of the hospital at Matlab, which our two prior audits noted had serious difficiencies, had been properly maintained and all receipts and issues were properly accounted for.

CRL has made some progress towards establishing proper control over non-expendable property. A physical inventory of all non-expendable property was initiated some months ago, but because of the numerous items involved, the different sources of acquisition, and the lack of acquisition records, CRL hopes to complete the inventory during this fiscal year, after which all items will be posted to property cards and a control over receipts and issues will then be maintained. Property cards have, however, been established for acquisitions after June 30, 1968, and control over the receipt and issue of these items is being maintained.

Since corrective action has been taken concerning expendable property, we are closing recommendation No. 1 of our audit report No. 68-25 and are making a recommendation concerning non-expendable property in this report.

Recommendation No. 1 (Action PHD/D)

The USAID's Public Health Division require CRL to complete its physical inventory of non-expendable property as soon as possible and thereafter to establish and maintain an adequate system of internal control over such property.

Unrecorded Cash Receipt

A check for Rs. 54,849 received from the Chittagong Port Health Authorities in November 1967 was not recorded in the official accounts of CRL until July 1968 (the following fiscal year). On receipt of the check the money was deposited with United Bank Ltd., Dacca in a separate deposit account, and through June 30, 1968 has earned Rs. 890.00 as interest. We were told by CRL that the bank receipt for this money was kept in its cashier's safe.

In this connection CRL stated that the amount of Rs. 54,849 was not promptly recorded in its books because there was some doubt as to whether it should be considered as an outright payment for services or as a contribution from the Government of Pakistan to one of the existing funds to be spent for a specific purpose. Although this doubt has still not been cleared CRL decided in July 1968 to place the money in the suspense account.

We see no reason why this money should not have been recorded in CRL's official books at the time it was received and why it was on deposit with a bank for about seven months in an unofficial manner.

We are not making a recommendation on this matter at this time as it does not represent a general lapse in CRL's accounting for official funds. CRL has assured us that any future receipts of this type will be promptly posted to its official books.

Rupee Advances to American Employees

During the course of our audit we found that American employees were drawing rupee advances from the General Operating Fund for their personal use. As of June 30, 1968 the outstanding advances totaled Rs. 51,003. Generally the advances were allowed to accumulate until the end of the employees' tour of duty at which time repayment was made.

We believe that to make such advances is an improper use of the fund and this was so pointed out to CRL officials who agreed with us. Subsequent to the date of our audit all advances were repaid and the practice of making advances discontinued. Under the circumstances we are making no further comment or recommendation on the matter.

USAID/P (PROJECT NO. 391-11-510-138 - PAKISTAN
SEATO-CHOLERA RESEARCH LABORATORY)

EXHIBIT A

Cumulative Dollar Expenditures incurred against the
SEATO-AID-NIH Cholera Research Fund for Pakistan-SEATO-Cholera Research Laboratory (CRL) through 6/30/68

Description	Through 6/30/67 Controlled by NIH	Through 6/30/67 Controlled by CRL	7/1/67 - 6/30/68 Controlled by NIH 1/	7/1/67 - 6/30/68 Controlled by CRL	Cumulative through 6/30/68 Controlled by NIH 1/	Cumulative through 6/30/68 Controlled by CRL
Personal Services	2,738	179,802	15,655	61,712	18,393	241,514
Travel and Transportation of persons	70,877	12,446	23,441	4,957	94,317	17,403
Transportation of Things	161,530	6,657	64,105	455	225,635	7,112
Rent, Communication & Utilities	163	2,199	-	484	163	2,683
Printing and Reproduction	46	18	-	74	46	92
Other Contractual Services	209,263	4,575	115,079	1,114	324,343	5,689
Supplies & Materials	295,016	10,054	92,521	2,253	387,537	12,307
Equipment	254,763	4,891	82,152	1,251	336,915	6,142
Total Obligations	994,396	220,642	392,953	72,300	1,387,349	292,942

1/ As shown in NIH reports to CRL less obligations controlled by the CRL, through the Bank of Bathesda account, shown in the next column.

CRL - Bank of Bathesda a/c. FY 1963 transactions (as per CRL Records)

Unliquidated balance at July 1, 1968	$ 11,355
NIH funds transferred during FY 1968	95,500
Total Available	106,855
FY 1968 Expenditures	72,300
Unliquidated Balance at June 30, 1968	34,555

USAID/P (PROJECT NO. 391-11-510-138 - PAKISTAN
SEATO-CHOLERA RESEARCH LABORATORY)

EXHIBIT B

Statement of Source and Status of Rupee Funds Contributed to CRL
As of June 30, 1968

Research Agreement Fund	Contributions NIH	Interest	Total Receipts	Total Expenditures	Uncommitted Balance
FY 1962	533,755	3,537	537,292	44,285	
FY 1963	746,245	14,751	760,996	630,193	
FY 1964	773,619	11,688	785,307	1,105,562	
FY 1965	1,371,381	13,581	1,384,962	1,477,508	
FY 1966	1,956,000	38,641	1,994,641	1,816,710	
FY 1967	2,809,000	44,826	2,853,826	3,168,651	
FY 1968	3,551,200	88,920	3,640,120	3,424,028	
Total	11,741,200	215,944	11,957,144	11,666,937	290,207

General Operating Fund	Contributions GOP	NIH	Interest	Misc. Receipts	Total Receipts	Total Expenditures	Transfer to Capital Reserve Fund	Uncommitted Balance
FY 1962	210,000	105,000	790		315,790	83,266	162,523	
FY 1963	210,000	210,000	4,372	217	424,589	394,660	42,971	
FY 1964	210,000	210,000	3,041		423,041	448,459	13,878	
FY 1965	250,000	250,000	2,602		502,602	500,411	9,590	
FY 1966	275,000	275,000	8,291		558,291	549,520	9,328	
FY 1967	303,000	303,000	11,926		617,926	610,036	8,624	
FY 1968	400,000	350,000	13,402		763,402	663,782	78,712	
Total	1,858,000	1,703,000	44,424	217	3,605,641	3,250,134	325,626	29,881

Capital Reserve Fund	Contributions GOP	USAID	Transfers from General Operating Fund	Interest	Total Receipts	Total Expenditures	Uncommitted Balance
FY 1962	2,680	96,000	162,523	634	261,837	77,449	
FY 1963		(800)	42,971	3,826	45,997	42,281	
FY 1964		-	13,878	3,532	17,410	93,711	
FY 1965		-	9,590	1,623	11,213	21,247	
FY 1966	-	96,000	9,328	1,292	106,620	139,788	
FY 1967	96,000	-	8,624	5,323	109,947	31,228	
FY 1968	-	-	78,712 1/	5,459	84,171	-	
Total	98,680	191,200	325,626	21,689	637,195	405,704	231,491

1/ Rs. 50,000 was provided by GOP to meet the Cholera epidemic during the year as a special case. This amount was not used during the year and is therefore being transferred directly to the Capital Reserve Fund.

USAID/P (PROJECT NO. 391-11-510-138 - PAKISTAN
SEATO-CHOLERA RESEARCH LABORATORY)

EXHIBIT C

Statement of Income and Expenditures - CRL Rupee Funds For Fiscal Year Ended June 30, 1968 (per CRL Records)

	General Agreement Fund	General Operating Fund	Capital Reserve Fund	Total Rupee Fund
Balance July 1, 1967	114,196	26,812	144,412	285,420
Expenditures applicable to prior year obligation	(39,944)	(4,725)	(10,341)	(55,010)
Transferred from operating fund to Capital Reserve Fund	(137)	(13,112)	13,249	-
Adjusted balance July 1, 1967	74,115	8,975	147,320	230,410
Income				
Contribution by GOP for FY 1968	-	400,000		400,000
Contribution by NIH for FY 1968	3,551,200	350,000		3,901,200
Net Interest earned in FY 1968	88,920	13,402	5,459	107,781
Additional Contribution by USAID/Pakistan	-	-	-	-
Total available	3,714,235	772,377	152,779	4,639,391
Expenses (see Schedule)	(3,424,028)	(663,782)	-	(4,087,810)
Balance	290,207	108,595	152,779	551,581
Transferred to Cap. Resve. Fund	-	(78,712)	78,712	-
Balance June 30, 1968	290,207	29,883	231,491	551,581

Total Fund balance at June 30, 1968 represents

Cash	583,590
Advance to Employees	31,344
Sub-Total	614,934
Less outstanding obligations at 6/30/68	63,353
Balance	551,581

Schedule 1

Statement of Expenses - CRL Rupees Funds for the
Fiscal Year ended June 30, 1968 (Per CRL - Records)

CRL treats as expenses applicable to the fiscal year only those unliquidated obligations as of June 30, which are liquidated after September 30, are treated as expenditures of the following fiscal year. Since valid FY-1968 obligations not paid at September 30, 1968 were Rs. 64,795 the expenditures as shown in Exhibit B and Schedule 1 of Exhibit C are under-stated as follows :

June 30, obligations still unliquidated at September 30, 1968

	FY 1968
Capital Reserve Fund	Nil
General Operating Fund	15,439
Research Agreement Fund	49,356
	64,795

USAID/P (PROJECT NO. 391-11-510-138 - PAKISTAN
SEATO-CHOLERA RESEARCH LABORATORY)

EXHIBIT C
Schedule 2

Computation of transfers from General Operating Fund to Capital Reserve Fund as of June 30, 1968

Year-end balance (FY-1967) attributed to NIH (See Exhibit C)	Rs. 8,975.09	
FY-1968 NIH contribution (See Exhibit B)	350,000.00	358,975.09
FY-1968 GOP contribution including Rs.50,000.00 additional contribution by GOP		400,000.00
Interests earned on Fixed Deposits		13,402.42
Total Contributions		772,377.51
Percent of contributions attributable to GOP		49%
Balance of General Operating Fund at June 30, 1968	50,000.00 1/	
For purpose of computing transfers (See Exhibit C)	58,594.00	108,594.94
Percent of contributions attributable to GOP		49%
Additional GOP contribution not spent during the year transferred to CRF	Rs. 50,000.00 1/	
Transferred to Capital Reserve Funds	28,712.00	78,712.00

1/ Rs. 50,000 was provided by GOP to meet the Cholera epidemic during the year as a special case. This amount was not used during the year and is therefore being transferred directly to the Capital Reserve Fund.

USAID/P (PROJECT NO. 391-11-510-138 - PAKISTAN
SEATO-CHOLERA RESEARCH LABORATORY)

Schedule 1

Statement of Expenses - CRL Rupees Funds for the
Fiscal Year ended June 30, 1968 (Per CRL - Records)

	Research Agreement Fund	General Operating Fund	Capital Reserve Fund	Total Rupee Fund
Personal Services				
Professional	473,669	36,699	Nil	510,368
Technical & Supporting	1,666,329	465,231	-	2,131,560
Consultant	15,030	-	-	15,030
Sub-Total	2,155,028	501,930		2,656,958
Travel and Transportation of Persons				
In Pakistan	286,001	7,489	-	293,490
Outside Pakistan	169,826	-		169,826
Consultants	177,654	10,197		187,851
Sub Total	633,481	17,686		651,167
Transportation of Things				
Clearing & Forwarding	56,741	4,615	-	61,356
Rent, Communication & Utility				
Rent	29,820	939	-	30,759
Communications	1,244	10,601		11,845
Sub Total	31,064	11,540		42,604
Printing and Reproduction	10,020	374	-	10,394

Schedule 1

Statement of Expenses - CRL Rupees Funds for the
Fiscal Year ended June 30,1968 (Per CRL - Records)

	Research Agreement Fund	General Operating Fund	Capital Reserve Fund	Total Rupee Fund
Other Contractual Services				
Repair	13,638	6,688	-	20,326
Others	82,892	15,408	-	98,300
Sub Total	96,530	22,096		118,626
Supplies and Materials				
Laboratories & Hospital	103,141	28,336	-	131,477
Office and Janitorials	22,142	15,167	-	37,309
Research Animal and Feed	23,876	7,572	-	31,448
Fuel	13,305	3,837	-	17,142
Hospital Food	58,264	12,440	-	70,704
Linen & Uniforms	24,819	4,874	-	29,693
Educational	584	222	-	806
Others	87,226	27,009	-	114,235
Sub Total	333,357	99,457		432,814
Equipment				
Laboratory & Hospital	58,792	1,828	-	60,620
Transport	3,111	-	-	3,111
Office	38,126	2,745	-	40,871
Books (Permanent)	1,089	25	-	1,114
Others	6,689	1,486	-	8,175
Sub Total	107,807	6,084		113,891
TOTALS	3,424,028	663,782	Nil	4,087,810

EXHIBIT D

USAID/P (PROJECT NO 391-11-510-138 - PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY)

USAID Trust Fund Expenditures for the Cholera Research Laboratory (CRL) from Inception (8/16/61) to June 30, 1968

Period	Amount Rs.	
8/16/1961 - 12/31/1961	117,879	2/
1/ 1/1962 - 6/30/1964	527,185	
7/ 1/1964 - 6/30/1965	336,309	
7/ 1/1965 - 6/30/1966	448,904	
7/ 1/1966 - 6/30/1967	549,884	
7/ 1/1967 - 6/30/1968	421,855	
Total	2,402,016	

1/ Consists of a) direct USAID expenditures on behalf of the CRL, and b) USAID costs for CRL, housing, utilities, equipment maintenance costs etc.

2/ The bulk of these expenditures were for CRL's operational costs, including local salaries, furniture, and equipment. Such costs were also paid from trust funds upto January 1, 1962.

EXHIBIT E

USAID/ (PROJECT NO. 391-11-510-138 - PAKISTAN-
SEATO CHOLERA RESEARCH LABORATORY)

Distribution of Report

	No. of Copies
USAID/P.	
DD	1
PH	2
AD/DP	1
Asst. Cont. (Area)/Dacca (100 copies for CRL)	102
IIS/Karachi	1
EX/C&R, Lahore	1
EX/C&R, Rawalpindi	1
AID/W:	
NESA/MGT	2
C/AUD	1
IGA/STATE	1
GOP (EAD)	10

EXHIBIT F

USAID/P (PROJECT NO. 391-11-510-138 - PAKISTAN-
SEATO CHOLERA RESEARCH LABORATORY)

Activity Identification - PL 480 Title I US Owned

Dollar Value Audited - $854
(in thousands)

Audit Time

American	2.0 M/M
Local	.5 "

PRESENTATION OF APPENDICES

to the

PERSONNEL REGULATIONS

at the

EIGHTH MEETING OF THE DIRECTING COUNCIL

December 11, 1968

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

CRL CIRCULAR

PERSONNEL MANAGEMENT NO.7

February 19, 1968

To : All PSCRL Staff

From : Director, PSCRL

Subject: AMENDMENT TO CRL MEMORANDUM NO. 10

Paragraph 2, page 2, of CRL Memorandum No. 10, dated November 3, 1966 reads as follows:

> "All Field Assistants in Matlab who have served for one year or above will immediately move to grade M and the rest of the group will move to the same grade on completion of a year's service.

The following is the amendment to the above paragraph retroactive to November 3, 1966:

> "All Field Assistants who have served for one year or more may move to grade M subject to the recommendations of the Section Chief."

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

CRL CIRCULAR PERSONNEL MANAGEMENT NO. 8.

February 20, 1968

To : All PSCRL Employees

From : Robert A. Phillips, M.D.
Director, PSCRL

Subject : AMENDMENTS TO PERSONNEL REGULATIONS
PARAGRAPH 3.2 AND PARAGRAPH 7.1:a.

With immediate effect, paragraph 3.2 and paragraph 7.1:a of Personnel Regulations are amended as follows:

Paragraph 3.2:

"Each appointment is probationary until such time as proof of satisfactory security and medical clearance and reference checks are received and until one year's continuous satisfactory employment is completed. During this probationary period, the employee may be dismissed summarily if his performance of duty is defective in any way. In addition, during this period the employee may terminate his employment or PSCRL may terminate his employment by a 15 days notice without assigning any reason."

"Upon completion of 6 months service during the probationary period the Section Chief should prepare an efficiency report of the employee. Should the report show unsatisfactory performance the employee will be informed accordingly in writing to improve himself during the remaining period of his probation. If the employee fails to improve, his service may be terminated on recommendation of the Section Chief."

Paragraph 7.1:a

Annual Leave: Annual leave is earned at the rate of 2 working days per calendar month of satisfactory service. Employees who serve satisfactorily for more than 3 years earn annual leave at the rate of $2\frac{1}{2}$ working days per calendar month. An employee may accumulate any number of days as annual leave subject to the following criteria:

(i) An employee may not carry over more than 45 days of annual leave from year to year.

(ii) At the close of leave year an employee will be given the option either to carry over maximum 45 days of annual leave to the next year or carry over 30 days and cash 15 days.

(iii) Any balance of the leave over 45 days will be credited to the sick leave account of the employees concerned.

(iv) In no case would an employee be allowed to carry over less than 30 days if he has this much leave to his credit at the close of a leave year.

Annual leave can be used only after 3 months continuous service during the probation. Any leave taken, except sick leave, must be charged to leave without pay during the first 3 months of service. Upon termination of employment, with or without prejudice, the employee is paid for his accumulated annual leave but not more than 45 days at the rate of his current monthly salary. Annual leave is granted only when the activities of the CRL permit and is requested in advance by submitting an appropriate leave request to the Administrative Officer after approval by the employee's Section Chief or his designated supervisor. Approval of the request is indicated by return of the completed form to the employee."

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

PCRL CIRCULAR — PERSONNEL MANAGEMENT NO. 9

March 29, 1968

To : All PCRL Staff

From : W.N. Nosley, M.D.

Subject: TEMPORARY EMPLOYMENT

The following regulations will be applicable for temporary employment effective April 1, 1968:

1. Temporary employment will be for a limited period of six months. This type of employment is meant to cover seasonal work or short-time emergencies. A temporary position must be abolished at the end of the six month period.

2. Temporary employees will henceforth not earn any leave except for compensatory leave in lieu of overtime work performed.

3. A temporary employee appointed on a regular basis will have to serve the required probationary period. His temporary employment will not be considered towards his service if he is appointed on a regular basis.

4. A temporary employee's services may be terminated at any time without any prior notice.

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

CRL CIRCULAR PERSONNEL MANAGEMENT NO. 10

April 3, 1968

To : All PSCRL Staff

From : Patrick G. Talmon
Executive Officer, PSCRL

Subject: OVERTIME/COMPENSATORY LEAVE

The following are additions to the Personnel Regulations on the procedure for accrual of overtime or compensatory leave in lieu of overtime performed and are effective April 1, 1968:

Paragraph 8.4:

a. An employee working less than one hour overtime in a single day will not accumulate any overtime or compensatory leave.

b. Overtime work will be calculated only after completion of the first hour. Any fraction of overtime work performed after the first hour in a day will be totalled. However, a fractional amount remaining in the total at the end of the pay period will not be counted.

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

CRL CIRCULAR — PERSONNEL MANAGEMENT NO. 11

JUNE 12, 1968

To : All PSCRL Staff

From : W. Kendrick Hare, M.D.
Acting Director, PSCRL

Subject : HOLIDAYS

Following holidays will be observed by the Laboratory from June - December 31, 1968:

1.	Eid-e-Milad-un-Nabi	June	9	Sunday (observed following Monday)
2.	American Independence Day	July	4	Thursday
3.	Pakistan Independence Day	Aug.	14	Wednesday
4.	Defence of Pak. Day	Sept.	6	Friday
5.	Quaid-e-Azam's Death Anniversary	Sept.	11	Wednesday
6.	Durga Puja (Bijoya Dashami)	Oct.	1	Tuesday
7.	Revolution Day	Oct.	27	Sunday (observed following Monday)
8.	Shab-e-Barat	Nov.	7	Thursday
9.	Thanksgiving Day	Nov.	28	Thursday
10.	Jamatul Wada	Dec.	20	Friday
11.	Eid-ul-Fitr	Dec. and Dec.	21 22	Saturday and Sunday

12. Quaid-e-Azam's
Birthday & Christmas Dec. 25 Wednesday

The policy for observance of holidays in the future will be the inclusion of Government of Pakistan (Central) holidays and the following six additional holidays:

1. New Years's Day
2. Good Friday
3. American Independence Day
4. Durga Puja (Pijoya Dashami)
5. Shab-e-Barat
6. Thanksgiving Day

If the Government of Pakistan (Central) declares any of the six above holidays as a Government holiday it will be included in the Government of Pakistan list but no extra holiday will be allowed in lieu of any of the six holidays. The Laboratory will follow the Central Government of Pakistan directives for holidays; in other words, if the Central Government declares Monday in lieu of Sunday, the Laboratory will follow the same. The Government of East Pakistan or the American Consulate General holidays aside from the above holidays will not be observed.

As a special case this year, Jamat-ul-wida on December 20 will be a holiday for the Laboratory in lieu of Washington's Birthday which falls on February 22 (already observed by CRL as a holiday). In future Washington's Birthday will not be observed as a holiday.

All personnel other than those necessary for security, communications or other essential services will be excused from duty on the holidays listed above.

If a holiday falls on an employee's off day, no compensatory leave or overtime will be given for such a holiday.

This Circular supersedes the previous policies regarding holidays.

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

CRL CIRCULAR PERSONNEL MANAGEMENT NO. 12

June 27, 1968

CRL CIRCULAR

To : All PSCRL Staff

From : W. Kendrick Hare, M.D.
Acting Director, PSCRL

Subject : COMPENSATORY LEAVE

With effect from July 1, 1968 paragraph 7.1:f of CRL Personnel Regulations on "Compensatory Leave" in lieu of overtime performed is amended to read as follows:

7.1:f Compensatory Leave

"A period of off-duty time, equivalent to that worked as overtime, may be granted during duty hours as compensatory leave. An employee takes compensatory leave only upon approval of his Supervisor. Records of compensatory leave accrued and taken are kept, as are other leave records, with Personnel Management Branch.

Compensatory leave earned will have to be utilised within three months from the date it is earned. Any compensatory leave not used within the three month period of its accumulation will stand lapsed and the employee shall have no claim over it. On resignation, termination or dismissal the employee will be paid for the accumulated compensatory leave.

Compensatory leave cannot be used along with annual leave.

The procedure for accural of compensatory leave will be as per para 8.4 amended on Overtime/Compensatory leave circulated vide Personnel Management Circular No. 10 dated April 3,1968."

IV.

SCIENTIFIC PROGRAM

DIRECTOR'S COMMENTS ON SCIENTIFIC PROGRAM

The scientific progress of the Laboratory has been, in the view of the Director, showing a most satisfactory growth. This is documented, in part, by the following:

Table A

Publications and Medical Meeting Presentations

Fiscal Year	Publications			Presentations at Scientific Meetings	Total
	Published	In Press	Accepted		
1961	2	-	-	-	2
1962	2	-	-	-	2
1963	5	-	-	-	5
1964	6	-	-	1	7
1965	20	-	-	9	29
1966	10	-	-	9	19
1967	13*	-	-	38	51+
1968	23*	13	5	17	58+

*This figure excludes the later publication of papers presented at meetings if copies are not received and/or verified.

Among the factors responsible for the developing scientific ability of the Laboratory is the increased sophistication of the vaccine trial program. This program now has nearly a quarter million people in rural Pakistan under daily house suveillance and is also supporting clinical investigation studies in their treatment centers, epidemiological studies in the vaccine trial population and some of the best demographic information available today on rural populations.

The achievements of the Epidemiology Section are due in part to the presence of a Section Chief who has now been in the Laboratory for nearly four years and the increased support which has been given the program during the epidemic seasons by the National Communicable Diseases Center and NIAID.

The Laboratory also has shown its capability by conducting studies on cholera patients in the Cox's Bazaar area, some 300 miles South of Dacca during the FY 1968 season when cholera patients were not available on the Dacca ward.

A further factor has been the continued excellence of the Laboratory techniques by the two support laboratories, Bacteriology and Chemistry. This excellence has enabled them to provide accurate analyses despite excessive demands on these two laboratories.

The advice provided by our consultants, both official and non-official, has been most helpful, particularly in developing programs.

Finally should be mentioned not only the ability but the loyalty and devotion of the entire Laboratory staff.

Pakistan-SEATO Cholera Research Laboratory
Dacca, East Pakistan

REPORT OF THE SIXTH MEETING OF THE TECHNICAL COMMITTEE

December 9-10, 1968

The Technical Committee met in joint session with the Directing Council, five members of the Clinical Investigation Committee and six Consultants to the PSCRL on December 9 and 10, 1968.

In attendance at the meetings were the following:

Members of the Technical Committee

Dr. Colin MacLeod
Chairman of the Technical Committee
(Vice President for Medical Affairs
The Commonwealth Fund
New York, New York, U.S.A.)

Dr. Ziaur Rahman
(Deputy Director General of Health
Government of Pakistan
Islamabad, West Pakistan)

Dr. James W. Howie
(Director, Public Health Laboratory Service
London, England)

In addition to the members of the Technical Committee, the following persons were in attendance at the sessions on both days:

Member-designates of and representative to the Directing Council

Professor Robert Cruickshank
Chairman of the Directing Council
(University of Edinburgh
Edinburgh, Scotland)

Dr. Mohammed Asiruddin
Vice-Chairman of the Directing Council
(Director of Health Services
Government of East Pakistan
Dacca, East Pakistan)

Dr. Jean F. Rogier
(Chief Public Health Advisor
U.S. Agency for International Development, Dacca
Dacca, East Pakistan)

Dr. John R. Seal
(Director of Intramural Research and
Chairman of the NIH Cholera Advisory Committee
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Bethesda, Maryland, U.S.A.)

Mr. David A. Wraight
(Deputy Secretary General
South-East Asia Treaty Organization
Bangkok, Thailand)

Dr. Robert A. Phillips, Director
Pakistan-SEATO Cholera Research Laboratory
Dacca, East Pakistan

Dr. W. Kendrick Hare, Deputy Director
Pakistan-SEATO Cholera Research Laboratory
Dacca, East Pakistan

Members of the Clinical Investigation Committee

Dr. Nazir Ahmed
(Joint Secretary of Health
Government of West Pakistan
Lahore, West Pakistan)

Dr. A. K. Shamsuddin Ahmed
(Director, Institute of Diseases of the
Chest and Hospital
Government of East Pakistan
Dacca, East Pakistan)

Dr. Graham Bull
(Director, Clinical Research Centre of the
Medical Research Council
London, England)

Prof. D. A. K. Black
(Chairman, Department of Medicine
University of Manchester
Manchester, England)

Dr. Stanley E. Bradley
(Director, Medical Service
Columbia University College of Physicians and Surgeons
Presbyterian Hospital
New York, New York, U.S.A.)

Consultants

Dr. K. A. Monsur
(Director, Institute of Public Health
Government of East Pakistan
Dacca, East Pakistan)

Prof. W. E. van Heyningen
(St. Cross College, University of Oxford
Oxford, England)

Prof. Joel Mandelstam
(Dept. of Biochemistry, University of Oxford
Oxford, England)

Dr. A. H. G. Love
Senior Lecturer in Medicine
Queen's University of Belfast
Institute of Clinical Science
Northern Ireland)

Dr. Alexander Langmuir
(Chief, Epidemiology Section
National Communicable Disease Center
Atlanta, Georgia, U.S.A.)

Dr. A. L. Furniss
(Public Health Laboratory
Kent, England)

The Technical Committee is grateful for the assistance of all these men and for their continuing interest in the work of the Laboratory. The excellent cooperation of the Director and his staff made our review both pleasant and profitable.

We wish to compliment the Section Chiefs and their associates on their reports and presentations, as well as the conciseness and clarity of the protocols they submitted. We should also note that their resources are severely strained at this time because of the major epidemic outbursts both in Dacca and in the Matlab Bazaar area.

It is the consensus of the Technical Committee that a joint session has many advantages as compared to separate meetings of the three Committees held at different times. It is recommended, therefore, that this format be followed for the next annual meeting of the Technical Committee, the Directing Council and the Clinical Investigation Committee.

Since the meeting of the Technical Committee one year ago there has been gratifying development in most aspects of the work of the Laboratory. While there has been improvement in some of the physical facilities, certain major deficiencies continue to hamper development of the research program. Of these, the most important pertain to inadequate housing of essential research components, the inadequate and inconstant supply of electric power which has been noted frequently in the past, and the lack of a central supply of hot water, also noted repeatedly in previous reports.

We recommend that early attention be given to the inadequacy of the ward space which is grossly insufficient to accommodate the large number of patients who must be cared for. In addition, the laundry is too close to the ward and should be moved elsewhere so that this space can be set aside for a clinical study area. Laboratory space in all areas fails by far to meet the current needs and the need for expanded library stack space in acute. There has been some improvement in the Animal House but it still falls far short of the requirements of the present research program and prevents extension of research into areas the Committee believes are important for more rapid and effective development of knowledge of cholera.

Compounding the problems caused by insufficient and inadequate space are those created by the deficiencies in the electric power supply. It is essential for effective research work in this climate that working spaces, including the animal quarters, be ventilated and cooled. There is also the requirement for the operation of Laboratory equipment that a stable source of electric power is available. Surveys of the needs have been made over the past few years on more than one occasion, but little has been done in a constructive way. It is recommended that provision of an efficient and stable power supply be given a high priority in the plans for the immediate future.

Similarly, provision of an adequate supply of hot water is long overdue. We recommend, therefore, that this be given immediate attention.

There are other problems of facilities which affect the research program that require early attention, such as a waste disposal system, especially an incinerator for the Animal House, and better transport for patients and supplies, both in Dacca and Matlab and between these places. However, the Technical Committee agrees with the Director and the Deputy Director that the first three sets of items (housing requirements, electric power and hot water) in that order, should receive priority.

Despite the curtailment of research potential caused by inadequate facilities, excellent progress has been made. In large measure this has been due to the high morale of the staff and is a tribute to Dr. Phillips and Dr. Hare.

One of the most significant scientific and public health achievements has been the demonstration of the effectiveness of oral therapy of cholera, both in the ward at PSCRL and subsequently at the cottage hospital in the Matlab Rural Health Center. This development augurs well for the wide extension of effective therapy through areas of this and other countries afflicted by cholera and at a much more modest cost in terms of personnel and material than present methods which rely almost exclusively on parenteral administration of water and electrolytes.

It is recommended that training in clinical management of cholera be offered to about 100 Pakistani doctors and nurses during the next year. They should attend for instruction in groups of two or three, or in whatever numbers may be convenient.

In the difficult task of evaluating antibacterial vaccines in natural conditions, the early results obtained during the present severe epidemic on the protective effect of the purified Inaba lipopolysaccharide antigen and the monovalent Inaba whole cell bacterial vaccine are encouraging. It seems likely that research has now reached the point where purified antigens can be employed, hopefully in adjuvant-containing preparations, so that the immune response can be heightened and prolonged.

The Technical Committee is impressed with the increasing evidence for the role of an exotoxin of the cholera vibrio in the production of the severe diarrhea which is the chief manifestation of this disease. The Committee recommends that work on the diarrhea-producing toxin be pushed forward with all possible vigor both in PSCRL and in laboratories in the United States and elsewhere. The aims are to elucidate the action of the toxin in changing the permeability of the gut and to determine whether antitoxic immunity will prevent these manifestations of the disease. If the latter is the case, which seems likely, the use of a toxoid, alone or in combination with bacterial antigens, should be considered for human immunization.

In our report FY 67, the Technical Committee noted that future planning for PSCRL should be undertaken on a long term basis of at least ten years. We see no reason to modify this estimate at this time, although we recognize that the pace of scientific advance is increasing rapidly with each passing year. There is, however, an inevitable time-lag between discovery and application. It is to be hoped that this lag can be shortened, especially on the immunological side.

EPIDEMIOLOGY SECTION

1. Vaccine Field Evaluations

During the 1967-68 season the incidence of cholera in the vaccine field trial area in Matlab Thana was too low to permit a definitive test. That such "lean" years might be expected has long been recognized and justifies the necessity for planning the development and evaluation of cholera vaccines over a 10-year period or longer.

During the 1968-69 season, cholera has become epidemic. The incidence in the expanded study populations is already sufficient to ensure statistically significant results. In this new test population it is highly probable that definitive answers will be provided regarding the effectiveness of monovalent whole cell Inaba vaccine and the purified Inaba vaccine. It is also likely that the presence or absence of heterologous cross immunity of monovalent Ogawa whole cell vaccine will be tested. Unless the incidence of Ogawa cholera increases, there will be no opportunity to test protection against this serotype. In the old test areas an excellent evaluation of the duration of effectiveness of standard commercial vaccine with annual booster inoculations can be anticipated.

During the 1969-70 season, it is recommended that consideration should be given to booster inoculations of homologous monovalent whole bacterial vaccines be given to the two test groups that received these vaccines in the fall of 1968. The group which received the purified Inaba vaccine should be observed without additional antigenic stimulus in order to determine duration of immunity. The control group should be continued.

A special problem is presented by the old test area which has now been under observation for three consecutive years. It will not be a favourable area in which to test a new vaccine in 1969-70, but by the season of 1970-71, it is estimated that approximately 20,000 children under 5 years of age will have been added into the population through new births. This susceptible group will be an ideal one for a controlled study. Certain types of new vaccines, for example, a toxoid, might be tested on all age groups.

It is recommended, therefore, that immediate steps be taken to ensure the availability of new vaccines for a major field test during the season of 1970-71. The two types of vaccine which now seem most promising are:

1) A bivalent vaccine containing purified Ogawa and Inaba bacterial antigens possibly with an appropriate adjuvant.

2) A toxoid.

2. Serological Studies

The microtiter vibriocidal test continues to be a most valuable tool for epidemiological studies. During the 1967-68 season the low incidence of cholera served to verify the specificity of this technique. Essentially no antibody responses where detected in the extensive population studies conducted in Dacca and Matlab indicating that nonspecific stimuli of vibriocidal antibody were not occurring.

In accordance with the recommendations of the Technical Committee, December 1967, plans have been developed for "a series of carefully selected immunity surveys in representative areas of Pakistan, other SEATO countries, the Middle East, and elsewhere". In view of the heavy demands on the serological laboratory resulting from the present cholera epidemic, it is recommended that these planned serological surveys be postponed until a later date.

Quantitative studies of the neutralization of various lots of cholera toxin have been undertaken using rabbit loops and the skin test. Some evidence supports the view that these two assay systems measure the same antigen-antibody reaction. If further experiments confirm this conclusion, the rabbit skin test will become a valuable tool for further research study, both for characterizing and purifying the cholera toxin and for studying the prevalence of antitoxin in the population. It is recommended that these studies be pursued with high priority, both in the laboratory and the field.

3. Field Epidemiology

The studies of inapparent infection with the cholera vibrio have been greatly expanded in the Matlab study areas. Monthly blood specimens were collected from a systematic sample of 1,000 children in the study area during the "lean" season of 1967-68. During the present epidemic, monthly blood specimens, plus biweekly rectal swabs are being collected from a fresh sample of 1,000 children. These studies should clearly define the frequency with which inapparent infection occurs and the relative value of rectal swabs and repeated serum antibody tests for detecting such infections. It is recommended that these epidemiological tools continue to be used and sharpened for appropriate future field studies.

The recognition of El Tor cholera in Chittagong during the Summer of 1968 led to a number of limited field studies which revealed the much more widespread occurrence of this infection than had been realized. In the Fall of 1968 classical cholera also appeared in this city while the field studies were underway. Thus a unique opportunity has been presented for a descriptive field study of these two biotypes of cholera occurring in the same city concurrently. The co-operation of the District Health authorities and the faculty of the Chittagong Medical College has been excellent.

A study of past records in Chittagong suggests that cholera reoccurs annually with a peak incidence in the late Winter and Spring months - more compatible with the pattern of Calcutta than of Dacca. It is recommended that the limited field studies in Chittagong be continued to their logical conclusion commensurate with other priorities and obligations of PSCRL. It is quite possible that Chittagong may provide a source of cases for clinical and epidemiological study at times when such cases may not be accessible in Dacca or Matlab.

4. Demographic Studies

The vaccine study population in Matlab has grown to include a total of 230,000 persons who are kept under close scrutiny in order to ensure that no cases of cholera occur without receiving the benefit of modern treatment. As a pure by-product of the vaccine trials, the population data are of considerable demographic interest, such as:

1) Descriptive demography. The birth and death rates and in and out migration rates are determined with precision. A marked seasonal variation in the birth rate has been observed. Age specific fatality rates can be extracted by simple machine tabulation from the already punched vaccine records.

2) Maternal mortality. The PSCRL collaborated with the East Pakistan Research and Evaluation Center by making accessible records of all deaths among women in the child-bearing ages. These were subjected to a follow-up field investigation by an obstetrician assigned from EPREC. A maternal mortality of 7 per 1,000 was determined. This was considerably lower than comparable rates based on hospitalized patients. Eclampsia was the commonest cause of death among primiparas, but rarely occurred among multiparas.

It is recommended, provided the studies have the full support of the Government of Pakistan and AID/Pakistan, that the PSCRL continue to collaborate with appropriate agencies in the conduct of studies related to demography and reproductive physiology and provided also that they in no way limit or restrict the primary mission of the Laboratory.

5. Organization

In the Technical Committee Report of December 1967, a recommendation was made that "at least one additional epidemiologist" be added to the staff of PSCRL. In view of the highly productive epidemiology program and the many opportunities for effective contributions to the control of cholera that must be passed up for want of sufficient staff, it is recommended that, if possible, this additional epidemiologist be made available by the Summer of 1969.

ANIMAL RESOURCES SECTION

Animal House

Although considerably improved in the last two years, the facilities are still poor and cannot fulfil the need for a reasonable supply of animals of high quality for the many experimental programs. As was stated in our report for FY 67, "the present building, already over-strained, needs improvement in lighting, ventilation, vermin-proofing, sterilization, arrangements for preparing animal food, and the supply of cages for animals". To this list, we should add hot water for washing cages, air conditioning and an incinerator for dead animals.

When the godown to house supplies and maintenance is completed, some space in the Animal House will be released. When this occurs, steps should be taken promptly to put the Animal House in order. Failure to do this will continue the large waste of money and the time of scientists long known to be caused by poor animals in short supply.

The animal house provides all the mice that are needed, and an adequate supply of rats is on hand. There is a shortage of rabbits, because of a shortage of cages and racks. The rabbits are affected by coccidiosis, which presumably can be got rid of only by disposing of the entire rabbit stock and providing rust-free racks and cages which could be properly cleaned, and by rendering the building vermin-proof. Food preparation would also have to be controlled.

Cage washing is a serious problem without hot water and unless cages can be well cleaned it is impossible to establish the needed hygienic conditions.

Purification of Enterotoxin

It is strongly recommended that plans to purify the toxin from stools be abandoned. This is an exceptionally difficult project and in any case the Committee is not convinced of its desirability.

Preservation of Toxin-Containing Stools

This is desirable but because the properties decline on standing, perhaps due to the presence of proteolytic enzymes, freeze-drying on a fairly large scale should be considered.

The Toxin-Inhibiting Factor From Rat Intestinal Washes

This is a potentially important phenomenon and needs confirmation. It is also important to confirm the presence of an inhibitor in normal serum, to survey several species of animals, to determine whether the inhibitor in intestinal washings and serum is the same and to compare the relative potencies.

Assay of Toxin

The first priority is the confirmation and extension of the work reported by Dr. Mosley in which it was shown by titrations of different samples of toxin against different samples of antisera that the same end points were obtained whether the intestinal loop or the skin test was used as an indicator of the presence of toxin. If the skin toxin and the "loop" toxin are the same, the use of the loop assay can be reduced for toxin assay purposes. All toxin assays should be done by titrating toxin against antitoxin, using the reaction in the loop or the skin (we hope the latter) as a qualitative indication of toxin excess. Recent studies appear to show that Evans blue may be capable of "neutralizing" cholera toxin in the gut assay system (Animal Resources).

Studies on cholera toxins, particularly that active in the intestine (fluid accumulating factor, loop toxin) need to be put on a rational basis at an early date if progress is to be speeded. We recommend that a provisional Antitoxin Unit should be set up with the view to reaching international agreement as soon as possible. Test doses of toxin could then be established and communication between different workers made more coherent. It is not recommended, however, that this be the responsibility of PSCRL.

CLINICAL INVESTIGATION SECTION

In last year's report the long term objectives of this section were listed and it is convenient to consider the progress and the forward program under the same three headings.

1. "The development of an oral regime of therapy which will be at least as effective as the present intravenous one ..."

It is a pleasure to note that substantial progress has been made in this direction and that ongoing studies promise still further improvement.

During the current year it has been shown (CI/P4) that the oral regime studied earlier under close laboratory control can be used in the field for treating mild cases without intravenous therapy and when used in conjunction with intravenous therapy can reduce substantially the volumes of intravenous fluid required.

Studies presently in progress which were reported verbally (CI/P4.2) suggest that the addition of glycine to the oral regime may further enhance sodium absorption and this, together with some reduction in Na concentration in the mixture, may reduce stooling rate.

Other studies only very recently commenced, which do not appear in protocols, indicate still further possible lines of progress. In the first study preliminary observations suggest that kaolin administration can reduce stooling rate in patients and prevent fluid accumilation in animal gut loops challenged with toxin.

2. "The development of a form of treatment which will specifically reverse the disturbance ... (which) would be based on an understanding of the mode of action of cholera toxin"

There has been progress in this field and in particular the year has brought further evidence (CI/P1 and 2) reinforcing earlier studies from this Laboratory which suggest that the principal disturbance is one of transport of Na from the gut lumen to plasma.

This is at variance with animal experiments carried out in other laboratories by different methods which suggest that the primary defect is one of increased movement of Na into the gut lumen.

These differences may be due to non-concordance of the animal model with the disease in man or to various methodological factors.

The matter must still be regarded as sub judice but proposed work shown in CI/P2 (revised) and CI/P28 should resolve certain issues. However, the present approach based as it is on the study of short segments of intestine will have to be supplemented by studies of the whole gastro-intestinal tract if a clear picture is to be obtained.

It has been observed (CI/P5) that the choleric stool in children has a lower content of sodium (90 mEq/L compared with 140 mEq/L). This confirms previous observations and has the practical implication that replacement solutions based on the composition of the adult cholera stool may be inappropriate for use in children. Hypokalemia has indeed been observed in 7 children during treatment with 5:4:1 solution.

Studies are in progress (CI/P31) on the age at which this pattern of stool composition merges into the adult pattern. Preliminary results suggest that the change takes place around puberty but the age factor has not yet been identified as the sole correlate of the change which might equally be related to nutritional status or body size.

With recovery, the electrolyte composition of the stool in children approaches but does not reach the adult composition. This suggests that rate of stooling may be a factor. Studies were proposed (CI/P30) to explore this factor by observing the stooling rate and electrolyte composition of stools in children developing cholera while under observation as family contacts of established cases. It was also proposed (CI/P5) to study the effect of dehydration on gut volume and stool composition by allowing children with cholera, after initial rehydration, to become once more dehydrated to a limited extent (specific gravity of plasma approaching 1.032) while observations were made. This proposal was criticised and it was suggested that similar information might be obtained by other means such as:

a. Bulk infusion into the caecum of volunteers.
b. Further analysis of existing data (CI/P5).

A further approach under consideration is the use of spironolactone to see whether the high K/Na ratio of the child's stool in cholera is related to aldosterone activity.

Other studies are in progress on gastric acidity in patients with cholera and in family contacts (CI/P37). Regulation of the osmolality of intestinal contents in the dog (CI/P29) is also under investigation.

3. "Information on the mechanisms of immunity ... "

The role of humoral immunity in cholera is far from clear. Nevertheless it may be assumed to be involved in some way, for the current vaccine trials have shown significant albeit short-lived protection.

Further evidence on immunity is being sought in the intestinal contents and in particular the presence of immunoglobulins in this site (CI/P9-13 ((1967)) now incorporated in CI/P8 ((1968))). Despite the difficulties arising from proteolysis in the intestine it has been shown that IgA is regularly present in cholera stool and jejunal aspirates. Moreover, although with more difficulty, IgG and IgM have also been demonstrated.

Ongoing studies in the 1968 protocols using more refined immunological methods should throw more light on this difficult problem.

4. Miscellaneous

Other studies designed to elucidate specific problems include:

CI/ P20. Studies of Na acetate as a replacement for bicarbonate or lactate in repair solutions have been carried out and a short publication already submitted. Considerable further data have been and are being collected during this cholera season which will have to be analysed. It would seem, however, that the material is safe and may well have the advantage of producing less overswing to alkalosis when given over prolonged periods than Na bicarbonate-containing solutions.

CI/P36. is a bacteriological study designed to elucidate certain problems in connection with non-cholera diarrhoeas. It came under criticism on technical grounds and it is recommended that it should not be given high priority.

CI/P23 is an important study continued this year in which massive doses of phage were administered to cholera patients. It has shown that phage is capable of massive lowering of vibrio counts in stool and of reducing stooling rate. However it often proved possible to culture vibrio from mucus. Also cessation of phage administration was often followed by a remultiplication of vibrio and a return of diarrhoea. It is now clear that this is not a practicable form of treatment but it may prove to be a useful tool for the study of some aspects of cholera.

The possibility of mounting a long term follow up of recovered cholera patients was discussed.

BACTERIOLOGY SECTION

The Bacteriology Laboratory provides support and service but does not initiate investigations. Unless an experienced investigator is found who would be willing to give two or more years' service in the Laboratory, this position will have to be accepted, but if the following five points were also accepted it would enable and encourage the Laboratory to provide better support and service.

1. Physical alterations of structure and layout to provide a better work flow should continue to proceed according to plans drawn up with the advice of Dr. Furniss, a visiting Consultant from the Public Health Laboratory Service, Maidstone, Kent, who has been at the Laboratory September to December 1968. This work would need to be put under the personal care and responsibility of some senior person - either a member of staff or visiting consultant. This will implement recommendation in the Report of the Technical Committee of November 1967.

2. Procedures for examining and reporting routine specimens should be adopted according to the scheme outlined by Dr. Furniss in agreement with Dr. Phillips and with the staff of the Laboratory and those who use it. This will eliminate some work of little value, upgrade much other work, save time, improve the sense of reality, and remove the temptation to reduce standards in order to meet excessive requirements.

3. Investigations and projects requiring Laboratory support should not be initiated without discussion and agreement among all concerned, including Dr. Phillips and the Laboratory staff. The Laboratory staff need to be protected from their own desire to acquiesce with all requests made to them. They cannot meet all the requests and maintain standards. When requests need critical assessment, visiting consultants should be asked for advice. The present work load is running at 1,400 specimens a day. This is about twice the normal work load (which is still very great) and about half the work load to be expected at the height of an epidemic.

4. Visiting consultants should be encouraged to maintain contacts with the Laboratory by periodic visits, by receiving workers from Dacca for acquisition of particular techniques, and by exchanges of material and ideas.

5. The Laboratory staff, with the advice and support of their visiting consultants, should develop certain aspects of their routine to a level where it makes a contribution to new knowledge of cholera. For example:

   a. Are freshly isolated cholera vibrios equally toxigenic? The strain can be characterized biologically at PSCRL and sent to the U. S. or England to measure toxigenicity.

   b. What patterns may be identified among vibrios similar to those identified among other organisms by colicines and pyocines?

   c. What shigellas, salmonellas and enteropathogenic E:coli are found in non-vibrio cholera?

d. What patterns of antibiotic resistance are seen among cholera vibrio and other enterobacteria involved in causing urinary tract and other infections in Dacca?

Such work would raise morale and give the Laboratory staff a much-needed sense of contributing more personally to the investigative effort.

The Committee wishes to commend the staff of the Bacteriology laboratory on its performance under very demanding conditions.

CHEMISTRY SECTION

Although the Chemistry Section has been in existence only a little more than two years, it has grown from a group of a few research and water chemistry technicians into a substantial corps of well-trained men of first class technical ability.

The chemical analyses which support the various clinical investigators are of very high quality. The group is supervised by two men who have the ability to set up new techniques, train new technicians and critically evaluate results. During the cholera season it becomes difficult to cover both emergency and experimental analyses round-the-clock. The heavy load is part of the excitement and challenge of the cholera season and it is not considered desirable to increase the number of technicians unless the work-load is greatly increased. Fortunately, the preparation of intravenous fluids has now been moved from this section.

The work performed by the Laboratory, outside of the ordinary clinical analyses, depends largely on the demand of the clinical investigators.

The equipment available is adequate. The needs are largely maintenance and spare parts. New laboratory furniture, which was needed, is being installed. The worst defect in the laboratories in the impossibility of keeping them clean during the dry season and dry during the wet season. Correction of these annoyances depends on sealing windows and doors, repairing roofs, and doing something to the rough cement floor and walls (such as tiling).

In summary, the laboratory is doing its job well and has no major needs for the coming year except physical rehabilitation. We wish to congratulate Dr. Ruth Hare on the remarkable improvements that have been made in all aspects of the Chemistry Section's work during the past two years.

Signed by members of the
Technical Committee

(Dr. Colin M. Macleod)
Chairman

(Dr. Ziaur Rahman)

(Dr. James W. Howie)

on 11th December, 1968 in Dacca, East Pakistan

Copy of the

REPORT ON THE BACTERIOLOGY LABORATORY

Dr. A. L. Furniss
Public Health Laboratory Service
Maidstone, Kent

September-December 1968

As a routine diagnostic Laboratory the Bacteriology Section is doing excellent work under difficult conditions. Details of workload, space and staff are given in Appendix 1. Much, however, could be done to improve the efficiency of the work. Alterations that could be made in the Laboratory to provide a more economic use of space with a better work-flow are appended as a separate report ("Outline Report on Suggested Laboratory Alterations").

The routine work of the Laboratory suffers from unregulated demands and pressures from all users of the Laboratory. The work-load has recently increased greatly and, although there is no evidence that this has happened, there is a danger that the quality of the work might suffer for the sake of quantity. There is often considerable pressure to undertake investigations which are foolish or unnecessary - for example to identify individual species in what is simply a commensal flora. This wastes time, and it may lead to bad reporting in the sense that some of the "identifications" are based on insufficient characterization. The bacteriology Laboratory badly needs protection from the demands of its users and from its own willingness to please everyone by doing just as it is asked. This protection is necessary in order that it may give the best service.

Methods of reporting have already been discussed and the Laboratory should be encouraged to keep to such a standard scheme as in Appendix 2.

No research project involving bacteriological work should be commenced without open discussion involving not only the staff of the bacteriology Laboratory but also all investigators whose projects depend in any way on the work of the bacteriology staff. Although most of the time of the Laboratory staff is occupied with supprting work, there is no reason why they should be discouraged from original bacteriological work. In fact, applied investigation of Laboratory procedures is essential for both efficiency and morale. If a medically-qualified bacteriologist could be found who was keen to undertake bacteriological research work in Dacca for a substantial period - say one year at least - he should come for a preliminary period of a few weeks to see the situation and let himself be seen. For the present, however, I recommend that I should return for short periods of a week or two which could enable me to help in the alterations to the Laboratory and provide a better basis for liaison with the Public Health Laboratory Service and with Colindale and Maidstone in particular. For domestic reasons, I cannot undertake a two or three-year stay in Dacca.

APPENDIX I

Copy of

PSCRL BACTERIOLOGY LABORATORY

WORK AND RESOURCES REPORT

December 1968

1. WORK

Currently at the rate of about 1,400 specimens a day from nine sources:

(i) Chittagong El Tor Project (Dr. Kenneth J. Bart)
Latrine surveillance 375-400 specimens a day for cholera only.

(ii) Matlab Surveillance - Vaccine Trial
(Dr. W. H. Mosley)
A variable number but an average of about 100 rectal swabs a day for cholera only.

(iii) Matlab - Study of Inapparent Infection
560 rectal swabs a day for cholera only.

(iv) Matlab - Routine Hospital Specimens
Stool and rectal swabs mainly, for salmonella, shigella, and other specific intestinal pathogens, 50-60 day.

(v) Rayer Bazar
Community study and latrine surveillance, 170-200 a day for cholera only - stopped a week before date of this report, on December 6, 1968.

(vi) Specimens (rectal swabs) from PSCRL Ward for All Pathogens
Now about 50 patients in ward - build up expected to be rapid from now. Other specimens of all kinds average about 25-30 a day.

(vii) Purgation Study - PSCRL Ward
20-40 rectal swabs a day for cholera only.

(viii) Study of Jejunal Flora - Intubation of patients with diarrhea (Dr. R. S. Northrup)
Six specimens a day at present. Requests made for increase. If less than 5 specimens are received they are examined quantitatively (a serial dilution in broth and plating on selective media) for E. coli, klebsiellas, streptococci, micrococci, and other organisms, including anaerobes. If more than 5 specimens are received they are examined for cholera only.

(ix) Family study in Dacca
About 20-25 rectal swabs a day for the presence of vibrios only.

2. SPACE

	Sq. ft.
Laboratory 1	400
" 2	400
" 3	200
Media making, plate pouring & media storage	400
Wash-up room	400
	1800 sq.ft.

Autoclaves, hot-air ovens and large incubator in corridors outside.

3. STAFF

1. Mr. Imdadul Huq, M.Sc., Dip.Bact.
Section Chief

2. Mr. Chittaranjan Dey, M.Sc., Dip.Bact.
Senior Research Assistant

3. Mr. A. F. Raisur Rahman, M.Sc.
Senior Research Assistant

4. Mrs. Akhtari Alam, M.Sc.
Senior Research Assistant

5. Mr. Ahmadul Huq, M.Sc.
Research Assistant

6. Mr. P. K. Bose Neogi, B.Sc.
Senior Research Assistant
(on loan to Dr. Northrup)

7-11. Five Research Technicians

12-27. Sixteen laboratory technicians

28-29. Twelve laboratory attendants

(Of these, 4 are employed at Matlab and 3 at Chittagong)

A shift system. (3 shifts) operates from 7:30 a.m. to 10 p.m.

---

6 December, 1968.

(Signed)
J. W. Howie

SCHEME FOR BACTERIOLOGY REPORTS

Blood Cultures:

Positive cultures will be reported as soon as possible. A final negative report will be sent after 15 days' incubation.

Probable contaminants such as micrococci, 'achromobacter' and Staph albus will not be investigated in detail; it will be assumed that further repeated cultures will be sent to the Laboratory if septicaemia is still suspected.

Throat Swabs:

Group A Beta-haemolytic streptococci will be reported as Strep pyogenes, other Beta-haemolytic streptococci will not be grouped, but will be reported as such.

Antibiotic sensitivities will not be reported. All such streptococci are penicillin-sensitive.

Sputum:

Sputum will be examined by direct film but will not be cultured for mycobacteria.

Strept. pneumoniae and Haemophilus influenzae will be reported if present, but without antibiotic sensitivities.

A heavy and predominant growth of Staph. aureus will be reported with sensitivities. The occasional colony of Staph. aureus or Candida albicans will not be considered significant.

Enterobacteraceae will not be reported because of their doubtful aetiological significance.

Otherwise the report will be: commensal flora only.

Urines:

It is impossible to provide a satisfactory bacteriological report on a specimen of urine unless it has been correctly collected with aseptic technique into a sterile container and sent immediately to the Laboratory. Any delay may make bacteriological examination useless because of the rapid multiplication of any contaminating organisms.

Any mixed growth will be reported as contaminants. It will be assumed that further clean specimens will be sent to the Laboratory.

No antibiotic sensitivity tests will be carried out on organisms not considered aetiologically significant. For this purpose the recognised standard of a count of 10^5 organisms per ml. urine will be used. Below this figure the report will be in the form: No significant growth.

Counts will not be reported.

Faeces and Rectal Swabs:

Apart from vibrios, salmonellae and shigellae will be the only organisms routinely reported.

Antibiotic Sensitivities:

An organism will be reported as 'sensitive' or 'resistant' to the appropriate antibiotic. Minimal inhibitory concentrations of antibiotics will not be reported.

Copy of

OUTLINE REPORT ON SUGGESTED LABORATORY ALTERATIONS*

1. "Dirty" autoclave. The autoclave for sterilizing all discarded cultures, etc. should be situated at the end of the verandah outside the latrines and kept for this purpose.

2. Washing-up room (117-8). The present sinks are too deep and clumsy. Two sets of 3 sinks, one in the middle of the wall next to the latrines and one in the centre under the windows, should be installed. They need to be only 9"-12" deep. 'Draining board' benches should be on either side of the set of sinks. This room becomes terribly hot and adequate ventilation is essential.

3. Media Room (115-6). To complete the improvements the following are still needed: laminated plastic top to bench along the wall of 116 - this bench to run right up to the window. Laminated plastic topped bench down the centre. Cooling mechanism for plate pouring room.

4. Cold Room. To be constructed between 115 and 114 in space now prepared with shelves parallel with wall.

5. Laminated plastic tops for benches in rooms 113 and 114.

6. Door or archway to be constructed between 113 and 112 next to the verandah.

7. Laminated plastic tops for benches in room 112 and 111.

8. Construction of centre bench from window with laminated plastic top fitted with gas and electric points.

9. Door or archway to be constructed between 111 and 110 next to the verandah.

10. Partition between 109 and 110 completely separating them into two rooms.

11. Construction of bench along this partition.

12. Laminated plastic tops for benches in 110.

13. Angle-poise lamps to be fitted to all working benches.

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*Full details and sketch plan will be left with the Deputy Director (Dr. Kendrick Hare). The numbers refer to the rooms so identified in the sketch plan.

CLEANING

It is also the aim that the Laboratory should be more easily cleanable and less liable to accumulations of dust, so that dust-collecting surfaces should be avoided as far as possible, and all walls should be washable.

There should be enough cupboard space so that nothing is kept on the floor. Regular cleaning by the Laboratory staff can then more easily be carried out.

V.

RENEWALS OF AGREEMENTS AND PROGRAM

United States Government
Department of Health, Education, and Welfare
Public Health Service - National Institutes of Health

An Agreement Providing for the Conduct of Research
Under Section 104 (k) of Public Law 480, 83rd Congress

Agreement No. 196802
Amendment No. 5

Parties to the Agreement:

1. The National Institutes of Health, Bethesda, Md., 20014, U. S. A.

2. Pakistan-SEATO Cholera Research Laboratory, Dacca, East Pakistan.

Purpose or Descriptive Title of Work to be Carried Out:

To develop, improve, and demonstrate measures for the prevention and eventual eradication of cholera.

Effective Period of the Agreement: June 30, 1967 to June 29, 1968

Funds to be provided during Period of Agreement: 3,901,200 Pakistan rupees

$95,500 Dollars U.S.

National Institutes of Health

Project Officer Margaret Pittman, Ph.D.

Laboratory & Institute: Chief, Laboratory of Bacterial Products, Division of Biologics Standards

Collaborating Institution

Pakistan-SEATO Cholera Research Laboratory
(Name of Institution)

Dacca, East Pakistan
(Address)

Dr. Robert A. Phillips
(Name of Principal Investigator)

Title: Director, Pakistan-SEATO Cholera Research Laboratory

Authorizing
NIH Official James A. Shannon, M.D.
Director, NIH

Address where work will be performed:
Pakistan-SEATO Cholera Research Labora
Dacca, East Pakistan

Payee or Financial
Officer Director, CRL

Authorizing
Official Dr. Robert A. Phillips
Director, Pakistan-SEATO
Cholera Research Laborator

Validating Signatures will appear at the end of the Agreement

Agreement No. 196802
Amendment No. 5

United States Government
Department of Health, Education, and Welfare
Public Health Service -- National Institutes of Health

An Agreement Providing for the Conduct of Research
Under Section 104(k) of Public Law 480, 83rd Congress

This Amendment to the Research Agreement is entered into between the National Institutes of Health of the Public Health Service, Department of Health, Education, and Welfare, United States of America, hereinafter referred to as "the NIH" and the Pakistan-SEATO Cholera Research Laboratory, Dacca, East Pakistan, hereinafter referred to as "the Cholera Research Laboratory," or "CRL".

This Amendment consists of Sections I through V, a signature page, and a cover sheet. It is authorized and executed under the respective authorities granted to the NIH and the Cholera Research Laboratory.

The parties to the Amendment mutually agree as follows:

Section I

General Understanding

1. It is the intent of the parties to this Amendment to provide for the conduct of the research and related activities set forth in Section II below as being of mutual interest to both parties in the advancement of their respective scientific and health objectives.

2. The NIH agrees to make payment in local currency to an amount not to exceed 3,901,200 Pakistan rupees for the performance of this research by the Cholera Research Laboratory to be paid as provided for hereinafter. In addition, the NIH will provide $95,500 U.S. as identified in the budget plan, Section IV. The Cholera Research Laboratory agrees to carry out the research activities set forth in Section II in accordance with the terms and conditions hereinafter specified, and to accept payment in the amount and type of currency specified.

Section II

Objectives and Description of Work to be Performed

1. Objectives: To determine the pathogenesis of cholera and to develop and improve and demonstrate measures for the prevention and eventual eradication of cholera.

2. Description of Research Plan: The epidemiology of cholera in East Pakistan, a highly endemic area for this disease, will be investigated intensively and will also be studied elsewhere as opportunities occur. The ecology of the cholera vibrio, insofar as it may exist in water or other media outside the human host, will be studied. Clinical studies directed toward a better understanding of the host-parasite relationship in acute cholera will be undertaken, as well as physiological studies of patients using all available clinical techniques. Attempts will be made to elucidate the part played by nutrition and other factors in predisposing individuals to the disease, thus paving the way for improved methods of prevention and treatment. Means of preventing and controlling the disease will be tested; these will include controlled studies on vaccination in selected areas or population g Serological responses of vaccinees will be studied and animal models will b investigated.

3. Responsibilities of the Cholera Research Laboratory

a. To invest prudently the funds in carefully planned investigations of the type described in Section II.2 above.

b. To integrate the use of these funds with the activities of the Cholera Research Laboratory which are supported from other sources, including SEATO, the Government of Pakistan, the United Kingdom, and others as they may develop.

c. To utilize these funds, wherever practicable, in the training of worke from Pakistan, the United States, and other countries in the field of cholera research and prevention.

d. To develop field demonstration areas in which to test under scientific observation methods of cholera prevention.

e. To undertake control field tests of methods of cholera prevention.

f. To provide materials and supplies available on the local market for support of the research mentioned above and to provide salaries in rupees for locally available personnel needed for the studies, and to provide air travel and local per diem for consultants and visiting scientists wherever necessary.

g. To report not less than annually on the total activities of the Cholera Research Laboratory and on the way in which the funds from this source have been utilized.

4. Responsibilities of the National Institutes of Health

a. To review on an annual basis, or more often if indicated, the progress of the work supported with these funds.

b. To provide scientific advice and guidance.

c. To foster the cholera research program by providing administrative support, insofar as possible, in the United States.

d. To provide financial support to the General Operating Fund of the CRL and to finance that portion of the research plan of the CRL described in Section II of this Amendment.

e. To provide dollar currency in limited and specified amounts for salaries of non-Pakistani scientists who are essential to the clinical, immunological, physiological or epidemiological investigations and who are not paid by other agencies. In addition, certain dollar funds may be made available for the direct purchase by the CRL of essential equipment and supplies that cannot be purchased on the local market.

5. Changes in Respective Responsibilities or Research Plan

Since the course of any scientific investigation is not entirely predictable, on the basis of findings or other considerations, a change in approach or techniques used may be made after appropriate consultation between the Principal Investigator and the NIH Project Officer.

Section III

Period of Performance

The work described in Section II shall begin on June 30, 1967 and shall not extend beyond June 29, 1968, unless provided for by amendment to this Agreement.

Section IV

Compensation

1. It is mutually agreed that the Cholera Research Laboratory shall be paid in Pakistan rupees and, in certain specified instances, in U. S. dollars, for the cost incurred, as accepted by the NIH, in carrying out the research activities described in Section II of this Agreement. The maximum payment by the NIH to the Cholera Research Laboratory under this Agreement shall not exceed 3,901,200 Pakistan rupees and $95,500 U.S.

2. It is recognized that during the period this project is in effect official action may be taken to re-evaluate the medium of exchange within the country This will have a direct bearing upon the amount of work which can be perform with the amount of money specified in this Agreement. Therefore, should the value of the internal foreign currency fluctuate not more then ten percent, either up or down, as a result of an official re-evaluation, an appropriate adjustment in the remaining work to be performed will be worked out mutually Should the plus or minus fluctuation exceed ten percent, an appropriate adjustment in the program may be worked out mutually or either party may ca for a renegotiation of the program costs for the uncompleted portion thereof

3. Budget Plan

The Cholera Research Laboratory will be reimbursed for the costs incurred in carrying out the research activities set forth in Section II above as provided in the following summary.

LOCAL CURRENCY BUDGET FOR PERIOD 6/30/67 THROUGH 6/29/68

	Operating Fund	Research Costs
Personal Services	256000	2073200
Travel	10000	650000
Transportation	7000	60000
Rent, Communications & Utilities	9000	110000
Printing & Reproduction	5000	60000
Other Contractual Services	20000	130000
Supplies & Materials	36000	318000
Equipment	7000	150000
	350,000 Rs.	3,551,200 Rs.

GRAND TOTAL: 3,901,200

U. S. DOLLAR SUPPORT FOR PERIOD 6/30/67 THROUGH 6/29/68

Research:

Personal Services	$ 58,100
Travel	3,000
Transportation	2,900
Rent, Communications, & Utilities	800
Other Contractual Services	6,600
Supplies & Materials	5,100
Equipment	4,000

Training:

Personal Services	7,500
Travel	2,500
Other Contractual Services	3,500
Supplies & Materials	1,500

Total: $95,500 U.S.

4. Changes in Budget Plan

Any circumstances which in the opinion of the Principal Investigator or the Collaborating Institution will require a modification of more than 10 percent from each of the above estimated lettered categories of expenditure will require prior approval of the NIH Project Officer.

Section V

Method of Payment

1. Advance Payment

Upon signing of this Agreement by both parties, the NIH will make a payment to the Cholera Research Laboratory to begin this program in the amount of 3,901,200 Pakistan rupees for the period June 30, 1967 to June 29, 1968. The U.S. dollars will be advanced as required.

2. Succeeding Payments

The second payment will be made at the expiration of the period for which the first payment was made. The third payment will be made at the expiration of the period for which the second payment was made.

The Cholera Research Laboratory agrees to submit the following information to the NIH on an annual basis to coincide with the annual report for the Technical Advisory Committee and the Directing Council.

a. A brief, but descriptive, narrative progress report of the scientific aspects of the research clearly indicating significant factors with respect to progress of the work;

b. A fiscal report which will show the actual amounts of money obligated by the Cholera Research Laboratory in behalf of this Agreement;

c. A statement of the estimated financial requirements for the following period, indicating any overages or shortages available from the prior period, together with explanation of significant changes in financial requirements for specific purposes. Authorization of payment for the succeeding period will then be made based on an evaluation of this information.

3. Unexpended Balances:

The Cholera Research Laboratory agrees to return without delay any unexpended balance in this project in its possession at the end of the Agreement period or the termination of the project, whichever comes first, to the NIH without demand, subject to negotiation concerning amount required to liquidate obligations previously incurred in the performance of work under the Agreement.

Section VI

Records and Reports

1. Records

The Cholera Research Laboratory agrees to keep adequate records for documentation of progress made and status of this project as well as for preparation of reports on the scientific aspects of this program; and further agrees to keep records of obligations and expenditures, together with receipts, vouchers, correspondence, and memoranda associated with funds received and expended in carrying out the research provided for in this Agreement.

2. Reports

a. As specified in Section V-2 above, a narrative report descriptive of the progress of the work provided for under this Research Agreement will be submitted two months in advance of each payment period and in no case less than annually.

b. In addition, the Cholera Research Laboratory agrees to furnish, at the conclusion of this Agreement, a final report in a form suitable for publication, including all pertinent technical data and summarizing the work done, the results accomplished, and the conclusions drawn therefrom.

c. The Cholera Research Laboratory agrees to submit such interim reports of information on the status or progress of research under this Agreement as may be necessary in connection with special events or problems arising during the course of the work, either on its own initiative or at the request of the NIH.

d. None of these arrangements for reports shall preclude full informal exchange of correspondence or other communication between the Principal Investigator and the Project Officer at the NIH.

All reports and other communications will be transmitted in the English language, unless otherwise provided for.

3. Access to Facilities, Records, and Accounts:

The parties to this Agreement or their accredited representatives will have access at any reasonable time to that part of the research facilities or offices utilized in connection with the research project described in this Agreement for the purposes of observing the status and progress of this project, and all data, information, records, reports, and accounts relating to this project shall be available to these representatives and shall be maintained available for examination for a minimum period of two years beyond the completion of the project or termination of the Agreement. Officers or employees of the Cholera Research Laboratory, or other personnel assigned to or engaged in the conduct of this project, shall be available for consultation with the Project Officer or his representatives at any reasonable time.

Section VII

Equipment, Supplies, and Materials

Those residual values of equipment and unconsumed supplies and materials remaining at the completion or termination of the project will be disposed of at the direction of the NIH after appropriate negotiation with the Cholera Research Laboratory.

Section VIII

Publication and Patents

Publication of findings shall be at the discretion of the Cholera Research Laboratory unless otherwise provided for subject to the limitations relating to patents set forth below. Acknowledgement of the NIH assistance in the conduct of the work covered in the publication should be noted in an appropriate manner.

Any patentable invention or improvement resulting from work carried out under this Agreement, insofar as the United States of America is concerned, shall be assigned to the United States Government as represented by the Secretary of the Department of Health, Education, and Welfare. Rights to patentable results in countries other than the United States of America shall be in accordance with the policy of the Cholera Research Laboratory, provided that an irrevocable and royalty-free license to practice such invention throughout the world be issued to the United States Government, and that, as stated above, the results or findings be available without restriction to the general public. With respect to patentable results and in accordance with the foregoing paragraph, the Cholera Research Laboratory agrees to cooperate in the preparation and prosecution of any United States patent application, to execute all papers requisite to such prosecution and to secure the cooperation of any of its employees in the preparation and prosecution of such papers.

Section IX

Research Assistance

Cognizance is taken of the collaborative nature of the Cholera Research Laboratory which receives support from the United States, the Government of Pakistan, the United Kingdom, and other SEATO countries and agencies. The Director, Cholera Research Laboratory, will inform NIH of any major changes in the support arrangements for the Laboratory.

Section X

Principal Investigator and Project Officer

The Principal Investigator designated in this Agreement will be in active direction of the project and responsible for its administration on the part of the Cholera Research Laboratory. Change or substitution of the Principal Investigator will be made only with written approval from the NIH. The NIH Project Officer designated in the Agreement shall be responsible for the administration of this Agreement on the part of the NIH.

Section XI

Termination of Agreement

This project may be terminated at any time by mutual agreement of the Cholera Research Laboratory and the NIH or within six months after written notice of either of the parties. In the event of termination, the Cholera Research Laboratory shall submit to the NIH a report summarizing the work done, the results accomplished, and the conclusions resulting therefrom. Payment shall be made, upon presentation of proper claim, for the cost of the work performed and for other obligations incurred, but unliquidated, at the time of termination, less any funds previously paid, and the NIH shall not be liable for any further claims, provided the claim submitted by the Cholera Research Laboratory shall not exceed the amount of total obligations stated in this Agreement. In the event of termination, any unexpended balances of payments made not required for services rendered or obligations incurred shall be returned to the NIH by the Cholera Research Laboratory.

IN WITNESS WHEREOF, the parties have executed this Research Agreement as of the date and year first above written.

NATIONAL INSTITUTES OF HEALTH

By James A. Shannon
(Director, National Institutes of Health)

JUN 5 1967
(Date)

(For use where applicable)

For the Government of _____

_____

_____
(Title)

_____

_____
(Address)

_____
(Date)

COLLABORATING INSTITUTION

_____

By Robert A. Phillips

_____
(Official Title)

_____
(Business Address)

_____
(Date)

United States Government
Department of Health, Education, and Welfare
Public Health Service - National Institutes of Health

An Agreement Providing for the Conduct of Research
Under Section 104 (k) of Public Law 480, 83rd Congress

Agreement No. 196802
Amendment No. 6

Parties to the Agreement:

1. The National Institutes of Health, Bethesda, Md., 20014, U. S. A.

2. Pakistan-SEATO Cholera Research Laboratory, Dacca, East Pakistan.

Purpose or Descriptive Title of Work to be Carried Out:

To develop, improve, and demonstrate measures for the prevention and eventual eradication of cholera.

Effective Period of the Agreement: June 30, 1968 to June 29, 1970

Funds to be provided during Period of Agreement: 9,766,500 Pakistan rupees
220,600 Dollars U.S.

National Institutes of Health

Project Officer: Margaret Pittman, Ph.D.

Laboratory & Institute: Chief, Laboratory of Bacterial Products, Division of Biologics Standards

Collaborating Institution

Pakistan-SEATO Cholera Research Laboratory
(Name of Institution)

Dacca, East Pakistan
(Address)

Dr. Robert A. Phillips
(Name of Principal Investigator)

Title: Director, Pakistan-SEATO Cholera Research Laboratory

Authorizing
NIH Official James A. Shannon, M.D.
Director, NIH

Address where work will be performed:
Pakistan-SEATO Cholera Research Laboratory
Dacca, East Pakistan

Payee or Financial
Officer Director, CRL

Authorizing
Official Dr. Robert A. Phillips
Director, Pakistan-SEATO
Cholera Research Laboratory

Validating Signatures will appear at the end of the Agreement

Agreement No. 196802
Amendment No. 6

United States Government
Department of Health, Education, and Welfare
Public Health Service -- National Institutes of Health

An Agreement Providing for the Conduct of Research
Under Section 104(k) of Public Law 480, 83rd Congress

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This Amendment consists of Sections I through XII, a signature page, and a cover sheet. It is authorized and executed under the respective authorities granted to the NIH and the Cholera Research Laboratory.

The parties to the Amendment mutually agree as follows:

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General Understanding

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2. The NIH agrees to make payment in local currency to an amount not to exceed 9,766,500 Pakistan rupees for the performance of this research by the Cholera Research Laboratory to be paid as provided for hereinafter. In addition, the NIH will provide $220,600 U.S. as identified in the budget plan, Section IV. The Cholera Research Laboratory agrees to carry out the research activities set forth in Section II in accordance with the terms and conditions hereinafter specified, and to accept payment in the amount and type of currency specified.

Section II

Objectives and Description of Work to be Performed

1. Objectives: To determine the pathogenesis of cholera and to develop and improve and demonstrate measures for the prevention and eventual eradication of cholera.

2. Description of Research Plan: The epidemiology of cholera in East Pakistan, a highly endemic area for this disease, will be investigated intensively, and will also be studied elsewhere as opportunities occur. The ecology of the cholera vibric, insofar as it may exist in water or other media outside

the human host, will be studied. Clinical studies directed toward a better understanding of the host-parasite relationship in acute cholera will be undertaken, as well as physiological studies of patients using all available clinical techniques. Attempts will be made to elucidate the part played by nutrition and other factors in predisposing individuals to the disease, thus paving the way for improved methods of prevention and treatment. Means of preventing and controlling the disease will be tested; these will include controlled studies on vaccination in selected areas or population groups. Serological responses of vaccinees will be studied and animal models will be investigated.

3. Responsibilities of the Cholera Research Laboratory

a. To invest prudently the funds in carefully planned investigations of the type described in Section II.2 above.

b. To integrate the use of these funds with the activities of the Cholera Research Laboratory which are supported from other sources, including SEATO, the Government of Pakistan, the United Kingdom, and others as they may develop.

c. To utilize these funds, wherever practicable, in the training of workers from Pakistan, the United States, and other countries in the field of cholera research and prevention.

d. To develop field demonstration areas in which to test under scientific observation methods of cholera prevention.

e. To undertake control field tests of methods of cholera prevention.

f. To provide materials and supplies available on the local market for support of the research mentioned above and to provide salaries in rupees for locally available personnel needed for the studies, and to provide air travel and local per diem for consultants and visiting scientists wherever necessary.

g. To report not less than annually on the total activities of the Cholera Research Laboratory and on the way in which the funds from this source have been utilized.

4. Responsibilities of the National Institutes of Health

a. To review on an annual basis, or more often if indicated, the progress of the work supported with these funds.

b. To provide scientific advice and guidance.

c. To foster the cholera research program by providing administrative support, insofar as possible, in the United States.

d. To provide financial support to the General Operating Fund of the CRL and to finance that portion of the research plan of the CRL described in Section II of this Amendment.

e. To provide dollar currency in limited and specified amounts for salaries of non-Pakistani scientists who are essential to the clinical, immunological, physiological or epidemiological investigations and who are not paid by other agencies. In addition, certain dollar funds may be made available for the direct purchase by the CRL of essential equipment and supplies that cannot be purchased on the local market.

5. Changes in Respective Responsibilities or Research Plan

Since the course of any scientific investigation is not entirely predictable, on the basis of findings or other considerations, a change in approach or techniques used may be made after appropriate consultation between the Principal Investigator and the NIH Project Officer.

Section III

Period of Performance

The work described in Section II shall begin on June 30, 1968 and shall not extend beyond June 29, 1970, unless provided for by amendment to this Agreement.

Section IV

Compensation

1. It is mutually agreed that the Cholera Research Laboratory shall be paid in Pakistan rupees and, in certain specified instances, in U. S. dollars, for the cost incurred, as accepted by the NIH, in carrying out the research activities described in Section II of this Agreement. The maximum payment by the NIH to the Cholera Research Laboratory under this Agreement shall not exceed 9,766,500 Pakistan rupees and $220,600 U.S.

2. It is recognized that during the period this project is in effect official action may be taken to re-evaluate the medium of exchange within the country. This will have a direct bearing upon the amount of work which can be performed with the amount of money specified in this Agreement. Therefore, should the value of the internal foreign currency fluctuate not more than ten percent, either up or down, as a result of an official re-evaluation, an appropriate adjustment in the remaining work to be performed will be worked out mutually. Should the plus or minus fluctuation exceed ten percent, an appropriate adjustment in the program may be worked out mutually or either party may call for a renegotiation of the program costs for the uncompleted portion thereof.

3. Budget Plan

The Cholera Research Laboratory will be reimbursed for the costs incurred in carrying out the research activities set forth in Section II above as provided in the following summary.

Part A: PL-480 Support for CRL General Operating Fund

June 30, 1968 - June 29, 1969		Rs. 385,000
June 30, 1969 - June 29, 1970		423,500
NIH Contribution	Rs.	808,500

Part B: PL-480 Support in Addition to Operating Fund Contribution
(detailed budget below)

June 30, 1968 - June 29, 1969		Rs. 4,266,000
June 30, 1969 - June 29, 1970		4,692,000
NIH Contribution	Rs.	8,958,000
Grand Total		9,766,500 Rs.

Part C: U. S. Dollar Support (detailed budget attached)

June 30, 1968 - June 29, 1969	$105,200
June 30, 1969 - June 29, 1970	115,400
Total	$220,600 U.S.

Part B: PL-480 Funds; support in addition to Operating Fund Contribution

	6/30/68-6/29/69	6/30/69-6/29/70
Personal Services	Rs. 2,568,000	Rs. 2,824,000
Travel	720,000	792,000
Transportation	66,000	73,000
Rent, Communication & Utilities	121,000	133,000
Printing & Reproduction	66,000	73,000
Other Contract Services	149,000	164,000
Supplies & Materials	361,000	397,000
Equipment	215,000	236,000
	Rs. 4,266,000	Rs. 4,692,000

Part C: Detailed budget

	6/30/68-6/29/69	6/30/69-6/29/70
RESEARCH:		
Personal Services	$63,950	$70,300
Travel	3,350	3,800
Transportation	3,200	3,500
Rent, Communitations, & Utilities	900	900
Other Contractual Services	7,250	8,000
Supplies & Materials	5,650	6,200
Equipment	4,400	4,300
TRAINING:		
Personal Services	8,250	9,000
Travel	2,750	2,900
Other Contractual Services	3,850	4,200
Supplies	1,650	1,800
	$105,200	$115,400

4. Changes in Budget Plan

Any circumstances which in the opinion of the Principal Investigator or the Collaborating Institution will require a modification of more than 10 percent from each of the above estimated lettered categories of expenditure will require prior approval of the NIH Project Officer.

Section V

Method of Payment

1. Advance Payment

Upon signing of this Agreement by both parties, the NIH will make a payment to the Cholera Research Laboratory to begin this program in the amount of 4,651,000 Pakistan rupees for the period June 30, 1968 to June 29, 1969. The U. S. dollars will be advanced as required.

2. Succeeding Payments

The second payment will be made at the expiration of the period for which the first payment was made. The third payment will be made at the expiration of the period for which the second payment was made.

The Cholera Research Laboratory agrees to submit the following information to the NIH on an annual basis to coincide with the annual report for the Technical Advisory Committee and the Directing Council.

a. A brief, but descriptive, narrative progress report of the scientific aspects of the research clearly indicating significant factors with respect to progress of the work;

b. A fiscal report which will show the actual amounts of money obligated by the Cholera Research Laboratory in behalf of this Agreement;

c. A statement of the estimated financial requirements for the following period, indicating any overages or shortages available from the prior period, together with explanation of significant changes in financial requirements for specific purposes. Authorization of payment for the succeeding period will then be made based on an evaluation of this information.

3. Unexpended Balances:

The Cholera Research Laboratory agrees to return without delay any unexpended balance in this project in its possession at the end of the Agreement period or the termination of the project, whichever comes first, to the NIH without demand, subject to negotiation concerning amount required to liquidate obligations previously incurred in the performance of work under the Agreement.

Section VI

Records and Reports

1. Records

The Cholera Research Laboratory agrees to keep adequate records for documentation of progress made and status of this project as well as for preparation of reports on the scientific aspects of this program; and further agrees to keep records of obligations and expenditures, together with receipts, vouchers, correspondence, and memoranda associated with funds received and expended in carrying out the research provided for in this Agreement.

2. Reports

a. As specified in Section V-2 above, a narrative report descriptive of the progress of the work provided for under this Research Agreement will be submitted two months in advance of each payment period and in no case less than annually.

b. In addition, the Cholera Research Laboratory agrees to furnish, at the conclusion of this Agreement, a final report in a form suitable for publication, including all pertinent technical data and summarizing the work done, the results accomplished, and the conclusions drawn therefrom.

c. The Cholera Research Laboratory agrees to submit such interim reports or information on the status or progress of research under this Agreement as may be necessary in connection with special events or problems arising during the course of the work, either on its own initiative or at the request of the NIH.

d. None of these arrangements for reports shall preclude full informal exchange of correspondence or other communication between the Principal Investigator and the Project Officer at the NIH.

All reports and other communications will be transmitted in the English language, unless otherwise provided for.

3. Access to Facilities, Records, and Accounts

The parties to this Agreement or their accredited representatives will have access at any reasonable time to that part of the research facilities or offices utilized in connection with the research project described in this Agreement for the purposes of observing the status and progress of this project, and all data, information, records, reports, and accounts relating to this project shall be available to these representatives and shall be maintained available for examination for a minimum period of two years beyond the completion of the project or termination of the Agreement. Officers or employees of the Cholera Research Laboratory, or other personnel assigned to or engaged in the conduct of this project, shall be available for consultation with the Project Officer or his representatives at any reasonable time.

Section VII

Equipment, Supplies, and Materials

Those residual values of equipment and unconsumed supplies and materials remaining at the completion or termination of the project will be disposed of at the direction of the NIH after appropriate negotiation with the Cholera Research Laboratory.

Section VIII

Publication and Patents

Publication of findings shall be at the discretion of the Cholera Research Laboratory unless otherwise provided for subject to the limitations relating to patents set forth below. Acknowledgement of the NIH assistance in the conduct of the work covered in the publication should be noted in an appropriate manner.

Any patentable invention or improvement resulting from work carried out under this Agreement, insofar as the United States of America is concerned, shall be assigned to the United States Government as represented by the Secretary of the Department of Health, Education, and Welfare. Rights to patentable results in countries other than the United States of America shall be in accordance with the policy of the Cholera Research Laboratory, provided that an irrevocable and royalty-free license to practice such invention throughout the world be issued to the United States Government, and that, as stated above, the results or findings be available without restriction to the general public. With respect to patentable results and in accordance with the foregoing paragraph, the Cholera Research Laboratory agrees to cooperate in the preparation and prosecution of any United States patent application, to execute all papers requisite to such prosecution and to secure the cooperation of any of its employees in the preparation and prosecution of such papers.

Section IX

Research Assistance

Cognizance is taken of the collaborative nature of the Cholera Research Laboratory which receives support from the United States, the Government of Pakistan, the United Kingdom, and other SEATO countries and agencies. The Director, Cholera Research Laboratory, will inform NIH of any major changes in the support arrangements for the Laboratory.

Section X

Principal Investigator and Project Officer

The Principal Investigator designated in this Agreement will be in active direction of the project and responsible for its administration on the part of the Cholera Research Laboratory. Change or substitution of the Principal Investigator will be made only with written approval from the NIH. The NIH Project Officer designated in the Agreement shall be responsible for the administration of this Agreement on the part of the NIH.

Section XI

Clinical Investigations Involving Human Subjects

The Collaborating Institution assures the U.S. Public Health Service that all research or demonstration involving human subjects which is supported under this agreement will be designed, administered and operated in such fashion that the rights of persons serving as subjects will not be infringed, that their welfare will be protected and that the potential benefits of such investigations shall justify the inherent risks.

Section XII

Termination of Agreement

This project may be terminated at any time by mutual agreement of the Cholera Research Laboratory and the NIH or within six months after written notice of either of the parties. In the event of termination, the Cholera Research Laboratory shall submit to the NIH a report summarizing the work done, the results accomplished, and the conclusions resulting therefrom. Payment shall be made, upon presentation of proper claim, for the cost of the work performed and for other obligations incurred, but unliquidated, at the time of termination, less any funds previously paid, and the NIH shall not be liable for any further claims, provided the claim submitted by the Cholera Research Laboratory shall not exceed the amount of total obligations stated in this Agreement. In the event of termination, any unexpended balances of payments made not required for services rendered or obligations incurred shall be returned to the NIH by the Cholera Research Laboratory.

IN WITNESS WHEREOF, the parties have executed this Research Agreement as of of the date and year first above written.

NATIONAL INSTITUTES OF HEALTH

By James A. Shannon
(Director, National Institutes of Health)

JUN 5 1967
(Date)

(For use where applicable)

For the Government of_____

_____

_____
(Title)

_____

_____
(Address)

_____
(Date)

COLLABORATING INSTITUTION

_____

By Robert A. Phillips

_____
(Official Title)

_____
(Business Address)

_____
(Date)

VI.

REPRESENTATION

PSCRL PUBLICATIONS
FY1968

STUDIES PUBLISHED BY PSCRL:

1. Mosley, W. H., Chowdhury, A.K.M.A., Aziz, K.M.A., Islam, S., Fahimuddin, M.: Demographic Studies in Rural East Pakistan (preliminary analysis of the results of daily registration of births, deaths and migrations in 132 villages in the cholera vaccine field trial area in Comilla District, East Pakistan, May 1966–April 1967).
Dacca, East Pakistan, June 1968, 30 pp.

ARTICLES PUBLISHED IN PERIODICALS:

2. Khan, A. Q., Stockard, J. L.: A trial of ascorbic acid as a prophylaxes agent in families exposed to cholera. J. Pakistan Medical Assn., 17: No. 7, pp. 199–202, July 1967.

3. Phillips, R. A.: Twenty years of cholera research. J. American Medical Assn., 202: pp. 610–614, November 1967.

4. Mosley, W. H.: Typhoid and cholera vaccines. Letter to the Editor of The Lancet, No. 1, p. 299, February 1968.

5. Love, A.H.G., Mitchell, T. G., Phillips, R.A.: Water and sodium absorption in the human intestine. J. Physiology, 196: pp. 133–40, March 1968.

6. Khan, M., Mosley, W. H.: The significance of shigella as a cause of diarrhea in a low economic urban community in Dacca. East Pakistan Medical Journal, 12: No. 2, pp. 45–52, April 1968.

7. Harvey, R. M., Enson, Y., Lewis, M. L., Greenough, W. B., Ally, K. M., Panno, R. A.: Hemodynamic studies of hypovolemia and acidosis. Circulation, 37: pp. 709–28, May 1968.

8. Molla, P.: The role of the librarian in medical research. Eastern Librarian, Dacca, East Pakistan, 2: No. 4, pp. 25–34, June 1968.

9. Phillips, R. A.: Asiatic cholera (with emphasis on pathophysiological effects of the disease). Annual Review of Medicine, 19: 1968, pp. 69–80.

10. Kinzie, J. L., Hare, W. K.: Measurement of intestinal permeability in man by diffusion ratio technique. Federation Proceedings, 27: 1968, P. 385.

11. Taylor, J. C., Hare, R. S., Phillips, R. A.: Measurement of Na fluxes in human small intestine. Federation Proceedings, 27: 1968, p. 286.

12. Lindenbaum, J., Greenough, W. B., Islam, R.: Antibiotic therapy of cholera. Bull. W.H.O., 36, No. 6, 1967, pp. 871-883.

13. Lindenbaum, J., Greenough, W. B., Islam, R.: Antibiotic therapy of cholera in children. Bull. W.H.O., 37: No. 4, 1967, pp. 529-38.

14. Benenson, A. S., Saad, A., Paul, M.: Serological studies in cholera. 1. Vibrio agglutinin response of cholera patients determined by a microtechnique. Bull. W.H.O., 38: No. 2, 1968, pp. 267-276.

15. Benenson, A. S., Saad, A., Mosley, W. H.: Serological studies in cholera. 2. The vibriocidal antibody response of cholera patients determined by a microtechnique. Bull. W.H.O., 38, No. 2, 1968, pp. 277-285.

16. Benenson, A. S., Saad, A., Mosley, W. H., Ahmed, A.: Serological studies in cholera. 3. Serum toxin neutralization- rise in titre in response to infection with Vibrio cholerae, and the level in the "normal" population of East Pakistan. Bull. W.H.O., 38: No. 2, 1968, pp. 287-295.

17. Mosley, W. H., Benenson, A. S., Barui, R.: A serological survey for cholera antibodies in rural East Pakistan. 1. The distribution of antibody in the control population of a cholera-vaccine field-trial area, and the relation of antibody titre to the pattern of endemic cholera. Bull. W.H.O., 38: No. 3, 1968, pp. 327-334.

18. Mosley, W. H., Benenson, A. S., Barui, R.: A serological survey for cholera antibodies in rural East Pakistan. 2. A comparison of antibody titres in the immunized and control populations of a cholera-vaccine field trial area, and the relation of antibody titre to cholera case rate. Bull. W.H.O., 38: No. 3, 1968, pp. 335-346.

19. Benenson, A. S., Joseph, P. R., Oseasohn, R. O.: Cholera vaccine field trials in East Pakistan. 1. Reaction and antigenicity studies. Bull. W.H.O., 38, No. 3, 1968, pp. 347-357.

20. Benenson, A. S., Mosley, W. H., Fahimuddin, M., Oseasohn, R. O.: Cholera vaccine field trials in East Pakistan. 2. Effectiveness in the field. Bull. W.H.O., 38, No. 3, 1968, pp. 359-372

21. Mosley, W. H., Ahmed, S., Benenson, A. S., Ahmad, A.: The relationship of vibriocidal antibody titre to susceptibility to cholera in family contacts of cholera patients. Bull. W.H.O., 38: No. 5, 1968, pp. 777-785.

22. McCormack, W. M., Chowdhury, A.M., Jahangir, N., Ahmed, A.E.F., Mosley, W. H.: Tetracycline prophylaxis in the families of cholera patients. Bull. W.H.O., 38: No. 5, 1968, pp. 787-792.

23. Chowdhury, A.K.M.A., Mosley, W. H.: Statistical approach for estimating the effectiveness of cholera vaccine. Statistics for Development (Institute of Statistical Research and Training, Dacca, East Pakistan), May 1968, pp. 78-80.

* 24. Aziz, K.M.S., Mohsin, A.K.M., Hare, W. K., Phillips, R. A.: The rat as a cholera model. Nature, 220: pp. 814-15, November 1968.

* 25. Hirschhorn, N., Rosenberg, I.H.: Sodium-potassium stimulated adenosine triphosphatase of the small intestine of man; studies in cholera and other diarrheal diseases. J. Laboratory and Clinical Medicine, 72: pp. 28-, July 1968.

* 26. Hirschhorn, N., Kinzie, J. L., Sachar, D. B., Northrup, R. S., Taylor, J. O., Ahmad, S. Z., Phillips, R. A.: Decrease in net stool output in cholera during intestinal perfusion with glucose-containing solutions. New England J. of Med., 279: pp. 176-181, July 1968.

* 27. Nalin, D. R., Cash, R. A., Islam, R., Molla, M., Phillips, R. A.: Oral maintenance therapy for cholera in adults. The Lancet, II: pp. 370-372, August 1968.

* 28. Hirschhorn, N.: Bile in acute cholera. The Lancet, II: p. 405, August 1968.

*FY69

ARTICLES ACCEPTED FOR PUBLICATION:

1. McCormack, W. M., Chowdhury, A. M., Jahangir, N., Mosley, W. H.: Tetracycline prophylaxes in the families of cholera patients. Bull. W.H.O.

2. Mosley, W. H., McCormack, W. M., Fahimuddin, M., Aziz, K.M.A., Rahman, A.S.M., Chowdhury, A.K.M.A., Martin, A. L., Phillips, R. A.: 1966-67 cholera vaccine field-trial in rural East Pakistan. 1. Study design and results of first year of observation. Bull. W.H.O.

3. Mosley, W. H., McCormack, W. M., Barui, R. K., Ahmed A., Chowdhury, A.K.M.A.: 1966-67 cholera vaccine field trial in rural East Pakistan. 2. Results of the serological surveys in the study populations: the relationship of case rate to antibody titer and an estimate of the inapparent infection rate with V. cholera. Bull. W.H.O.

4. McCormack, W. M., Rahman, A.S.M.M., Chowdhury, A.K.M.A., Mosley, W. H.: 1966-67 cholera vaccine field trial in rural East Pakistan. 3. The lack of effect of prior vaccination or circulating vibriocidal antibody on the severity of clinical cholera. Bull. W.H.O.

5. Mosley, W. H.: The role of immunity in cholera. A review of epidemiological and serological studies. Texas Reports on Biology and Medicine.

6. Mosley, W. H., Langmuir, A. D.: The evaluation of cholera vaccine in an endemic area. Bull. of the International Epidemiological Assn.

7. Mosley, W. H.: The surveillance of cholera. Tropical Medicine in the Promotion of World Health, Final Report of the Eighth International Congresses of Tropical Medicine and Malaria, Teheran, Iran, 1968.

8. Rosenberg, I. H., Hirschhorn, N.: Bile salts and bile pigments in rice water stool. The Lancet.

9. Martin, A. R., Vernon, T. M., Mosley, W. H.: Studies of the neutralization of the vascular permeability factor of Vibrio cholerae in man. American J. of Tropical Medicine and Hygiene.

10. Martin, A. R., Mosley, W. H., Sau, B., Ahmed, S., Huq, I.: Epidemiologic analysis of endemic cholera in urban East Pakistan, 1964-1966. American J. of Epidemiology.

11. McCormack, W. M., Mosley, W. H., Fahimuddin, M., Benenson, A. S.: Endemic cholera in rural East Pakistan. American J. of Epidemiology.

PAPERS READ AT SCIENTIFIC MEETINGS
FY 1968

AUGUST 1967

6TH ANNUAL MEDICAL SYMPOSIUM - JINNAH POSTGRADUATE MEDICAL CENTER, KARACHI, WEST PAKISTAN

1. "Some Studies on Cholera Patients in Relation to Cholera Toxin" - Aziz, K.M.S.

2. "An Analysis of 41 Consecutive Fatal Diarrhoeal Cases in Children Admitted to the Pakistan-SEATO Cholera Research Laboratory, Dacca" Rahaman, M. M.

3. "Epidemiologic Pattern of Diarrhea and Cholera in a Semi-urban Community" - Khan, Muslemuddin.

DACCA MEDICAL COLLEGE, DACCA, EAST PAKISTAN

4. "Carriers in Cholera" - Molla, A. Majid.

NOVEMBER 1967

2ND INTERNATIONAL CONFERENCE ON GLOBAL IMPACTS OF APPLIED MICROBIOLOGY, ADDIS BABA, ETHIOPIA

5. "Economic Aspects of Cholera and Its Control Measures" - Huq, Md. Imdadul.

14TH ANNUAL MEDICAL CONFERENCE OF THE PAKISTAN MEDICAL ASSOCIATION -EAST ZONE, DACCA, EAST PAKISTAN

6. "Severe Protein-calorie Malnutrition in Children and Vitamin Deficiencies in Hospital Admission" - Rahaman, M. M.

7. "Some Observations on Deaths Attributed to Supernatural Causes"- Chowdhury, A.K.M. Alauddin.

8. "Significance of Shigella as a Cause of Diarrhea in a Low Economic Urban Community in Dacca" - Khan, Moslemuddin.

JANUARY 1968

PAKISTAN'S FIRST NUTRITION CONFERENCE, DACCA UNIVERSITY, DACCA, EAST PAKISTAN

9. "Pediatric Nutrition" - Rahaman, M. M.

FEBRUARY 1968

3RD AFRO-ASIAN PAEDIATRIC CONGRESS, KARACHI, WEST PAKISTAN

10. "Diarrhoea and Severe Malnutrition in Children - a Comparison Between Fatal and Non-fatal Cases admitted to the Pakistan-SEATO Cholera Research Laboratory, Dacca, East Pakistan"-Rahaman, M. M.

11. "A Prospective Study of Patterns of Morbidity and Growth in Infants in a Low Economic Urban Community in East Pakistan" - Ahmad, Shamsa.

MARCH 1968

CENTO SEMINAR ON COMBATING PROTEIN-CALORIE MALNUTRITION IN PRE-SCHOOL CHILDREN, NATIONAL HEALTH LABORATORY, ISLAMABAD, WEST PAKISTAN

12. "Protein-calorie Malnutrition and Diarrhoea in 0-4 Year Old Children in East Pakistan" - Rahaman, M. M.

AMERICAN EPIDEMIOLOGIC SOCIETY, VIRGINA, U.S.A.

13. "A Community study of Inapparent Cholera Infections in Rural East Pakistan" - McCormack, W. M.

APRIL 1968

FEDERATION MEETING OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY, ATLANTIC CITY, NEW JERSEY U.S.A.

14. "Measurement of Intestinal Permeability in Man by Diffusion Ratio Technique" - Kinzie, J. L.

15. "Measurement of Na Fluxes in Human Small Intestine" - Taylor, James O.

MAY 1968

SEMINAR ON "STATISTICS FOR DEVELOPMENT" DACCA UNIVERSITY, DACCA, EAST PAKISTAN

16. "Statistical approach for estimating the effectiveness of cholera vaccine" - Chowdhury, A.K.M.A.

INSTITUTE OF POSTGRADUATE MEDICINE, DACCA, EAST PAKISTAN

17. "Current Management of Cholera" - Northrup, R. S.

VISITORS TO PSCRL
FY 1968

JULY 1967

1. Mr. B.D. Beitman
Medical Student
Pediatric Project
Department of Health
Education & Welfare
Washington, D.C., U.S.A.

Studied cholera treatment technique

AUGUST 1967

2. Dr. M. D. Cates
U.S. Naval Medical Research
Unit No. 2
Taipei, Taiwan
Formosa, Rep. of China

Collected specimen from Sylhet tea gardens for culturing.

3. Dr. A.A. Shaikh
Port Health Officer
Government of Pakistan
Chittagong, East Pakistan

Discussed culturing of stools for Hajis (Pilgrims to Mecca)

SEPTEMBER 1967

4. Dr. H. Bruce Dull
Assistant Director
U.S. National Communicable Disease
Center
Atlanta, Georgia.
U.S.A.

Discussed Epidemiology section program

5. Dr. Paul Wehrle
Professor of Pediatrics
and Head of the Infectious Disease Division
Los Angeles County General Hospital
Los Angeles, California
U.S.A.

Discussed Epidemiology section program

SEPTEMBER 1967

6. Dr. Nazar El-Shawi
Director of Bacteriological Institute
Instructor in Bacteriology, and
Supervisor of Research
College of Medicine
Baghdad, Iraq

Visited

SEPTEMBER 1967, Continued

7.	Mr. Paul B. Dean Medical Student University of California San Francisco, California U.S.A.	Studied cholera treatment technique
8.	Dr. Dorothy Cooke Population Statistics U.S. National Institutes of Health Bethesda, Maryland, U.S.A.	Discussed population statistics with Epidemiology section
9.	Dr. Pento Kokko Population Statistics U.S. National Institutes of Health Bethesda, Maryland U.S.A.	Reviewed bacteriological techniques

OCTOBER 1967

10.	Dr. Pongsom Atthasmpunna SEATO Medical Research Laboratory Bangkok, Thailand	Studied cholera treatment technique
11.	Dr. Richard P. Wenzel University of Maryland School of Medicine Baltimore, Maryland U.S.A.	Assisted Epidemiology section during cholera season

OCTOBER 1967

12.	Dr. Habibuz Zaman Professor of Pathology Jinnah Postgraduate Medical Center Karachi, West Pakistan	Studied choleragen
13.	Dr. Derrick Rowley The University of Adelaide Department of Microbiology Adelaide, South Australia	Consulted with Epidemiology & Bacteriology sections regarding serological study
14.	Dr. Harold Edwards Senior Surgeon King's College Hospital London, England	Visited

NOVEMBER 1967

15.	Dr. Phillip S. Brachman Chief of Bacterial Disease Center U.S. National Communicable Disease Center Atlanta, Georgia U.S.A.	Discussed field studies with Epidemiology section
16.	Dr. Richard Clapp EIS Officer Epidemiology Program U.S. National Communicable Disease Center Atlanta, Georgia U.S.A.	Discussed field studies with Epidemiology section
17.	Dr. John G. Bieri Chief of Section Nutritional Biochemistry U.S. National Institutes of Health Bethesda, Maryland U.S.A.	Discussed Epidemiology & Clinical Investigation sections regarding programs
18.	Dr. David Vastine Smallpox Epidemiologist U.S. National Communicable Disease Center Atlanta, Georgia U.S.A.	Discussed Epidemiology program
19.	Dr. Howard C. Goodman Chief of Immunology World Health Organization Geneva, Switzerland	Discussed immunology of cholera with Epidemiology and Clinical Investigation sections.
20.	Dr. L.K. Woodward Special Assistant to the Medical Director U.S. Department of State Washington D.C. U.S.A.	Consulted with Deputy Director and Chemistry staff
21.	Dr. Andrew Abraham Armed Forces Epidemiology Board Harvard Medical School Boston, Massachusetts U.S.A.	Assisted Epidemiology section during cholera epidemic

NOVEMBER 1967 Continued

22. Dr. John S. Johnson Clinical Investigator Laboratory of Clinical Investigation, NIAID U.S. National Institutes of Health Bethesda, Maryland U.S.A.	Reviewed immunology work of Epidemiology and Clinical Investigation sections
23. Dr. Alexander R. Lawton Clinical Associate Laboratory of Clinical Investigation, NIAID U.S. National Institutes of Health Bethesda, Maryland U.S.A.	Reviewed immunology work of Epidemiology and Clinical Investigation sections
24. Dr. Colin MacLeod Vice President for Medical Affairs, Commonwealth Fund New York, New York U.S.A.	Attended annual meeting in Dacca as member, Technical Committee
25. Dr. Ali Nawab Khan Deputy Director General of Health Government of Pakistan Islamabad, West Pakistan	Attended annual meeting in Dacca as member, Technical Committee
26. Dr. James W. Howie Director of Public Health Laboratory Service London, England	Attended annual meeting in Dacca as member, Technical Committee
27. Dr. Graham Bull Director of Clinical Research Center Medical Research Council London, England	Attended annual meeting in Dacca as member, Technical Committee
28. Dr. Peter Curran Associate Professor of Physiology Yale University School of Medicine New Haven, Connecticut U.S.A.	Attended annual meeting in Dacca as Consultant, Technical Committee

NOVEMBER 1967, Continued

29.Dr. Robert S. Gordon Clinical Director, NIAMD U.S. National Institutes of Health Bethesda, Maryland U.S.A.	Attended annual meeting in Dacca as Consultant, Technical Committee
30.Dr. Alexander Langmuir Chief, Epidemiology Program U.S. National Communicable Disease Center Atlanta, Georgia U.S.A.	Attended annual meeting in Dacca as Consultant, Technical Committee
31.Dr. John S. Johnson Clinical Investigator, NIAID U.S. National Institutes of Health Bethesda, Maryland U.S.A.	Attend annual meeting in Dacca Consultant, Technical Committee
32.Dr. Alexander R. Lawton Clinical Associate, NIAID U.S. National Institutes of Health Bethesda, Maryland U.S.A.	Attended annual meeting in Dacca as Consultant, Technical Committee
33.Dr. Jean F. Rogier Chief Public Health Advisor U.S. Agency for International Development, Dacca Dacca, East Pakistan	Attended annual meeting in Dacca as Consultant, Technical Committee
34.Dr. Gus Miale Prof. of Medicine and Radiology Georgetown University Medical Center Washington D.C. U.S.A.	Consulted with Clinical Investigation section

DECEMBER 1967

35.Dr. George Whalen U.S. Naval Medical Research Unit No. 2 Taipei, Taiwan Formosa, Rep. of China	Consulted with Epidemiology & Clinical Investigation sections

DECEMBER 1967, Continued

36.	Dr. Willard Verwey Chairman, Department of Microbiology University of Texas Galveston, Texas U.S.A.	Discussed standardization of serological techniques with Epidemiology section
37.	Dr. Howard Williams Department of Microbiology University of Texas Galveston, Texas U.S.A.	Discussed standardization of serological techniques with Epidemiology section
38.	Dr. Stanley Music University of Maryland School of Medicine Baltimore, Maryland U.S.A.	Assisted Clinical Investigation section during cholera season

JANUARY 1968

39.	Dr. William J. Martin Asst. Chief of the Enteric Bacteriology Unit U.S. National Communicable Disease Center Atlanta, Georgia U.S.A.	Assisted Epidemiology section during cholera season
40.	Dr. Thomas G. Mitchell U.S. Naval Hospital Bethesda, Maryland U.S.A.	Discussed isotope problems
41.	Dr. Eugene J. Gangarosa U.S. National Communicable Disease Center Atlanta, Georgia U.S.A.	Worked with Epidemiology section (Matlab VTS)
42.	Dr. Robert Armstrong U.S. National Communicable Disease Center Atlanta, Georgia U.S.A.	Discussed field studies with Epidemiology Section
43.	Dr. K. P. Carpenter Dysentry Reference Laboratory Central Public Health Laboratory London, England	Attended annual meeting in Dacca as Consultant, Technical Committee

JANUARY 1968, Continued

44. Prof. Robert Cruickshank Department of Social and Preventive Medicine Mona, Kingston Jamaica, West Indies West Indies	Attended annual meeting in Dacca as member, Directing Council
45. Dr. Willard Beynton Senior Public Health Officer U.S. Agency for International Development, Lahore Lahore, West Pakistan	Attended annual meeting in Dacca as member, Directing Council
46. Dr. John R. Seal Chairman, NIH Cholera Advisory Committee, NIAID, and Director, Intramural Research, NIAID U.S. National Institutes of Health Bethesda, Maryland U.S.A.	Attended annual meeting in Dacca as member, Directing Council
47. Mr. David A. Wraight Deputy Secretary General, SEATO Bangkok, Thailand	Attended annual meeting in Dacca as member Directing Council
48. Mr. Walter Magruder Executive Officer, NIAID U.S. National Institutes of Health 49. Bethesda, Maryland U.S.A.	Attended annual meeting in Dacca as Consultant, Administrative section
50. Dr. Roger Feldman N.C.D.C. Virologist Christian Medical Hospital Veillore, South India	Discussed diarrhea long-term study with Epidemiology section
51. Mr. Michael W. Benenson 1223 Linden Avenue Baltimore, Maryland U.S.A.	Conducted study on diarrheal disease in children (U.S. Dept. of Health, Education & Welfare fellowship)

FEBRUARY 1968

52. Dr. Herbert C. Barnett Director, Pakistan Medical Research Center Lahore, West Pakistan	Discussed extension of Pakistan Medical Research Center Program with Director

FEBRUARY 1968, Continued

53. Dr. David Clyde Director of the Institute of International Medicine University of Maryland Program Lahore, West Pakistan	Discussed extension of Pakistan Medical Research Center Program with Director
54. Dr. Mohammed Aziz 55. Dr. Martin Wolfe 56. Dr. Aslam Khan Pakistan Medical Research Center Lahore, West Pakistan	Discussed field study on filariasis
57. Dr. J.R.L. Forsyth Department of Microbiology Monash University Medical School Alfred Hospital Prahran, Victoria Australia	Visited
58. Dr. James Brackett Chief, Population & Program Analysis Division Dept. of State-USAID/W War on Hunger Program Washington D.C. U.S.A.	Discussed demographic studies with Epidemiology section
59. Dr. Abraham S. Benenson Professor of Preventive Medicine Jefferson Medical College Philadelphia, Pennsylvania U.S.A.	Discussed vaccine field trial surveillance with Epidemiology Section
60. Dr. Lyle Conrad Deputy Chief, State Service Section Epidemiology Program U.S. National Communicable Disease Center Atlanta, Georgia U.S.A.	Discussed Epidemiology field studies in Matlab
61. Dr. Jack Metcoff Chairman and Professor Department of Pediatrics The Chicago Medical School Chicago, Illinois U.S.A.	Discussed Clinical Investigation program

FEBRUARY 1968, Continued.

62. Prof. W. E. Van Heyningen Sir William Dunn School of Pathology University of Oxford Oxon, England	Consulted with Animal Resources Section regarding toxin
63. Dr. A. H. Taba World Health Organization Geneva, Switzerland	Visited
64. Dr. Zinnaka Unisante World Health Organization Geneva, Switzerland	Studied immunological technique for Epidemiology field study
65. Mr. Michael Pollack Post Graduate Medical College Karachi, West Pakistan	Studied cholera treatment technique
66. Dr. D. S. McLaren Professor of Nutrition American University Beirut, Lebanon	Visited

MARCH 1968

67. Dr. Frederik B. Bang The Johns Hopkins University Baltimore, Maryland U.S.A.	Discussed Epidemiological studies on cholera and smallpox
68. Mr. S. A. Meenai Radio Pakistan Dacca, East Pakistan	Interviewed Director. Made tape recording of interview

APRIL 1968

69. Mr. J. Gleeson Second Secretary Australian High Commission Rawalpindi, West Pakistan	Visited
70. Mr. R. Henning Australian photographer/journalist	Photographed Australian-donated equipment
71. Mr. J. Tanner Australian /photographer/journalist	Photographed Australian-donated equipment

MAY 1968

72. Mr. S.M.H. Rizvi Director of Cultural and Economic Affairs, SEATO Bangkok, Thailand	Visited
73. Mr. Gholam Rahman U.S. Information Service Dacca, East Pakistan	Interviewed Director Made tape recording of interview
74. Lt. Gary A. Brown Finance & Supply Officer U.S. Naval Medical Research Unit No. 2 Taipei, Taiwan Formosa, Republic of China	Consulted with Supply Management Branch

JUNE 1968

75. Miss Schofield Nursing Advisor to the Ministry of Overseas Development London, England	Visited Ward and reviewed nursing activities
76. Mr. Adam Clymer, Reporter Baltimore Sun newspaper Stationed in New Delhi, India	Interviewed Deputy Director
77. Mrs. Madeleine Meyer Radio/TV Officer, SEATO Bangkok, Thailand	Visited to discuss filming activities of PSCRL