2

A G E N D A

FOR THE FIFTH MEETING OF THE DIRECTING COUNCIL

March 9, 1966

1. Adoption of the Proposed Agenda.

2. Confirmation of the Minutes of the Fourth Meeting of the Directing Council held on January 18-19, 1965.

3. Report of the Technical Committee — DC 5/1

4. Director's Administrative Report — DC 5/2

~~4.~~ Director's Financial Report — DC 5/3

~~5~~ 4. Review of the Auditor's Report ~~and~~ with the Director's Comments. and the — and DC 5/4

~~6~~ 5. Presentation of Appendices to Personnel Regulations — DC 5/5

~~7~~ 6 ~~8.~~ Review of CRL Budget Plan for 1966-67 and determination of the level of the General Operating Fund contribution — DC 5/6

~~8~~ 7 ~~9. Scientific meeting attendance policy~~ OK

10. New laboratory construction.

11. New electrical sub-station.

12. New Steam Generator.

REVISED & PROPOSED BUDGET
FOR F.Y. 1965-66 & 1966-67 RESPECTIVELY

(All Funds in Pak Currency)

HEADS OF ACCOUNTS	F.Y. 1965-66	F.Y. 1966-67
	Rs.	Rs.
PERSONAL SERVICES:	1,832,571	1,959,215
Professional	591,422	567,215
Technical & Supporting	1,201,149	1,352,000
Consultant	40,000	40,000
TRAVEL & TRANSPORTATION OF PERSONS:	509,966	449,986
In Pakistan	153,000	153,000
Outside Pakistan	101,000	51,000
Consultant	255,966	245,986
TRANSPORTATION OF THINGS:	71,850	131,495
Shipping & clearance	71,850	131,495
RENT, COMMUNICATION & UTILITIES:	56,975	47,188
Rent	26,975	22,188
Communication	30,000	25,000
PRINTING & REPRODUCTION:	64,790	64,792
OTHER CONTRACTUAL SERVICES:	408,720	379,512
Repair	140,000	75,000
Other	268,720	304,512
SUPPLIES & MATERIALS:	651,513	580,249
Laboratory & Hospital	431,959	370,249
Office & Janitorial	45,000	45,000
Research Animal & Feed	25,000	30,000
Fuel	12,000	12,000
Hospital Food	48,000	50,000
Linens & Uniforms	20,000	25,000
Educational	6,000	4,000
Others	63,554	44,000
EQUIPMENT:	275,720	233,050
Laboratory & Hospital	212,720	184,050
Transport	15,000	20,000
Office	19,000	15,000
Books	5,000	1,000
Others	24,000	13,000
TOTALS:	3,872,105	3,845,487

A G E N D A

FOR THE FIFTH MEETING OF THE DIRECTING COUNCIL

March 10, 1966

9. ~~13.~~ Clinical Investigation Committee

10. ~~14.~~ Representation Policy

11. ~~15.~~ Extension of CRL-GOP Agreement (p.5)

~~16.~~ Government Service Credit for Pakistan-SEATO Cholera Research Laboratory employees. (13)

~~17.~~ Election of Chairman & Vice-Chairman for the ensuing year.

~~18.~~ Selection of dates for the 6th Meeting of the Directing Council.

19. Duty-free entry

12. Status of foreign staff

~~20.~~ Other items of Business.

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY
DACCA, EAST PAKISTAN

Minutes of the 4th Meeting of the Directing Council

The 4th Meeting of the Directing Council of the Pakistan-SEATO Cholera Research Laboratory was held in Dacca on 18th/19th January, 1965.

The designated members of the Council were:

Dr. Ralph E. Knutti Chairman	Director, National Heart Institute, Bethesda, Maryland. Representing the Director of the National Institutes of Health.
Col. S. A. Mallick* Vice-Chairman	Director of Health Services, Government of East Pakistan, Eden Buildings, Dacca, Representative of the Government of Pakistan.
Mr. David A. Wraight	Deputy Secretary-General South East Asia Treaty Organization, Bangkok, Thailand. Representing the Secretary General of SEATO.
Dr. D. J. M. Mackenzie	Permanent Representative of the Government of the United Kingdom.
Dr. Willard Boynton	Senior Public Health Officer, US/AID Pakistan, Karachi. Representative of the United States of America.
Dr. Abram S. Benenson Secretary	Director, Pakistan-SEATO Cholera Research Laboratory.

* Col. S.A. Mallick was ill and Dr. Ainuddin Ahmed was designated on 18 January to represent the Government of East Pakistan.

Others Attending the Meeting:

1.	Brigadier M. S. Hacue	Director General, Health Services, Government of Pakistan.
2.	Dr. Mohammed Fahimuddin	Consultant, Pakistan-SEATO Cholera Research Laboratory.
3.	Mr. Robert E. Freise	Executive Officer, Pakistan-SEATO Cholera Research Laboratory.
4.	Mr. M. R. Bashir	Administrative Officer, Pakistan-SEATO Cholera Research Laboratory.

Others Attending part of the Meeting:

1.	Dr. O. J. S. MacDonald	Deputy Director, Ross Institute of Tropical Medicine, London.
2.	Dr. D. M. Mackay	Balisera Medical Department, South Sylhet, East Pakistan.
3.	Dr. Jean F. Rogier	Chief, Public Health US/AID Dacca.
4.	Dr. Robert O. Oseasohn	Deputy Director, Pakistan-SEATO Cholera Research Laboratory.
5.	Mr. Md. Shahabuddin	Accountant, Pakistan-SEATO Cholera Research Laboratory.
6.	Mr. N. H. Choudhuri.	Supply Officer, Pakistan-SEATO Cholera Research Laboratory.

A G E N D A

The meeting was called to order by the Chairman at 0910. All members were present except Mr. Wraight, who arrived at 10:30

The proposed agenda was presented and adopted.

Item # 2.

The minutes of the Third Directing Council Meeting, 18-19 November 1963 were reviewed for items which had called for action.

1) The first problem, that of assignment of deputed personnel after their return has been referred to the Coordinating Committee of the CRL for consideration. To date, two Government deputed individuals in this category have returned to Government and have received appropriate assignments.

2) The question raised in the previous meeting about studies to measure the effect of the proposed new Dacca water supply on the incidence of Cholera has been referred to the Technical Committee and has been considered by that panel. To date, no agreement has been reached on the feasibility of such studies, but the subject is still under consideration.

3) Dr. Mackenzie reported that a letter expressing the sentiments of the Directing Council had been sent to Mrs. Smadel as the Council had requested.

The minutes were then approved as presented.

Item # 3. The Director's Scientific Report D.C. 4/1

Two activities of the Directing Council took place in connection with this agenda item. The first of these was a visit to the ward at 10:00 on 1.18.65. On the afternoon of 1.19.65 members of the Council and Brigadier Harue visited the Matlab Bazar operation.

During the ward visit in Dacca, members of the Council had the opportunity to see at first hand the admission of two cholera patients and the institution of treatment in one of these. At Matlab the Council was impressed by a demonstration of the resourcefulness which has taken place in the development of this treatment center in conjunction with the double blind vaccine trials.

The Directing Council in formal session adopted the Director's Scientific Report with a commendation to the Director and CRL staff for the productivity of their work to date.

Item # 4.

The Report of the Technical Committee DC 4/2 was reviewed. The detailed analysis of the CRL program was appreciated by the Council, who noted with pleasure the favorable comments about the accomplishments of the laboratory. The Report of the Technical Committee was accepted and the general program approved. The Directing Council expressed their appreciation to the Technical Committee for their work which could produce a study of such depth.

Item # 5. The Director's Administrative Report D.C. 4/3.

The Director referred to a letter from AID which outlined its policies in regard to CRL. This delineation of AID support was regarded by the Council as a progressive step, due to the clarification of a number of questions heretofore somewhat vague. Dr. Boynton indicated that he would obtain for the laboratory a letter outlining the information necessary by AID for funding international travel of American personnel.

In regard to overseas training, the question was raised as to what arrangements have been made for the utilization of the current trainess on their return to the CRL. The Director stated that an agreement to serve a year at CRL for each year of overseas training was required before departure overseas. (Brigadier Haque advised the Directing Council that the Government of Pakistan required service indenture on return for periods of 3 to 5 years).

The question of the problems relative to importation of equipment and customs duties was discussed. It was brought out by Brigadier Haque that CRL should give the Government of Pakistan advance notice of the amounts of equipment and supplies which are proposed to be imported in the ensuing year, so that the funds for import duties could be budgeted in advance. The Brigadier also stressed the importance of using COP terminology and description on the manifests so that confusion of customs fees is minimized.

Item # 6. The Director's Financial Report D.C. 3/1. (including the revised budget plan for 1965.)

The expenses resulting from the provision of treatment to all cases of cholera in the Dacca area were considered at length. This led to a discussion of the ability of the Laboratory to cope with an epidemic outbreak on a large scale. The only apparent limitation envisaged for such an emergency would be a shortage of intravenous fluids. In this regard, the Directing Council adopted the following resolution:

> " The Directing Council recommends to the Cholera Research Program that dollar funds be expended to purchase enough intravenous fluids to insure that CRL has in being a reserve supply with which to handle the admission of the numbers of patients likely to present themselves during a cholera emergency. The Directing Council approves the present policy of accepting all suspect cholera cases from the Dacca area as being essential to the research program, but wants assurance that the present high level of therapeutic efficiency will not be prejudiced through lack of supplies."

The apparent depletion of the capital reserve fund was discussed. The Directing Council noted that the Government of East Pakistan has expressed its willingness to contribute Rs.96,000 to the Capital Reserve Fund if matched by U.S. AID; the Council requests that AID/Pakistan exert every effort to assure replenishment of this critical fund.

Mr. Wraight pointed out the SEATO forum would be a logical place to present the requirements for the support of the laboratory-- whether for specialists or otherwise. He also advised that it would be necessary to be specific in delineating such requirements, in which case the requirements might very well receive favorable consideration by some member nations.

The Director's financial report was then approved.

Item # 7.

The Audit Report and the Director's comments were accepted and approved. The Directing Council noted with pleasure the progress made in accounting procedures as evidenced by the unusual fact that the auditors had no adverse comments.

Item # 8.

The appendices to the financial regulations were presented. A description of CRL accounting procedures and the terms of salary advance were accepted as read. In consideration of the travel regulations of the laboratory, it was suggested that the wording of paragraph 1.8 be changed to read "CRL employees whose main duty station is the Cholera Research Laboratory in Dacca, but who are designated by the Director to posts entailing continuing field study away from Dacca will not be considered in travel status and will not be paid per diem. They will, however, receive thirty per cent salary differential as a special allowance."

Item # 9.

The proposed budget for FY 1966 was presented and discussed. The Directing Council was unanimous in its opinion that the ten per cent increase in the General Operating Fund was justified, and accordingly approved the level for this purpose at Rs. 550,000.

It was noted that the U.K. contribution will also be increased by ten per cent to a total of Pounds 11,000.

Item # 10.

The election of Chairman and Vice Chairman for the ensuing year was held. It was proposed by Dr. Mackenzie and seconded by Dr. Boynton that Dr. Ralph E. Knutti continue as Chairman for another year. This was unanimously approved. Col. S. A. Mallick, proposed by Mr. David A. Wraight and seconded by Dr. Boynton was unanimously elected Vice Chairman.

Item # 11.

It was agreed that the date for the next meeting would be determined by the Chairman after future consultation with the Director of the Laboratory and the members of the Council.

Item # 12.

No other items of business were presented.

The meeting adjourned at 1700 January 19, 1965.

Signed.
Dr. Abram S. Benenson
Secretary.

Signed.
Dr. Ralph E. Knutti
Chairman.

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

Fifth Meeting of the

DIRECTING COUNCIL

Dacca, East Pakistan - March 9-10, 1966

REPORT OF THE TECHNICAL COMMITTEE

DC 5/1

REPORT OF THE TECHNICAL COMMITTEE

INTRODUCTION.

The annual meeting of the Pakistan-SEATO Cholera Research Laboratory technical committee was held in Dacca January 17-19 1966. The delegates were Brig. M S. Haque, Director General of Health Services, Govt. of Pakistan, Prof. Robert Cruickshank, Professor of Microbiology, University of Edinburgh and the Chairman, Dr. Robert S. Gordon, Clinical Director, National Institute of Arthritis and Metabolic Diseases, USA. The members of the consultant panel who were able to attend are listed in the appended pages. The program was arranged by Dr. Abram S. Benenson, and consisted of four half-day open sessions during which scientific papers were presented by members of the laboratory staff and discussed by the committee and panelists, a brief presentation of future plans by each investigator, and tours of the laboratories and facilities including a visit to the Matlab Bazar Vaccine Trial area. In addition to the scientific papers, the committee was privileged to see the first of the color motion pictures being produced by the Communicable Disease Center of the U.S. Public Health Service and the C.R.L., featuring clinical aspects of the management of cholera.

The volume of scientific information on the program was that even the two full days allotted for its presentation and discussion proved too brief; many fruitful discussions had to be terminated for lack of time. The quality of many of the papers was excellent, and the committee congratulates the retiring Director, Dr. Abram S. Benenson and his staff for the outstanding results of the year just concluded.

In its final meeting with its consultants, the committee reviewed and discussed the scientific reports, and considered the merits of tentative future research plans. The following evaluation and apparaisal of the major areas of research activity incorporates the committee's recommendations for the laboratory's future program. The enthusiasm generated by the excellent results of the work which has been carried out, and the many possibilities for continuing research based on this body of knowledge of cholera in East Pakistan, and on the existence of effective clinical, laboratory, and field organizations, leads the committee to recommend almost throughout that the CRL be enlarged and strengthened, and that it undertake a greater number of investigations. The laboratory was deemed to have achieved maturity one year ago. It is now growing in experience and capability, and should be entering on its most productive years.

(more)

EPIDEMIOLOGY:

During 1965, 3 major advances in the epidemiological program of the CRL were achieved. Those are:

I. The demonstration of the effectiveness of a cholera vaccine;

II. The incorporation of serological tests in field studies;

III. The definition of distinct epidemic patterns of spread of infection.

As a result of these advances the future epidemiological program can proceed on a theoretically sounder and more sophisticated basis.

I. Vaccine Effectiveness:

A. Results to Date:

In Matlab Bazar, two controlled studies of cholera vaccine have been conducted. The first was initiated in the fall of 1963 and included 14,000 persons. A high potency whole cell vaccine was used. Observations have been extended over two full cholera seasons and a third season is now in progress. An effectiveness of approximately 80 percent in reducing both hospitalized and field cases was observed during the first year. This effectiveness declined to about 60 percent during the second year although the decline was limited to the age group under 5 years. An 80 percent effectiveness for older children and adults was maintained.

The second study initiated in 1964 employed both the high potency whole cell vaccine and a purified Ogawa antigen in an additional 25, 000 persons. During the first year, an effectiveness of the whole cell vaccine of 73 percent was observed, but the overall protective effect of the Ogawa antigen was only 41 percent. This low rate is not surprising since the infecting strains of cholera in the area were largely the Inaba type, and the antibody responses observed were minimal both for the Inaba and Ogawa strains. It is of interest however, that this Ogawa antigen gave good protection in adults suggesting a substantial cross immunizing effect in this hyper-endemic community.

These vaccine field trials have been planned with great care and with due attention to sound experimental design. They have been executed with meticulous precision including almost daily visits to the homes of all families and the collection of over 40,000 specimens for verification of diagnosis. A total of 126 cases of cholera were confirmed, 74 of them hospitalized and the remainder discovered by the field surveillance.

B. Future Vaccine Studies at CRL

With the successful demonstration of the effectiveness of a cholera vaccine, future field trials can be modified both as to design of the study and choice of antigens.

The present method of surveillance of the study populations seems cumbersome and unwieldy. The large staff of field workers detected only 52 cases of cholera in addition to the 74 cases which resulted from hospital admissions. Greater reliance on the hospital for detecting cases is indicated. Since approximately three-fourths of the cases now being treated at the Matlab Hospital come from areas outside the vaccine study villages, expansion of the study populations, should be readily possible. Additional ambulance services in the form of speed boats should be considered. With such modifications in future study methods more attention could be directed to intensive studies of small selected population groups, specially those experiencing outbreaks.

The choice of antigen and immunizing schedules for future studies presents many knotty problems. The following alternatives were considered at length.

1. Improvement in dosage schedules using the present high potency whole cell vaccine.

   Comment. Approximately 10 liters of this vaccine remain in the stock pile. Repeated doses and larger amounts of antigen specially in children are clearly indicated. The study now in progress in Ludhua should provide important guide lines as soon as the 6 month bleedings are collected and tested in April. Some members of the consultant panel strongly supported this plan, feeling that the most effective possible vaccine should be made available in the near future because of the threat of further spread of the present cholera pandemic. Others favored a more deliberate program aimed at developing a highly purified, specific and effective vaccine, even though 5 to 10 years might be required.

2. The use of an adjuvant with the purified antigen.

   Comment. The relatively poor antigenic responses of the Ogawa purified antigen may have resulted from its solubility. An adjuvant should materially enhance its antigenicity. It is problematic that such a product should be used in the field until adequate testing on a small scale has been carried out to determine stability, reaction rate and antibody responses. Furthermore, a field trial should await the availability of the purified Inaba antigen.

3. The use of monevalent whole cell antigens.

Comment. It has been proposed that large batches of monovalent Inaba and Ogawa whole cell antigens be procured. These might be placed in long term storage, and samples made available on a worldwide basis to competent investigators as reference vaccines. Field testing of the effectiveness of these two monovalent vaccines would materially enhance their value as standards, but will have to await the procurement of the stock vaccines.

4. The Development of Toxoids.

Comment. The intense interest in cholera toxins has led to the hope that toxoids can be developed to provide antitoxic immunity. As soon as the necessary labor tory and small scale human antigenicity and safety tests have been performed, serious consideration should be given to a field trial at CRL.

II. Serological Studies.

The use of capillary tubes for collecting blood by finger prick has found wide application for serological sruveys in the field. The agglutination and vibriocidal tests have been used extensively, (over 1500 specimens) in the Matlab study area. The cholera toxin neutralization test of Craig has been performed on a less extensive scale but promises to be of great value.

In Matlab specific cholera antibodies to both the Inaba and Ogawa strains occur in a high proportion of persons. The prevalence increases sharply with age. These findings correlate closely with the sharply declining incidence of cholera cases with increasing age. Thus Matlab is a hyperendemic area in which the adults are presumably largely immune as a result of past experience with the infection. The results of epidemiological field investigations andof vaccine effectiveness studies must be interpreted with caution and may not be applicable in other areas where cholera has not long been present.

It is not yet known whether any of the presently measurable antibodies are correlated with resistance to infection. Intensive serological studies of clinical cases early in the course of the disease, and surveys in carefully selected populations with varying past experience with cholera should be contemplated. The establishment of a laboratory test for true immunity would greatly assist the development of effective vaccines.

III. Epidemic Patterns

The success of the CRL ward in treating cholera cases has proceeded to the point where admissions confirmed as cholera provide a useful case count for descriptive epidemiological studies. In addition the continuing family study, the Rayer Bazar study, the intensive followup of Matlab Bazar cases, and the special studies of epidemic and localized outbreaks in and around Dacca all have provided a wealth of observations to define epidemic patterns. It is evident that in Dacca, cholera cases cluster in time and locality suggesting a series of small common source outbreaks. Several of these have been traced to specific wells or to certain canals used for bathing and as sources of water. In Matlab Bazar, however, a number of isolated single cases have occurred among young children in villages in which no other infected person can be identified. The source of these cases remains obscure and presents a specific challenge to the shoe leather epidemiologist.

Persistent field epidemiological studies of increasing depth and intensity supported by adequate bacteriological and serological diagnostic services offer the best prospect of discovering sources of infection, determing modes of spread, and establishing the ecological factors essential to the survival and distribution of the cholera vibrio. Such knowledge is essential both to planning and effective use of vaccines, and to applying methods of environmental control.

While investigating cholera itself, the CRL has discovered the magnitude of the problem raised in East Pakistan by severe, disabling, cholera-like diarrheas which are not due to infection with V. cholerae. In many of these cases, the etilogic agent remains unknown. Study of non-cholera diarrheas, from both clinical and epidemiological points of view, has afforded useful comparative information. For example, interest aroused by the observation that cholera most often has its clinical onset between 3 & 6 AM has been tempered by the finding that the same is true of the other acute diarrheas that simulate cholera.

The anthropological studies during the past year have provided a most valuable background of understanding of patterns of human behavior, which directly support the epidemiological studies. Noteworthy are the analysis of infant care practices and of social class variations in use of water. Future anthropological studies are warranted, and should be closely coordinated with the epidemiological projects.

Scope of Future Program:

The achievements in the epidemiological program during 1965 are clearly the result of careful planning and preparation of a series of studies initiated in previous years. A successful transition has been made in professional direction of the program. It is now possible to expand the activities in a number of directions both in the basic studies already in progress and in new investigations. The latter

include such projects as a comprehensive investigation of non-vibrio cholera, the exploration of suitable measures for surveillance of cholera throughout the province of East Bengal, and evaluation of various control measures other than vaccine.

In order to extend effectively the basic studies now in progress a minimum staff of 3 qualified epidemiologists is essential. Expanding to additional projects will require additional epidemiologists and supporting staff and services. During times of epidemics, and other peak loads of field work as in embarking on new immunization programs, additional medical epidemiologists may well be needed on a short time basis - 6 weeks to 3 months. The careful selection of candidates for these short time duty assignments might well serve as an effective recruiting service for later long term tours of duty.

CLINICAL RESEARCH:

The CRL has now operated a treatment center in Dacca for three full years, and at Matlab Bazar for two. Therapeutic results are impressive, with cholera case mortality being kept well below 1% at each site. Both are being operated primarily by Pakistani staff. The plan of treatment for acute cholera cases does not depend on methods or materials that cannot be made available in other hospitals in the province.

These treatment centers offer a valuable service to the community, but this alone does not justify the undertaking of such a large and costly program by a research institution. The value of the CRL of the curative services must depend on their contribution to research activities. The committee believes that the treatment centers facilitate investigation in many ways. They improve rapport with the community in areas where studies are proceeding. In the Matlab vaccine trial area, participation among the population has risen from 50% in the first studies to almost 80% in more recent ones, a change which is probably attributable largely to confidence gained through the treatment center. They can, by virtually eliminating cholera mortality among selected populations, enable the CRL in good conscience to incorporate placebo groups in vaccine trials when this is scientifically desirable. By attracting cholera cases to the CRL, they make available the patients necessary for clinical and physiologic research, and index cases for epidemiologic study. These cases may be most difficult to procure in inter-epidemic periods; in order to bring them to CRL when the incidence of cholera is low, the laboratory must accept the challenge of handling large number during brief epidemics. Finally, by accepting for treatment all suspect cholera cases in one urban and one rural center, the CRL is developing a scientifically documented body of clinical experience with the disease which cannot be paralleled elsewhere.

The annual case load in Dacca has doubled each year, and that in Matlab has also increased rapidly. This trend will presumably not continue indefinitely, however, as the acute nature of cholera and the difficulty of transporting patients limits the area that may be served by any fixed installation.

Thus the Dacca Municipal area and environs, with a population on the order of one million, ought to supply approximately 1,000 cases per year if current estimates of the cholera attack rate are reasonable. Handling this load should be well within the capabilities of the CRL and its present staff. However, the laboratory should be cautious about extending its services further, and should not be asked to provide services outside specific study areas.

The physical facilities for the cholera treatment center in Matlab Bazar are being expanded greatly, with the building of a new rural health center which will have one wing devoted to cholera treatment, staffed and operated under the supervision of the CRL. Floor space in the CRL ward in Dacca is now at a premium, and expansion of this facility is necessary. During epidemic periods, beds have to be so crowded that the staff finds it difficult to render optimal care. More importantly, space should be made available so that certain cases selected for intensive study may be handled in an area which is set aside from the main ward and suitable for more elaborate clinical research procedures.

The scientific work of the Clinical Research Section has hitherto centered on cholera therapy. Notable advances have been made, and a highlight of the work of 1965 has been the demonstration that case mortality even among young children can be kept to a fraction of 1% by careful attention to fluid balance, combined with the use of antibiotics. Further data on antibiotic effectiveness and dosage schedules have been collected. Single solution procedures for the replacement of losses in cholera have been formulated, and the effectiveness of this approach demonstrated. Hitherto unrecognized complications of cholera, such as hypoglycemia in children, have been observed, and rational therapeutic approaches formulated. Scientific reports on these findings have been prepared, not only for this Committee, but for publication in the local and international periodical literature.

In addition to these studies of therapeutic measures, valuable work has been accomplished in the study of pathophysiology in cholera. In collaboration with the cardiopulmonary laboratory of Bellevue Hospital, New York, cardiac function in acute cholera has been investigated by means of right heart catheterization. The results have not yet been fully analyzed, but a preliminary report indicates that the study was rewarding. Investigations of intestinal function have also been begun, and the observation that large volumes of fluid can be aspirated from the proximal jejunum in cholera. Resulting in marked diminution in the volume of diarrheal fluid, is a promising lead. While no one of these investigations has had dramatic and satisfying results like those achieved in the investigations of therapy, they may hold greater promise for an eventual understanding of the nature of cholera which will make possible the elimination of the disease as a threat to humanity.

In considering the future direction of the clinical research program, the Committee recommends that prime attention be focused on studies aimed at basic understanding. Improvement of therapy, already so effective, should be a secondary goal. The pathophysiologic mechanism of the diarrhea of acute cholera has still not been described in biochemical terms. When this can be done, and when the role of the vibrio infection in initiating the diarrhea can be formulated, the feasibility of isolating an active bacterial toxin and using it an immunizing antigen can be studied on a rational, rather than purely empirical basis. With better understanding of the mechanisms of diarrhea, it might also be possible to develop pharmacologic measures to halt fluid loss even before antibacterial agents can exert their effects. Host factors that influence susceptibility to infection, and may govern the initiation of the process, might be approached by clinical and physiologic studies, preferably planned around hypotheses that take account of epidemiologic findings. A reinvestigation of the role of gastric acidity in preventing infection has been suggested, for example. Finally, reasearch on the mechanism of spontaneous recovery from cholera, when only supportive treatment is given, might be very rewarding. Such recovery often occurs before circulating antibodies are demonstrable by present techniques. The proposed study of serotherapy of cholera may throw some light on this question.

There is still a need for developing experimental animal models for cholera in which the pathophysiologic mechanisms are closely skin to those in man. An animal that could be infected by the oral route without the need for preliminary drastic alteration of the physiology of the digestive tract, which would develop dehydrating diarrhea without toxemia like that seen in human cases, and which would be a large enough for physiologic and biochemical investigations, would be very valuable. The results which have been obtained at CRL with monkeys continue to be suggestive and tantalizing, but not satisfying. This and related studies should be continued in Dacca, where the continuing work on clinical cholera provides both motivation and the knowledge of the human disease for which the animal should be a parallel.

In the immediate future, the Clinical Research Section will lack a qualified and experienced investigator to serve as Chief. This vacancy should be filled as soon as possible. In addition, the possibility of supporting a pathologist interested in experimental work should be considered. A pathologist could, with the help of those qualified in physiology and bacteriology, undertake further work on experimental infections, while at the same time exploiting the possibilities for microscopic study of biopsy and autopsy tissues obtained in connection with the clinical investigation program.

DIAGNOSTIC BACTERIOLOGY:

The staff of the Bacteriology Section was again kept busy with the examination of specimens from hospital patients, from cases and contacts in the vaccine trial areas, and from the community studies in Rayer Bazar. From a total of 107,554 specimens during the year October 1964 to September 1965, Vibrio cholerae was isolated in 2,870; Inaba was again the common serotype while the so-called El Tor variant was identified in only 38 specimens. The microbiological members of the advisory panel strongly recommend that the term El Tor be discarded and that a classification like that suggested by Feeley be more generally adopted.

Of other bacterial enteropathogens, Shigellae (mostly B or Flexner group) were found about five times more frequently than the Salmonellae, while non-cholera vibrios of doubtful pathogenicity were found in 530 specimens. A more selective medium, e.g. D.C.A. or S.S. might be used routinely for the isolation of these enteropathogens. Most of the specimens were collected by rectal swab which is convenient and reliable in acute diarrheal cases but may be less reliable than a stool specimen from contacts and convalescent cases. It would be interesting to have some comparative studies of rectal swab v.s. stool specimens made in these latter groups.

A most useful evaluation of a wide range of selective culture media recommended for the isolation of cholera vibrios was made during the year; the two most effective media were the taurocholate-tellurite gelatin agar (TTGA) already in regular use at CRL, and a modified alkaline lauryl sulphate tellurite (ALST) medium which has some advantage in cheapness.

As part of the clinical study on the source of the intestinal fluid loss, jejunal aspirates were examined bacteriologically and were found to contain a high concentration of cholera vibrios as well as a variety of other bacteria. This study should be continued including, if possible, aspirates from early cases with no history of vomiting. Consideration may have to be given to a more detailed examination, including anaerobic cultures, of the jejunal aspirates in diarrheal cases. Bacteriologic findings should be correlated with clinical data and intestinal histology when biopsies are carried out.

Studies on cholera phages could usefully be extended to the search for phages in stool specimens and in water supplied. Studies on the criteria for the identification and classification of non-cholera vibrios should be continued.

WATER AND FOOD ANALYSIS:

A large number of water samples from dug wells, tube wells, tanks and canals were examined both bacteriologically and chemically for evidence of fecal pollution and the presence of pathogenic and nonpathogenic vibrios. The evidence indicated that cholera vibrios could be isolated from water samples only when there were human cases of cholera in the neighborhood, whereas non-cholera vibrios were frequently found outside the period of cholera prevalence. There was epidemiological evidence that a canal in the Rayer Bazar area might be the source of localised outbreaks of cholera and more sampling of canal and reverside waters is being planned.

The continued use of the cotton wool swab for collecting and concentrating water samples for bacterioligical examination, and extension of the use of membrance filters for the same purpose, are recommended. In these studies there must obviously be close liaison with the epidemiology unit which will take responsibility for the sites for collection of water samples but in the bacteriological examinations of water and food there should be a close link with the diagnostic bacteriology laboratory.

The advisability of trying to recruit a senior, preferably medically qualified, microbiologist to take charge of the diagnostic bacteriology unit and to cooperate actively in the research program is again emphasized. Efforts to this end are to be made in the U.K., U.S.A. and perhaps in Australia.

TEACHING AND COORDINATION WITH PUBLIC HEALTH PROGRAMS:

The Committee feels that the activities of the C.R.L. should, as far as possible, be integrated with those of the Government of Pakistan. The facilities and resources of the Government, especially those of the Institute of Public Health, should be utilised to supplement the activities of C.R.L. and vice versa. Every effort should be made to draw up a joint program in collaboration with the Government. The Director, Institute of Public Health, might act as the joint Director of such collaborative programs.

It is hoped that the C.R.L. will take an active part in the teaching and training program of the Government, especillay those carried out at the Institute. This will help in better dissemination among the members of the medical profession of the knowledge and techniques acquired at the C.R.L. and will better serve the mission of the laboratory. The above presumes that the Government will take a liberal view with respect to part-time participation of their staff in C.R.L. activities at terms mutually agreed upon.

The laboratory should also try to hold teaching seminars and encourage visits of teachers from Medical Institutions throughout Pakistan in order to dissseminate knowledge and exchange views.

RESEARCH MAINTENANCE SERVICES:

An important function in every research laboratory is the provision to the professional staff of the materials, supplies, services, and utilities they require in order to carry on their investigations. This is primarily an administrative and engineering activity, for which the scientist himself is frequently not well qualified. The committee feels that greater attention must be paid to these essential services, and that the funds, space and personnel necessary for adequate research services must be planned for and provided.

Supply: Many essential items of equipment and expendable supplies must be imported. Surface shipment from America, U.K. or other sources is so time consuming, and air shipment so costly, that large stocks of materials should be kept on hand, properly catalogued and protectived. Existing storage space is inadequate in extent, and many valuable laboratory materials are being damaged by insects, heat and humidity while in storage.

Utilities: The CRL depends almost solely on electricity as a source of energy, yet the present supply is inadequate and requires regulation. A small diesel generator ordered in 1960, when the present scope of the laboratory's operation was not envisioned, is a standby source. The committee endorses plans to provide for a more adequate power supply, and for a standby generator and wiring system such that rapid automatic switching to the auxiliary source will be possible.

Except for an electric water heater in the glassware and media rooms, there is no supply of running hot water at the CRL. Steam and/or hot water lines would be a convenience in the hospital area for cleaning linens, etc., and would be of value in all laboratory area. A new study of the feasibility of using steam, rather than electricity, for operating still and autoclaves should be carried out; considerable economies might be realized.

Maintenace: The number of instruments that are inoperative for lack of repairs is distressing. The laboratory sorely needs the services of a highly qualified specialists in medical and electronic instrument maintenance. The picture with respect to motor vehicles and boats is more satisfactory; these are now being handled with reasonable efficiency by the CRL staff with the help of the USAID motor pool.

Animal Production: Work on experimental cholera in guinea pigs or infant rabbits, which might profitably be undertaken by an experimental pathologist, or by members of the clinical research staff during non-cholera seasons, would require larger animal colonies than those now established. The committee recommends that efforts to build up more adequate animal colonies, and more satisfactory space for animal experimentation, be undertaken.

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

Fifth Meeting of the

DIRECTING COUNCIL

Dacca, East Pakistan - March 9-10,1966

DIRECTOR'S ADMINISTRATIVE REPORT

DC 5/2

DIRECTOR'S ADMINISTRATIVE REPORT.

During fiscal year 1964-65, the CRL has continued to function as a mature research laboratory. The conflict between India and Pakistan caused a certain amount of disruption in that mail services were unreliable, importation of supplies became more difficult and two members of the American Staff were evacuated to Manila from September 19, 1965 to November 30, 1965.

PERSONNEL:

During the past year of operation, the overall increase in staff at CRL has been very limited. (Table 1) However, there has been several changes in Key personnel and these are noted below:

TABLE 1

	Director's Office	Clinical Research Section	Epidemiology Section	Bacteriology Sec.	Water Analysis Sec.	CRL Ward	Administrative Sec.	General Services Sec.	Matlab Vaccine Trial	Foreign Training	TOTAL
28 Feb. 1962	3	2	7	5	6	-	4	13	-	-	40
16 Nov. 1962	4	14	18	10	7	-	4	13	-	-	80
18 Nov. 1963	4	22	27	20	11	40	7	37	-	-	168
15 Jan. 1965	4	26	23	27	11	45	8	48	152	3	347
31 Jan. 1966	2	20	23	27	12	51	8	52	152	5	352

(more)

The CRL foreign training program has been continued and we now have five persons abroad for higher studies. Mr. S.A.Khan and Mr. S.O.Q. Haider Ali of the Epidemeology Section are at Western Reserve University, Cleveland, Ohio (Mr. Khan in his second year) and Mr. S.I. Hasan of the Clinical Research Section continues his second year at Jefferson Medical College, Philladelphia, Pennsylvania. Mr. Syed Zafar Ahmed from the Water Studies Section is at the London School of Hygiene and Tropical Medicine. Mr. Imdadul Huq of the Bacteriology Section has completed his training in London and has returned to duty at CRL. Dr. A.K.M. Jamiul Alam of the Clinical Research Section is now at the Whittington Hospital in London, England receiving training in medicine and gastroenterology. Also Miss Anisa Saad has been granted a Fulbright Scholorship and is attending classes at the University of North Carolina, U.S.A.

Changes in Key personnel during the year and thru January 31, 1966 were: (upto 31.1.66 from 15.11.64)

30 April 1955	Dr. Md. Matleb Ali, deputed from GOEP to this laboratory and assigned to CRL Ward has returned to his original position.
22 May	Dr. W.B.Greenough, III., Chief, Clinical Research Section departed.
28 May	Mr. M.R.Bashir, Administrative Officer, resigned.
18 June	Dr. Wiley H. Mosley, joined the CRL as Chief of Epidemiology Section.
12 July	Dr. James O.Taylor, joined the Clinical Research Laboratory
14 July	Dr. Robert O. Oseasohn, Chief, Epidemiology Section departed.
23 July	Dr. David B. Sachar, joined the Clinical Research Laboratory.
23 July	Dr. Md. Shamsul Islam, deputed from GOEP to this laboratory and assigned to CRL Ward has returned to his original position.
17 August	Dr. Robert M. Glasse, Anthropologist, departed.
20 September	Dr. Abdul Majid Molla, deputed from GOEP to this laboratory and assigned to CRL Ward.
30 November	Dr. Abram S. Benenson, Director, CRL departed and entered into a special contract with this laboratory for 6 months from January 22, 1966.
1 December	Dr. Robert A. Phillips, Joined the CRL as Director.
10 January 1966.	Dr. William McCormack, joined the Edidemiology Section.
26 January	Mrs. Shirley Lindenbaum, Anthropologist, departed.
26 January	Dr. John Lindenbaum, Chief, Clinical Research Section, departed.

PHYSICAL FACILITIES:

During the past year, the GOEP has constructed a Rural Health Center building at Matlab Bazar. One two storey wing in this building (approx 1000 sq.ft.) has been allocated to CRL for use as a hospital-ward for cholera patients and also to provide space for our epidemiology field staff. This laboratory contributed rupees 80,000 toward the construction of this wing, which was designed to our specifications. The ground floor has been completed and we will soon move the patients from the CRL barge-hospital to the new building.

TRANSPORTATION:

1. The laboratory automobile fleet now numbers fifteen. We have recently purchased a Volkswagon Microbus from Dr. Wm. B. Greenough III. Also, two four-door Austins are on order from the U.K. and two Jeep Wagoneers are on order from the U.S. These vehicles have been ordered under our planned replacement policy worked out with the staff at the American Consulate motor pool in Dacca. One new jeep station wagon was received during the year as a replacement vehicle. The CRL vehicles on hand are noted below:

Vehicle	Model	Licence No.	Mileage 1st Jan.1966
1. Jeep, Station Wagon.	1960	EBD-6650	82,712
2. Jeep, Utility.	1960	EBD-6651	60,124
3. Jeep, Station Wagon.	1964	EBA-8729	19,203
4. Jeep, Australian Station Wagon.	1962	EBA-1585	74,460
5. Jeep " " "	1962	EBA-1586	81,725
6. Land Rover," "	1962	EBD-2899	51,082
7. Land Rover," "	1962	EBD-2781	54,000
8. Carryall, Dodge.	1962	EBA-2003	39,686
9, Carryall, Chevrolet.	1961	EBA-8978	55,000
10. Austin 1100.	1964	EBA-6032	40,599
11. Austin A7 countryman	1964	EBA-6033	41,545
12. " " "	1964	EBA-6034	41,000
13. " " "	1964	EBA-7026	36,000
14. " " "	1964	EBA-7027	38,277
15. Plymouth Station Wagon	1964	EBA-7156	19,203

2. The CRL water fleet (used for transportation in connection with our Matlab field project) has increased during the past year and now consists of the following:

	TYPE OF BOAT		SIZE		NUMBER
*	Fibre Glass boats	..	14 feet	..	4
	Aluminium boats	..	14 feet	..	2
	Aluminium boat	..	9 feet	..	1
	Dowty Turbocraft jet boat	..	14 feet	..	2
				Total:	9

* One fibre glass boat has been graciously loaned to us by Mr. John W.Bowling, American Consulate General, Dacca.

The Fibre Glass boats and the Aluminium boats are using the following motors.

One 5½ HP motor
Two 7½ HP motor
One 18 HP motor
One 20 HP motor
Two 28 HP motor
Three 33 HP motor
One 45 HP motor

The Launch 'Joseph E. Smadel continues its service to CRL. However, Launch 'Abu Baker', which was also on Loan to us, has been returned to GOEP at their request.

COMMUNICATION:

Due to the recent conflict between Pakistan and India, the shipment of the radio communication system, which has been contributed by the Australian Government, has been held up. Arrangements for shipment to Dacca are now being made.

ACCOUNTING:

The accounting and financial transaction at CRL have continued to function smoothly.

EQUIPMENT AND SUPPLIES:

We continue to have difficulties involving the custom clearance on various items of equipment and materials which we are required to import for our work.

A letter was written to the GOP suggesting that rupees 99,000 be included in their budget to cover customs duties or import taxes on items imported by CRL. The rupee figure is an estimate based on imports received at CRL during previous years. However, no money was budgeted by GOP, possibly due to a misunderstanding of our correspondence.

The following listed items of equipment have been received at CRL during the past year.

PROPERTY OF U.S. GOVT.
ON
MEMORANDUM RECEIPT.

Quantity.		Total Cost.
26	Airconditioners, Amana	$7468.80
1	Bath, water	285.00
1	Bath, water	285.00
1	Charger	58.00
1	Calculator, Printing	598.10
6	Carts, Laboratory	270.00
1	Cholorimeter, Kleet, Dubosq, optical	20.00
1	Cabinet, filing, Metal	72.25
1	Boat, Aluminium	257.50
1	Desk, Stainless steel	53.00
1	Incubator, Precision	505.00
1	Incubator, Elancop	395.00
1	Incubator, David Bradely	195.00
1	Jeep, Station Wagon	2537.05
1	Lamp, Mercury, Vapour	124.00
1	Lamp, Ultra violet	29.75
3	PH Meter	1485.00
1	Projector, Slide	24.50
1	Spectrophotometer, Coleman	819.00
1	Scale, Toledo	265.00
1	Still, Water, Barnstead	201.00
1	Regulator, 250 KVA	6655.00
2	Transformer, Sola	364.92
1	Transformer, 7.50 KVA	200.00
2	XRay Cabinet	75.00
1	Regulator	100.00
1	Microfilm Recorder	100.00
2	Lead, Pot	50.00
1	Mixer, Vortex, Junior	59.60
1	Blood Gas Apparatus Van Slyke	435.00
		$ 23986.97

PURCHASE WITH U.K.FUND

1	Incubator	£478-0-0

PURCHASE WITH LOCAL CURRENCY

Quantity		Total Cost
6	I.V. Stand	Rs.900.00
1	Bicycle	220.00
1	Ambu Resuscitator	430.00
1	Ambu Suction Pump	360.00
2	Filing Cabinet Ronco Type, Hanging	1407.00
1	Table Fan	200.00
1	Steel Almirah	280.00
2	Fire Extinguisher, Soda Acid	530.00
1	Weighing Machine, Portable	105.00
1	Stop watch	85.00
1	Tank, Water	278.00
1	Pump $\frac{1}{2}$ H.P., water	650.00
1	Work bench	645.75
4	Rack	690.00
1	Stair with Victory Stand	190.00
1	Rack	210.00
1	Storage Rack	650.00
1	Storage Rack	250.00
1	Table, work	75.00
1	Transister	192.27
		Rs.8348.02

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

Fifth Meeting of the

DIRECTING COUNCIL

Dacca, East Pakistan - March 9-10, 1966

DIRECTOR'S FINANCIAL REPORT

DC 5/3

FINANCIAL REPORT

The operation of CRL during the past year continued at full scale with a slight interruption of activities during the India-Pakistan conflict.

1. CRL Operating Fund:

After the final closing of accounts, there remained a small balance of Rs.19,855 of which the unrestricted portion (GOEP Share) Rs.9,590 has been transferred to the CRL Capital Reserve Fund. Appendix I shows the breakdown of expenditures from this fund during the past fiscal year. The total expenditures Rs.500,410 exceeded the previous year by approximately 10%.

2. NIH Research Agreement:

The CRL/NIH Research Agreement expired on June 30, 1965. The agreement has been amended (Appendix II) and extended for an additional two years.

A balance of Rs.211,009 remained after the final closing of the books and has been carried over to the current fiscal year. Appendix III is a statement of Income and expenditures of the NIH Rupee Account during fiscal year 1965. You will note that the total expenditure Rs.1,477,507 exceeded the NIH contribution Rs.1,371,381 by Rs.106,126. This deficit was covered from the Rs.303,556 carried over from fiscal year 1964.

3. Capital Reserve Fund:

Appendix IV itemizes the expenditures from the Capital Reserve Fund for the fiscal year. The funds available at the beginning of the year (Rs.113,426) less expenditures (Rs.21,246) leaves a balance of Rs.92,180 for fiscal year 1966. The GOEP share of the General Operating Fund (Rs.9,590) which was transferred to the Capital Reserve Fund, gave us a beginning balance of Rs.101,770 for 1966. As mentioned in the administrative report, the CRL has contributed Rs.80,000 toward the construction of the portion of the Rural Health Center Building at Matlab Bazar which is to be used for Cholera Research work. An additional Rs.40,000 has been obligated for road work, building maintenance, etc. US/AID and GOP (per agreement dated September 29, 1965) have agreed to contribute an additional amount (Rs.96,000 each) to this fund during fiscal year 1966 (Appendix V)

4. U.K. Funds:

During U.K. fiscal year 1965 £10,000 were made available to this laboratory. Appendix VI shows the status of this fund.

(more)

5. SEATO-NIH Cholera Research Fund:

$126,045 was utilized by this laboratory from funds allocated by the Chairman of the NIH Cholera Advisory Committee for CRL during F.Y. 1965. A breakdown of this expenditure is shown below:

Travel & Transportation	-	$ 4,489
Transportation of Things	-	18,944
Printing & Reproduction	-	6
Other Contractual Services	-	28,041
Supplies & Materials	-	46,770
Equipment	-	27,795
Total	-	$126,045

6. US/AID Trust Fund:

Rs.343,068 were expended in support of U.S. personnel assigned to CRL and for the provision of fuel & maintenance of CRL vehicles during F.Y. 1965. An itemized list of expenses is as follows:

Personal Services	-	Rs. 19,346
Rent,Communication & Utility	-	122,422
Other Contractual Services	-	139,624
Supplies & Materials	-	61,676
Total	-	Rs.343,068

7. Other GOP Contributions:

		Estimated Value
Space	-	Rs.150,000
Utilities	-	100,000
Other incidental costs	-	150,000
Total	-	Rs. 400,000

8. Other Support:

The Commonwealth of Australia contributed £A 4,588 to CRL during F.Y. 1965. This amount covers the salary and travel of Mrs. Shirley Lindenbaum and the cost of a short wave radio system.

(more)

Summary :

Appendix VII gives a final summary of our Financial Report for F.Y. 1965. Appendix VIII gives a breakdown of expenditures by participating nations.

A trend of the expenditures of CRL since its inception are shown in Appendix IX.

Upon reviewing the CRL operations for the first six months of this financial year, it was necessary to revise the current budget. The revised budget is shown in Appendix X.

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Appendix-I

CRL OPERATING FUND

STATEMENT OF EXPENDITURE FOR F.Y. 1965
(July 1, 1964 to June 30,1965)

CRL OPERATING FUND:

Opening balance for FY 1964-65 after transfer of a GOEP portion of unpaid balance of FY 1963-64 to CRF	:	Rs 17,664.43
Contribution by the GOEP for F. Y. 1964-65	:	Rs 250,000.00
Contribution by the U.S. Government PL 480 (Sec. 104 K) for F.Y. 1964-65	:	Rs 250,000.00
Interest earned on fixed deposits	:	Rs 2,601.58
TOTAL FUND AVAILABLE FOR F.Y.1964-65	:	Rs 520,266.01

DISBURSEMENT:

1.	Personal Services	: Rs 328,388.08	
2.	Travel & Transportation of Persons	: Rs 24,112.99	
3.	Transportation of Things	: Rs 7,246.09	
4.	Rent, Communication & Utilities	: Rs 10,332.45	
5.	Printing & Re-Production	: Rs 5,583.00	
6.	Other Contractual Services	: Rs 20,206.01	
7.	Supplies & Materials	: Rs 97,933.13	
8.	Equipment	: Rs 6,609.00	
TOTAL EXPENDITURE FOR F.Y. 1965			: Rs 500,410.75
		TOTAL UNUTILIZED BALANCE =	Rs 19,855.26

U. S. Govt. Share of unutilized balance	- 51.7%	:	Rs 10,265.17
GOEP Share (unrestricted portion)	- 48.3%	:	Rs 9,590.09

DC 5/3
Appendix - II

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. 3

Parties to the Agreement:

1. The National Institutes of Health, Bethesda, Md., 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: July 1, 1965 to June 30, 1967

Funds to be Provided during Period of Agreement: 4,626,000 Pakistan rupees
$124,000 Dollars U.S.

National Institutes of Health	Collaborating Institution
Project Officer: Margaret Pittman, Ph.D	Pakistan-SEATO Cholera Research Laboratory (Name of Institution)
Laboratory & Institute: Lab. of Bacterial Products, Division of Biologics Standards	Dacca, East Pakistan (Address)
	Dr. Abram S. Benenson (Name of Principal Investigator)
Authorizing NIH Official: James A. Shannon, M.D., Director, NIH	Title: Director, Pakistan-SEATO Cholera Research Laboratory
	Address where work will be performed: Pakistan-SEATO Cholera Research Laboratory, Dacca, East Pakistan
Validating signatures will appear at end of the agreement.	Payee or Financial Officer: Director, CRL
	Authorizing Official: Dr. Abram S. Benenson, Director, Pakistan-SEATO Cholera Research Laboratory

Agreement No.196802
Amendment No. 3

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, III, IV and 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 of Agreement No.196802, Amendment No. 2 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 4,626,000 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 $124,000 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 of Agreement No. 196802, Amendment No. 2 in accordance with the terms and conditions hereinafter specified, and to accept payment in the amount and type of currency specified.

Section III

Period of Performance

The work described in Section II of Agreement No. 196802, Amendment No. 2 shall begin on July 1, 1965 and shall not extend beyond June 30, 1967, 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 Agreement No.196802, Amendment No. 2. The maximum payment by the NIH to the Cholera Research Laboratory under this Amendment shall not exceed 4,626,000 Pakistan rupees and $124,000 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 Amendment. 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 of Agreement No. 196802, Amendment No. 2 as provided in the following summary.

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

July 1, 1965 - June 30, 1966	Rs.275,000
July 1, 1966 - June 30, 1967	303,000
NIH Contribution	Rs.578,000

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

July 1, 1965 - June 30, 1966	Rs.1,956,000
July 1, 1966 - June 30, 1967	2,092,000
NIH Contribution	Rs.4,048,000

Grand Total - Rs. 4,626,000

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

July 1, 1965 - June 30, 1966	$73,000
July 1, 1966 - June 30, 1967	59,000
	132,000
Less carry-over balance estimated for 6/30/65	-8,000
	124,000

Total - $124,000 U.S.

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

	FY'66	FY'67
Personal services	Rs. 1,143,741	
Travel and Transportation of Persons	394,000	
Transportation of Things	20,000	
Rent, Communications and Utilities	20,000	
Printing & Reproduction	40,000	
Other contract services	50,000	
Supplies & Materials	217,259	
Equipment	71,000	
	Rs. 1,956,000	2,092,000

Part C: U.S. Dollar Support

Research Expenditures	Estimated Expenditure FY'66	Estimated Expenditure FY'67	Total
Personal Services	$ 39,000	$ 30,500	$69,500
Transportation of things	8,000	2,500	10,500
Rent, communication, & utilities	500	500	1,000
Supplies	5,000	5,000	10,000
Equipment	5,500	5,500	11,000
			102,000
Training Expenditures			
Personal services	$7,500	$7,500	$15,000
Other services (tuition, insurance, etc.)	6,000	6,000	12,000
Supplies	1,500	1,500	3,000
			30,000
		Grand Total	$132,000

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 2,231,000 Pakistan rupees for the period July 1, 1965 to June 30, 1966. 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 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 Amendment;

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 the amount required to liquidate obligations previously incurred in the performance of work under the Amendment.

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)

May 5, 1965
(Date)

(For use where applicable)

For the Government of:

_____

_____
(Title)

_____

_____
(Address)

_____

COLLABORATING INSTITUTION

Pakistan-SEATO Cholera Research Laboratory

By Abram S. Benenson

Director
(Official Title)

Institute of Public Health Building
Mohakhali, Dacca-5
East Pakistan
(Business Address)

April 26, 1965
(Date)

NIH RESEARCH AGREEMENT FUNDS
STATEMENT OF INCOME AND EXPENDITURES FOR F.Y. 1965
(July 1, 1964 to June 30, 1965)

R U P E E

INCOME:

1. Opening balance as of July 1, 1964	:	Rs 303,556.00
2. NIH Contribution for F.Y. 1964-65	:	Rs 1,371,381.00
3. Interest earned on fixed deposits	:	Rs 13,580.66
TOTAL FUND AVAILABLE F.Y. 1964-65	:	Rs 1,688,517.66

DISBURSEMENT:

1. Personal Services	: Rs 922,014.41	
2. Travel & Transportation of Persons	: Rs 249,244.59	
3. Transportation of Things	: Rs 12,844.07	
4. Rent,Communication & Utilities	: Rs 12,513.48	
5. Printings & Re-Production	: Rs 12,940.36	
6. Other Contractual Services	: Rs 47,500.77	
7. Supplies & Materials	: Rs 185,258.73	
8. Equipment	: Rs 35,191.43	
TOTAL EXPENDITURE DURING F.Y. 1964-65	:	Rs 1,477,507.84
BALANCE AS OF JUNE 30, 1965	:	Rs 211,009.82

D O L L A R

INCOME:

1. Opening balance as of July 1, 1964	:	$ 32,490.38
2. NIH Contribution for F.Y. 1965	:	$ 25,000.00
TOTAL FUND AVAILABLE F. Y. 1964-65	:	$ 57,490.38

DISBURSEMENT:

1. Personal Services	: $ 30,632.00	
2. Travel & Transportation of Persons	: $ 816.00	
3. Transportation of Things	: $ 122.00	
4. Rent, Communications & Utilities	: $ 654.00	
5. Printing & Re-Production	: $ -	
6. Other Contractual Services	: $ 1,428.66	
7. Supplies & Materials	: $ 1,248.00	
8. Equipment	: $ -	
TOTAL EXPENDITURE DURING F.Y. 1964-65	:	$ 34,900.66
BALANCE AS OF JUNE 30, 1964	:	$ 22,589.72

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Appendix-IV

CAPITAL RESERVE FUND

STATEMENT OF INCOME AND EXPENDITURES FOR F.Y. 1965

(July 1, 1964 to June 30, 1965)

INCOME:

1. Opening balance as of July 1, 1964	:	Rs 97,926.00	
2. GOEP Share of unspent balance of OPF for F.Y.1964 transferred to CRF	:	Rs 13,878.05	
3. Interest earned on Fixed Deposits	:	Rs 1,622.75	
TOTAL FUND AVAILABLE			: Rs 113,426.80

EXPENDITURES:

1. 21.7.64	- Added construction work of Garrage with workshop	:	Rs 4,752.00	
2. 22.8.64	- Construction charges of Telephone Operator & Reception Room:		Rs 1,531.14	
3. 21.9.64	- Sanitary works in Garrage with workshop	:	Rs 5,095.00	
4. 21.10.64	- Construction of approach road to CRL Gate	:	Rs 736.00	
5. 28.1.65	- Installation charges of Power lines	:	Rs 5,540.00	
6. 4.5.65	- Repairing charges of Garrage with workshop	:	Rs 1,527.00	
7. 6.5.65	- Addition and alteration of Animal House	:	Rs 2,065.66	
TOTAL EXPENDITURE FOR F.Y. 1965				: Rs 21,246.80
				Rs 92,180.00
Proposed Transfer to Capital Reserve Fund (Unspent balance of GOEP portion of OPF for F.Y. 1964-65)				: Rs 9,590.09
BALANCE AVAILABLE FOR F.Y. 1965-66				: Rs 101,770.09

AID 10.5
(D-56)

PRO AG

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Appendix-V

PROJECT AGREEMENT
BETWEEN THE AGENCY FOR INTERNATIONAL DEVELOPMENT (AID) AN AGENCY OF THE GOVERNMENT OF THE UNITED STATES OF AMERICA, AND ECONOMIC AFFAIRS DIVISION AN AGENCY OF THE GOVERNMENT OF PAKISTAN

The above named parties hereby mutually agree to carry out a project in accordance with the terms set forth herein and the terms set forth in the Standard Provisions annex and in any additional annexes attached hereto.

This Project Agreement is further subject to the terms of the following agreement between the two governments, as modified and supplemented.

☐ General Agreement for Technical Cooperation Date.

☐ Economic Cooperation Agreement Date.

☒ Other Memo of understanding Date. May 20, 1958

1. Project No. 391-12-510-138
2. Agreement No. 66-3
3. Original Revision No.

4. Project Title

Pakistan-SEATO Cholera Research Laboratory

5. Project Description and Explanation

(See Annex A attached)

6. AID Appropriation Symbol
72-FT-720

7. AID Allotment Symbol
560-50-391-14-69-00

8. Rupee AID Finance	Previous Total (A)	Increase (B)	Decrease (C)	Total to Date (D)
(a) Total		$ 20,168		$ 20,168
(b) Contract Services		$ 20,168		$ 20,168
(c) Commodities				
(d) Other Costs				
9. Cooperating Agency Financing - Dollar Equivalent $1.00=				
(a) Total		$ 20,168		$ 20,168
(b) Technical and Other Services				
(c) Commodities				
(d) Other Costs		$ 20,168		$ 20,168

10. Special Provisions

The purpose of this agreement is to provide Rs.96,000 ($ 20,168) from Section 402 to match Rs.96,000 of GOP funds which have been provided in the GOEP Budget for the current year for the Cholera Research Laboratory Capital Reserve Fund, which was created in accordance with Article D, paragraph 1, subparagraph e of the revised CRL agreement between the Government of Pakistan and USAID dated December 30, 1961.

Date of Original Agreement	Date of this Provision	Final Contribution Date
September 29, 1965		June 30, 1966

From the Cooperating Agency
Sd/-
S. Osman Ali, Secretary
Economic Affairs Division

For the Director AID
Sd/-
D. G. MacDonald, Director
USAID/Pakistan

1. Project Description

The purpose of the Capital Reserve Fund is to place at the disposal of the Director, Cholera Research Laboratory (CRL), monies which may be used "to finance any construction, remodelling and installation, or modification of utilities deemed necessary by the Director, CRL, and mutually agreed to by authorities of the GOP to facilitate the Cholera Research Program at any time or place."

The USAID agrees to release Rs.96,000 from Section 402 funds for the CRL Capital Reserve Fund. The Government of Pakistan agrees to match the contribution of the United States by a contribution of Rs.96,000 from funds appropriated in the budget of the Government of East Pakistan for 1964-65 under Grant 18, Public Health, Account 39-B-5. The GOP contribution will be released simultaneously with release of Section 402 funds by AID.

Funds contributed by both Governments under this agreement shall be considered as no-year funds inasmuch as Article D, Paragraph I, subparagraph e of the GOP-USAID agreement of December 30, 1961 provides that "any balance remaining in the CRL Capital Reserve Fund at the end of a fiscal year will be carried to the next consecutive fiscal year."

II. Financial Consideration

Detailed project accounts, both fiscal and property, will be currently maintained by the Director, CRL, according to budget heads. Financial reporting requirements will be in accordance with Article D, paragraph I of the GOP-USAID agreement of December 30, 1961. Physical progress will be included in the CRL annual report.

Quarterly rupee sanction and expenditure reports will be prepared in triplicate on the prescribed form for the project by GOEP Project Director. One copy will be sent to USAID/Karachi and two copies to the Director of Accounts, Economic Affairs Division, Karachi as soon as possible. One of these copies will be immediately forwarded to the Assistant Director Controller of US A.I.D./Karachi, together with EAD comments, if appropriate.

US owned rupees released to the project pursuant to this agreement may not be used to pay for land purchases, customs duties, taxes, interest or payments on debt; nor may any of these funds be used for any purpose for which funds have been withdrawn by the Government of Pakistan to make payment on such debts or interest.

A. As used herein, "AID" means the Agency for International Development, any component agency, and any successor agency. "Cooperating Agency" means the agency which is a party to this Project Agreement with AID and "Cooperating Country" means the country of the Cooperating Agency. "Local Currency" means currency originally issued by the Cooperating Country as a medium of exchange herein.

B. (1) AID will make available the amounts specified in Block 8 of this Project Agreement, as necessary for the project, for use for the designated purposes and as may be further described in Block 5 hereof.

(2) The Cooperating Agency will make available the amounts specified in Block 9 of this Project Agreement, as necessary for the project, for use for the designated purposes and as may further be described in Block 5 hereof. The Cooperating Agency will also make, or arrange to have made, additional contributions of property, services, facilities and funds required for carrying out the project as may be specified in Block 5 hereof or as may subsequently be agreed upon by the two parties.

C. AID and the Cooperating Agency may obtain the assistance of other public and private agencies in carrying out their respective obligations under this Project Agreement. The two parties may agree to accept contributions of property, services, facilities and funds for purposes of this Project Agreement from other public and private agencies, and may agree upon the participation of any such third party in carrying out activities under this Project Agreement.

D. All contributions of AID pursuant to this Project Agreement shall be made within a six months grace period extending beyond the estimated final contribution date specified herein. Except as otherwise specified herein or subsequently agreed by the two parties, all contributions of the Cooperating Agency pursuant to this Project Agreement shall be made on or before that same date. A contribution of goods or services shall be considered to have been made when the goods or services, provided or financed by the contributing party, are delivered in accordance with commercial practice.

E. The procurement of commodities and contract services to be financed with an AID contribution of currency other than that of the United States or of the Cooperating Country shall be subject to all provisions of, and regulations governing, Foreign Currency Authorizations issued by AID.

F. AID reimbursements or advances shall, in general, not exceed the amount obtained by applying the ratio of AID to Cooperation Agency contributions specified in the Project Agreement to the amount currently contributed by the Cooperating Agency. For example, if the Project Agreement provides for total contributions of $400,000 by AID and $600,000 by the Cooperating Agency and if the Cooperating Agency has currently contributed $6,000 then AID will, in general, reimburse or advance no more than $4,000. Commodities and services financed with an AID contribution of local currency shall be subject to the following requirements:

(1) Reimbursement

As mutually agreed between AID and the Cooperating Agency, either of the following methods may be employed for reimbursement by AID of local currency expenditures made by the Cooperating Agency:

(a) Direct Reimbursement

Once monthly or at such other intervals as may be mutually agreed between AID and the Cooperating Agency, AID will reimburse the Cooperating Agency for local currency expenditures made by the Cooperating Agency in the procurement of approved project requirements. Each such claim for reimbursement must be supported by the following documentation:

(i) Public Voucher, SF-1034, signed by the properly accredited representative of the Cooperating Agency, and embodying the following additional certification: " The total amount claimed hereunder was expended for the purposes authorized in Project Agreement No._____ and is supported by the documentation required by said Project Agreement on file in the Cooperating Agency."

(ii) A report in the format prescribed by the AID Controller, certified as true and accurate by the properly accredited representative of the Cooperating Agency, in support of each such claim for reimbursement.

(b) Advances

Once monthly or at such other intervals as may be mutually agreed upon between AID and the Cooperating Agency, AID may advance local currency to the Cooperating Agency for operating purposes. The initial advance will be in an amount agreed upon between AID and the Cooperating Agency as necessary to cover estimated project expenditures for a specified time period, and will be supported by a budget developed and approved by both AID and the Cooperating Agency. When necessary to replenish the advance, the Cooperating Agency may be reimbursed for amounts actually expended by it by submitting claims for reimbursement of such amounts supported by the documentation prescribed in paragraph (a) (i) above. On the basis of such claims for reimbursement, AID may replenish the working fund in amounts equal to, but not in excess of, the actual expenditures of the Cooperating Agency as so reported, up to the total amount of the AID local currency contribution less the amount of the initial advance.

All expenditures made by the Cooperating Agency against such advances must be supported by the documentation prescribed in paragraph (a) (i) above and such documentation in support of the final expenditures of the Cooperating Agency must be submitted to AID not later than 90 days after the date of the final expenditure.

(2) Documentation

With respect to all AID contributed local currency made available to it, the Cooperating Agency agrees to maintain a separate set of accounts for all transactions financed or to be financed, and the Cooperating Agency further agrees to obtain and retain in its files, for inspection and review by AID at any time as requested by AID, the documents listed below in support of each

transaction financed with such funds.

(a) Commodity Transactions:

(i) Applicable contract or purchase order between supplier and purchaser;

(ii) Supplier's detailed invoice and satisfactory evidence of payment;

(iii) Ocean or inland bill of lading, or other document evidencing delivery to the purchaser;

(iv) Such additional documentation (e.g. inspection certificate) as may be required from the supplier by the purchaser.

(b) Contract Services Transactions:

(i) Applicable contract between contractor and purchaser;

(ii) Contractor's detailed invoice and satisfactory evidence of payment;

(iii) A certificate by the Cooperating Agency as follows: "The undersigned certifies that the services for which reimbursement is requested have been satisfactorily rendered and the costs thereof are properly reimbursable in accordance with the terms of the contract."

(c) Payroll Costs:

One copy of certified payroll listings and vouchers, together with satisfactory evidence of payment. Each payroll listing must show for each employee at least the following data: name, applicable job title, salary or wage rate, period covered, and amount paid.

(d) Other Porject Costs:

One copy of the appropriate authorization documents and invoices covering travel, utility costs, etc.

(3) Refund Provision:

With respect to AID-contributed local currency made available to the Cooperating Agency under the methods of financing herein described, the Cooperating Agency agrees to refund promptly to AID, upon demand by AID and pursuant to AID instructions, the entire amount of such currency expended by the Cooperating Agency (or such lesser amount as AID may demand) whenever AID determines that such expenditure was improper as being in violating of the terms and conditions of this Project Agreement and/or any applicable agreement or arrangement between AID and the Cooperating Agency.

G. Unless otherwise specified, title to all property procured through financing by AID pursuant to Block 8 of this Project Agreement shall be in the Cooperating Agency, or such public or private agency as it may authorize. This provision is inapplicable to any property which may be used in connection with the project but is not financed pursuant to said Block 8.

H. Any property furnished to either party through financing by the other party pursuant to this Project Agreement shall, unless otherwise agreed by the party which financed the procurement, be devoted to the project until completion of the project, and thereafter shall be used so as to further the objectives sought in carrying out the project. Either party shall offer to return to the other, or to reimburse the other for, any property which it obtains through financing by the other party pursuant to this Project Agreement which is not used in accordance with the preceding sentence.

I. (1) If AID and only public or private organization furnishing commodities through AID financing for operations hereunder in the Cooperating Country, is, under the laws, regulations or administrative procedures of the Cooperating Country, liable for customs duties and import taxes on commodities imported into the Cooperating Country for purposes of carrying out this Project Agreement, the Cooperating Agency will pay such duties and taxes unless exemption is otherwise provided by any applicable international agreement.

(2) If any personnel (other than citizens and residents of the Cooperating Country), whether United States Government employee, or employees of public or private organizations under contract with, or individuals under contract with, AID, the Cooperating Agency or any agency authorized by the Cooperating Agency, who are present in the Cooperating Country to provide services which AID has agreed to furnish or fianance under this Project Agreement, are, under the laws, regulations or administrative procedures of the Cooperating Country, liable for income and social security taxes with respect to income upon which they are obligated to pay income or social security taxes to the Government of the United States of America, for property taxes on personal property intended for their own use, or for the payment of any tariff or duty upon personal or household goods brought into the cooperating country for the personal use of themselves and members of their families (not including such personal or household goods as may be sold by such personnel in the Cooperating Country), the Cooperating Agency will pay such taxes, tariff, or duty unless exemption is otherwise provided by any applicable international agreement.

J. Any personnel (other than citizens and residents of the cooperating country), whether United States Government employees, or employees of public or private organizations under contract with, or individuals under contract with, AID, the Cooperating Agency or any agency authorized by the Cooperating Agency, who are present in the Cooperating Country to provide services which AID has agreed to furnish or finance under this Project Agreement shall be subject to the approval of the Cooperating Agency and AID, and shall be under the general direction of the Director of the AID Mission to the Cooperating Country.

K. If any commodity is furnished to Cooperating Agency, or any public or private agency authorized by the Cooperating Agency, on a grant basis through financing by AID pursuant to this Project Agreement under arrangements which will result in the accrual of proceeds to the Cooperating Agency or any authorized agency and if the applicable agreement between the two governments referred to on the first page of this Project Agreement does not provide for the establishment of a Special Account and the deposit therein of currency of the Cooperating Country, the Cooperating Agency will make such arrangements as may be necessary to establish a Special Account to deposit therein currency of the Cooperating

Country in amounts equal to such proceeds, in accordance with such terms and conditions as may be agreed upon. Funds in the Special Account may be used only as agreed upon by AID and the Cooperating Agency; provided, that such portion of the funds in the Special Account as may be designated by AID shall be made available to AID to meet the requirements of the United States.

L. In the event that currency of a country other than the Unites States or the Cooperating Country is introduced into the Cooperating Country by AID or any public or private agency for the purposes of carrying out obligations of AID hereunder, the Cooperating Agency will make such arrangements as may be necessary to effect conversion of such currency intothe currency of the Cooperating Country at the highest rate which, at the time the conversion is made, is not unlawful in the Cooperating Country. All uses of the currency of the Cooperating Country obtained by this conversion shall be subject to the requirements of paragraph F herein relating to local currency.

M. AID shall expend funds and carry on operations pursuant to this Project Agreement only in accordance with the applicalbe laws and regulations of the United States Government.

N. The two parties shall have the right at any time to observe operations carried out under this Project Agreement. Either party during the term of the Project and three years after the completion of the project, shall further have the right (1) to examine any property procured through financing by that party under this Project Agreement, wherever such property is located, and (2) to inspect and audit any records and accounts with respect to funds provided by, or any properties and contract services procured through financing by, that party under this Project Agreement, wherever such records may be located and maintained. Each party, in arranging for any disposition of any property procured through financing by the other party under this Project Agreement, shall assure that the rights of examination, inspection and audit described in the preceding sentence are reserved to the party which did the financing.

O. Upon completion of the project, a Completion Report shall be drawn up, signed by appropriate representatives of AID and the Cooperating Agency, and submitted to AID and the Cooperating Agency, The Completion Report shall include a summary of the actual contributions by both AID and the Cooperating Agency to the project, and shall provide a record of the activities carried out, the objectives achieved, and related basic data. AID and the Cooperating Agency shall each furnish the other with such information as may be needed to determine the nature and scope of operations under this Agreement and to evaluate the effectiveness of such operations.

P. The present Agreement shall enter into force when signed. Either party may terminate this Project Agreement by giving the other party 30 days written notice of intention to terminate it. Termination of this Project Agreement shall terminate by obligations of the two parties to make contributions pursuant to Blocks 8 and 9 of this Project Agreement, except for payments which they are committed to make pursuant to non-cancellable commitments entered into with third parties prior to the termination of the Project Agreement. It is expressly understood that the obligations under paragraph H relating to the use of property shall remain in force after such termination.

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Appendix-VI

UK/CRL FUND

STATEMENT OF EXPENDITURE FOR F.Y.1965
(April 1, 1964 - March 31,1965)

Total contribution of U. K. Government	:	£ 10,000-0-0
Disbursement (as per information supplied by M.O.D.)		
1. Personal Services	: £ 2,598-0-0	
2. Travel & Transportation of Persons	: £ 336-0-0	
3. Equipment & Supplies	: £ 5,578-0-0	
	:	£ 8,512-0-0
Unutilized balance	:	£ 1,488-0-0

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Appendix - X

PROPOSED REVISED CRL BUDGET
FISCAL YEAR 1966

July 1, 1965 - June 30, 1966

	CRL OPERATING FUND		UK/CRL FUND		NIH RESEARCH AGREEMENT				SEATO-AID-NIH CHOLERA FUND	
					RUPEE		DOLLAR			
	Budgeted	Revised	Budgeted	Revised	Budgeted	Revised	Budgeted	Revised	Budgeted	Revised
	Rs.	Rs.	£	£	Rs.	Rs.	$	$	$	$
1. PERSONAL SERVICES:	364,360	379,890	5,500	5,500	1103,741	1142,881	40,000	51,000	2,000	2,000
Professional	40,000	28,278			374,362	253,344				
Technical & Supporting.	324,360	351,612			689,379	849,537				
Consultant.	-	-			40,000	40,000				
2. TRAVEL & TRANSPORTATION OF PERSONS:	20,000	18,000	275	275	390,000	450,000			8,000	8,000
In Pakistan.	5,000	3,000			150,000	150,000				
Outside Pakistan.	1,000	1,000			50,000	100,000				
Consultant.	14,000	14,000			190,000	200,000				
3. TRANSPORTATION OF THINGS:	10,000	10,000	275	275	20,000	60,000	8,000	10,000	15,000	15,000
Shipping & clearance.	10,000	10,000			20,000	60,000				
4. RENT,COMMUNICATION & UTILITIES:	15,000	15,000			20,000	30,000	1,200	1,500	1,000	1,000
Rent.	-	-			15,000	15,000				
Communications.	15,000	15,000			5,000	15,000				
5. PRINTING & REPRODUCTION:	10,000	10,000			40,000	50,000			1,000	1,000
6. OTHER CONTRACTUAL SERVICES:	20,000	18,000			50,000	65,000	1,500	8,000	60,000	60,000
Repairs.	10,000	8,000			40,000	40,000				
Others.	10,000	10,000			10,000	25,000				
7. SUPPLIES & MATERIALS:	100,640	100,435	2,200	2,200	217,259	294,119	2,000	9,530	38,000	38,000
Laboratory & Hospital.	25,000	25,000			110,000	150,000				
Office & Janitorial.	25,000	25,000			15,000	20,000				
Research Animal & Feed.	10,000	10,000			15,000	15,000				
Fuel.	2,000	2,000			9,000	10,000				
Hospital Food.	18,000	18,000			30,000	30,000				
Linen & Uniforms.	5,000	5,000			12,000	15,000				
Educational.	1,000	1,000			1,000	5,000				
Others.	14,640	14,435			25,259	49,119				
8. EQUIPMENT:	10,000	9,000	2,750	2,750	71,000	75,000	2,300	7,500	25,000	25,000
Laboratory & Hospital.	1,000	1,000			20,000	20,000				
Transport.	-	-			15,000	15,000				
Office.	5,000	4,000			15,000	15,000				
Books (permanent).	-	-			1,000	5,000				
Other.	4,000	4,000			20,000	20,000				
TOTALS :	550,000	1/ 560,325	11,000	2/ 11,000	1912,000	3/ 2167,000	55,000	4/ 87,530	150,000	150,000

1/ Deficit amount of Rs.10,325.00 will meet from the unspent balance of US Share of CRL Operating Fund for F.Y. 64-65.

2/ U.K. Budget covering period April 1,1965 to March 31, 1966.

3/ Deficit amount of Rs.255,000.00 will meet from unspent balance of Rs.211,000.00 of F.Y. 64-65 and additional amount of Rs.44,000.00 provided under Research Agreement No.1956802 - Amendment No. 3.

4/ Deficit amount of $ 32,530.00 will meet from unspent balance of US $ 22,530.00 of F.Y. 64-65 and additional amount of US $ 10,000.00 provided under Research Agreement No.1956802 - Amendment No. 3.

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Appendix - VII

SUMMARY FINANCIAL REPORT FOR F.Y. 1965

All Funds in Pakistan Currency

	CRL Operating Fund	NIH Research Agreement	CRL Capital Reserve Fund	Bank of Bethesda Account	Dollar Contingency Fund	SEATO-AID-NIH Cholera Fund	UK/CRL Fund	Other Support				Total
								GOP	US/AID	NIH	Australian Govt.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
TOTAL FUND AVAILABLE:	520,266	1,688,517	113,426	275,379	11,175	-	132,600	-	-	-	-	-
EXPENDITURE:												
PERSONAL SERVICES:	328,388	922,014	-	146,728	-	-	34,449	-	19,346	347,941	17,925	1,816,791
TRAVEL & TRANSPORTATION OF PERSONS:	24,113	249,245	-	3,909	-	21,502	4,455	-	-	628	2,110	305,962
TRANSPORTATION OF THINGS:	7,246	12,844	-	584	-	90,742	-	-	-	5,700	-	117,116
RENT, COMMUNICATION & UTILITIES:	10,333	12,513	-	3,132	-	-	-	-	122,422	-	-	148,400
PRINTING & REPRODUCTION:	5,583	12,940	-	-	-	29	-	-	-	-	-	18,552
OTHER CONTRACTUAL SERVICES:	20,206	47,501	-	6,845	-	134,316	-	400,000	139,624	-	-	748,492
SUPPLIES & MATERIALS:	97,933	185,259	-	5,978	-	224,028	-	-	61,676	-	-	574,874
EQUIPMENT:	6,609	35,192	-	-	-	133,138	73,964	-	-	-	25,570	274,473
CAPITAL RESERVE FUND EXPENDITURE:	-	-	21,247	-	-	-	-	-	-	-	-	21,247
TOTAL EXPENDITURE:	500,411	1,477,508	21,247	167,171	-	603,755	112,868	400,000	343,068	354,269	45,605	4,025,902

EXPENDITURE REPORT

January 1, 1962 to December 31, 1965

BUDGET HEADING	1962 (6 months)		F.Y. 1963		F.Y. 1964		F.Y. 1965		1966 (6 months)	
	CRL Operating Fund	NIH Research Agreement	CRL Operating Fund	NIH Research Agreement	CRL Operating Fund	NIH Research Agreement	CRL Operating Fund	NIH Research Agreement	CRL Operating Fund	NIH Research Agreement
1. Personal Services:	Rs. 41,657	Rs. 32,344	Rs. 206,587	Rs. 258,491	Rs. 313,954	Rs. 586,838	Rs. 328,388	Rs. 922,015	Rs. 198,922	Rs. 464,214
2. Travel & Transportation of Persons:	2,861	10,900	18,635	207,876	10,899	272,540	24,113	249,245	630	254,022
3. Transportation of Things:	1,886	-	6,028	4,822	2,505	9,154	7,246	12,844	3,937	775
4. Rent, Communication & Utilities:	1,100	-	20,562	2,532	7,484	24,627	10,332	12,514	3,656	5,312
5. Printing & Reproduction:	-	-	1,203	-	2,358	9,049	5,583	12,940	253	2,341
6. Other Contractual Services:	4,041	-	35,059	31,020	17,901	16,867	20,206	47,501	8,058	18,340
7. Supplies & Materials:	13,719	1,041	82,514	59,881	84,167	116,515	97,933	185,258	45,523	72,333
8. Equipments:	5,523	-	24,071	65,572	1,512	57,981	6,609	35,192	2,861	1,301
TOTALS:	70,787	44,285	394,659	630,194	440,780	1,093,571	500,410	1,477,509	263,840	818,638

BREAKDOWN OF SUPPORT BY CONTRIBUTING NATION
DURING F.Y. 65

(All Funds in Pak Currency

EXPENDITURES FROM U.S. GOVT. SUPPORT:

1.	CRL Operating Fund	- Rs.258,712
2.	CRL Capital Reserve Fund	- -
3.	NIH Research Agreement(Rupee)	- 1,477,508
4.	SEATO-AID-NIH Cholera Fund	- 770,926
5.	Other Support	- 697,337
		Rs. 3,204,483

EXPENDITURE FROM GOEP SUPPORT:

1.	CRL Operating Fund	- Rs. 241,699
2.	CRL Capital Reserve Fund	- 21,247
3.	Other Support	- 400,000
		Rs. 662,946

EXPENDITURES FROM U.K. GOVT. SUPPORT: Rs. 112,868

EXPENDITURE FROM GOVT. OF AUSTRALIA : Rs. 45,605

Rs. 4,025,902

PERCENTAGE OF EXPENDITURE

U.S. Government	- Rs. 3,204,483	-	79.7%
Government of East Pakistan	- 662,946	-	16.4%
U.K. Government	- 112,868	-	2.8%
Government of Australia	- 45,605	-	1.1%
	Rs. 4,025,902		100%

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PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

Fifth Meeting of the

DIRECTING COUNCIL

Dacca, East Pakistan - March 9-10, 1966

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

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REVIEW OF AUDITORS' REPORT AND DIRECTOR'S COMMENTS

Enclosed herewith is a copy of the Audit Report covering the financial operations for the period from July 1, 1964 through June 30, 1965.

Findings and Recommendation - Recommendation No. 1

On request from this laboratory Lt. G. Brown, Finance Officer, NAMRU 2, Taipei offered consultant service to this laboratory from January 23 to February 8, 1966. He suggested certain procedures to be implemented for both expendable and non-expendable supplies. This has already been implemented. Also, we have arranged for occasional physical verification of the supplies to detect any defficiencies or surplus of the stock.

Agency For International Development
United States A.I.D. Mission To Pakistan
Office Of The Assistant Director/Controller
Karachi, Pakistan

Report On Audit Of Project No.391-510-138 Pakistan SEATO Cholera Research Laboratory From July 1, 1964 through June 30, 1965

Audit Report No.66-20
Prepared By Audit Branch
January 20, 1966

Report On Audit Of Project No.391-510-138
Pakistan SEATO Cholera Research Laboratory
From July 1, 1964 through June 30, 1965

Index

Exhibits

Report On Audit of Project No. 391-510-138
Pakistan SEATO Cholera Research Laboratory
From July 1, 1964 through June 30, 1965

Purpose And Scope

In accordance with the Financial Regulations of the Pakistan SEATO Cholera Research Laboratory (CRL) and at the request of the Director of CRL, an audit of CRL financial statements for the year ended June 30, 1965 was performed from August 1, to October 26, 1965.

The audit was performed in accordance with generally accepted auditing standards and included those tests of accounting records considered necessary in the circumstances. Procedures and records were examined both for conformation to CRL Financial Regulations and for general adequacy of internal control. The audit was limited to those funds controlled directly by the Director of CRL and did not include those portions of the SEATO-AID-NIH Cholera Research Fund which are controlled by the National Institutes of Health (NIH). The figures included in the overall expenditure data for this fund are those supplied to CRL by NIH.

General Comments

The CRL, Dacca was established in 1960 as part of a Cholera Research Program sponsored by SEATO. The governments of the United States of America, Pakistan, the United Kingdom and Australia have assisted the Laboratory by providing funds, equipment, administrative and technical personnel.

The Government of Pakistan (GOP) and the United States Agency for International Development (A.I.D.) entered into an agreement on October 14, 1960 to establish the laboratory at Dacca. This agreement was revised on December 30, 1961, and on July 7, 1963 its term was extended to June 30, 1967. According to the revised agreement, CRL was to be financed by the following sources:

SEATO-AID-NIH Cholera Research Fund

CRL dollar funding is supplied by the SEATO-AID-NIH Fund. This fund, administered by NIH, is meant for their world wide Cholera Research Program and is not limited to operations of the Pakistan - SEATO CRL, although the latter does retain direct control over a small portion of the fund through an account with the Bank of Bethesda, Bethesda Maryland, U.S.A. A.I.D./W has made available to NIH a total of $781,000

through FY 1965 for their world wide Cholera Research Program. NIH has deposited $101,000 of this total with the Bank of Bethesda.

General Operating Fund

This rupee fund is created by equal contributions of the GOP and the NIH in each fiscal year. That portion of the fund's balance at the end of each fiscal year which is attributable to the GOP's contribution for that year is transferred to the Capital Reserve Fund. The portion attributable to the NIH's contribution at the end of the fiscal year is carried forward to the next fiscal year. The contribution by the NIH is made in PL-480, Section 104(k) rupees. A total of Rs.1,655,000 has been contributed by the GOP and the U.S.A. for FY's 62 through FY 65.

NIH Research Agreement Rupee Fund

This fund consists of rupees, available from the U.S.A. under PL-480, Section 104(k), provided by NIH under a research agreement between NIH and CRL. Rs.3,425,000 have been contributed by NIH through June 30, 1965.

Capital Reserve Fund

The fund was created by equal contributions of the GOP and A.I.D. in FY 1962. Since that time additions to the fund have come from the GOP's portion of the uncommitted balance of the General Operating Fund which is transferred to the Capital Reserve Fund at the end of each fiscal year. The Capital Reserve Fund is used to finance construction, remodeling, and installation or modification of utilities. A total of Rs.326,842.34 has been deposited or proposed for transfer through June 30, 1965.

Other Contributions

The GOP, the U.S.A., the Government of the United Kingdom and the Government of Australia have all provided additional support for CRL.

The GOP provides the physical plant and a 20-bed hospital unit for CRL at the Institute of Public Health as well as the physical facilities for the CRL field research center at Matlab Bazar. The GOP also pays for the repair and maintenance of these facilities and for the cost of utilities used by them.

US A.I.D./Pakistan provides administrative support for CRL's American staff and also gasoline, oil and maintenance for the CRL's vehicles and boats.

The Government of the United Kingdom has provided annual support (£11,000 for FY 1965) for the purpose of paying for UK based staff and for equipment.

The Government of Australia has contributed technical staff and equipment for use of CRL.

Summary of Findings

Our review of financial statements and CRL procedures showed them to be generally satisfactory and in accordance with CRL regulations. We did find that statements departed from a strict accrual basis in accounting for obligations and that certain weakness existed in the operation of expendable supply records.

Findings and Recommendation

The financial statements of CRL are presented in Exhibits A through C. With the exception of the basis used for accounting for obligations, which is discussed in note 2 to Exhibit B, in our opinion these statements present fairly the status, as of June 30, 1965, of the various funds under CRL's control and the operation of these funds for the year then ended.

The audit included a review of CRL's procedures and internal control. A test check of CRL's supply records revealed several variances between the balance on the expendable property cards and the actual balances on hand. While the variations themselves were not very significant, the practices which allowed them to appear are weaknesses which should be corrected. Regular physical inventories have not been taken and the cards have not been periodically adjusted to reflect actual balances. Cards have been made up for one-time purchases of expendable items which have been issued immediately upon arrival. These cards need to be weeded out as they are mingled with cards which do not represent stock on hand.

Recommendation No.1

US A.I.D./P, Public Health, should offer all possible assistance to CRL in correcting its expendable property records and keeping them on a current basis. Property cards should be maintained only on active items.

Cumulative Obligations For Pakistan-SEATO Cholera Research Laboratory through June 30, 1965

	Through June 30, 1964		July 1, 1964 to June 30, 1965		Through June 30, 1965		
	NIH* Controlled	CRL Controlled	NIH* Controlled	CRL Controlled	NIH* Controlled	CRL Controlled	Combined
Personal Services	$ 2,013	$36,432	$ -	$30,632	$ 2,013	$67,064	$ 69,077
Travel and Transportation of Persons	36,691	282	8,636	816	45,327	1,098	46,425
Transportation of Things	50,017	3,570	33,731	122	83,748	3,692	87,440
Rent, Communications and Utilities	163	439	-	654	163	1,093	1,256
Printing and Reproduction	28	-	6	-	34	-	34
Other Contractual Services	41,044	169	2,684	1,429	43,728	1,598	45,326
Supplies and Materials	95,307	1,008	57,952	1,248	153,259	2,256	155,515
Equipment	98,518	1,704	23,998	-	122,516	1,704	124,220
Total	$323,781	$43,604	$127,007	$34,901	$450,788	$78,505	$529,293

* Per NIH reports to CRL less adjustments for amounts transferred to CRL control (Bank of Bethesda) included in NIH reports as obligations.

Report On Audit Of Project No. 391-510-138
Pakistan SEATO Cholera Research Laboratory
From July 1, 1964 through June 30, 1965

Bank of Bethesda Account FY 1965 Transactions

Unobligated Balance at July 1, 1964	$32,396.42
FY 1964 obligations deducted in above	93.96
Cash Balance at July 1, 1964	$32,490.38
NIH contributions for FY 1965	25,000.00
Total Available	$57,490.38
FY 1965 disbursements (Exhibit A)	34,900.66
Unobligated and Cash Balance at June 30, 1965	$22,589.72

Report On Audit Of Project NO. 391-510-138
Pakistan SEATO Cholera Research Laboratory
From July 1, 1964 through June 30, 1965

Statement Of Income And Expenses - Rupee Funds
For The Year Ended June 30, 1965

	General Operating Fund	NIH Research Agreement Fund	Capital Reserve Fund	Total Rupee Funds
Balance, July 1, 1964 (Note 1)	Rs. 17,664.43	Rs. 303,556.00	Rs.111,804.05	Rs. 433,024.48
Income:				
Contribution by GOP for FY 1965	250,000.00	-	-	250,000.00
Contribution by US NIH for FY 1965	250,000.00	1,371,381.00	-	1,621,381.00
Interest earned on fixed deposits	2,601.58	13,580.66	1,622.75	17,804.99
Total Available	Rs.520,266.01	Rs.1,688,517.66	Rs.113,426.80	Rs.2,322,210.47
Expenses (Exhibit B-1) (Note 2)	.500,410.75	1,477,507.84	21,246.80	1,999,165.39
Balance before proposed transfer to Capital Reserve Fund	Rs. 19,855.26	Rs. 211,009.82	Rs. 92,180.00	Rs. 323,045.08
Proposed transfer to Capital Reserve Fund(Exhibit B-2)	(9,590.09)	-	9,590.09	-
Balance, June 30, 1965 after proposed transfer	Rs. 10,265.17	Rs. 211,009.82	Rs.101,770.09	Rs. 323,045.08

Fund Balance at June 30, 1965 represents:

Cash	Rs.292,816.57
Employees Advances	33,328.51
	Rs.326,145.08
Less - Outstanding Obligations at June 30,1965	3,100.00
	Rs.323,045.08

Note 1 - Differences in the opening balances and the closing balances shown in last year's audit report (USAID/PAKISTAN No.915 dated December 8, 1964) are due to differences between CRL and USAID in the procedure used to account for obligations. These differences are discussed in Note 2.

Note 2 - Expenses are recorded by CRL only for those obligations which have been liquidated prior to Sept.30, following the close of the fiscal year. Therefore, expenses are understated and balances overstated, as compared with accrual basis figures by the following amounts:

FY 1965 Obligations Unliquidated at September 30, 1965:

General Operating Fund	Rs. 10,617.53
NIH Research Agreement Fund	1,885.00
Total	Rs. 12,502.53

Report On Audit Of Project No. 391-510-138
Pakistan SEATO Cholera Research Laboratory
From July 1, 1964 through June 30, 1965

Statement Of Expenses - Rupee Funds
For The Year Ended June 30,1965

	General Operating Fund	NIH Research Agreement Fund	Capital Reserve Fund	Total Rupee Funds
Personal Services:				
Professional	Rs. 34,008.33	Rs.224,815.27	-	Rs. 258,823.60
Technical and Supporting	294,379.75	685,869.64	-	980,249.39
Consultants	-	11,329.50	-	11,329.50
	Rs.328,388.08	Rs.922,014.41	-	Rs.1,250,402.49
Travel and Transportation of Persons:				
In Pakistan	Rs. 3,351.45	Rs. 96,925.74	-	Rs. 100,277.19
Outside of Pakistan	-	51,186.53	-	51,186.53
Consultants	20,761.54	101,132.32	-	121,893.86
	Rs. 24,112.99	Rs.249,244.59	-	Rs. 273,357.58
Transportation of Things:				
Shipping and Clearance	Rs. 7,246.09	Rs. 12,844.07	-	Rs. 20,090.16
Rent, Communications and Utilities:				
Rent	Rs. -	Rs. 7,709.28	-	Rs. 7,709.28
Communications	10,332.45	4,804.20	-	15,136.65
	Rs. 10,332.45	Rs. 12,513.48	-	Rs. 22,845.93
Printing and Reproduction	Rs. 5,583.00	Rs. 12,940.36	-	Rs. 18,523.36
Other Contractual Services:				
Repairs	Rs. 7,782.11	Rs. 14,834.45	-	Rs. 22,616.56
Others	12,423.90	32,666.32	-	45,090.22
	Rs. 20,206.01	Rs. 47,500.77	-	Rs. 67,706.78

Exhibit - B-1
(Cont'd)

	General Operating Fund	NIH Research Agreement Fund	Capital Reserve Fund	Total Rupee Funds
Supplies and Materials:				
Laboratory and Hospital	Rs. 15,901.18	Rs. 100,118.43	-	Rs. 116,019.61
Office and Janitorial	18,798.92	8,359.14	-	27,158.06
Research and Animal Feed	5,244.45	15,731.88	-	20,976.33
Fuel	1,163.72	2,118.79	-	3,282.51
Hospital Food	37,670.59	31,498.69	-	69,169.28
Linins and Uniforms	7,394.05	5,983.42	-	13,377.47
Education	13.12	430.42	-	443.54
Others	11,747.10	21,017.96	-	32,765.06
	Rs. 97,933.13	Rs. 185,258.73	-	Rs. 283,191.86
Equipment:				
Laboratory and Hospital	Rs. 3,130.00	Rs. 22,624.19	-	Rs. 25,754.19
Transport	-	7,909.50	-	7,909.50
Office	3,443.00	3,752.47	-	7,195.47
Book (Permanent)	16.00	392.00	-	408.00
Others	20.00	513.27	-	533.27
	Rs. 6,609.00	Rs. 35,191.43	-	Rs. 41,800.43
Building and Building Improvements	Rs. -	Rs. -	Rs.21,246.80	Rs. 21,246.80
Total Expenses (Exhibit B)	Rs.500,410.75	Rs.1,477,507.84	Rs.21,246.80	Rs.1,999,165.39

Report On Audit Of Project No. 391-510-138
Pakistan SEATO Cholera Research Laboratory
From July 1, 1964 through June 30, 1965

Exhibit - B-2

General Operating Fund
Computation Of Transfer To Capital Reserve Fund
As Of June 30, 1965

Contributions to Operating Fund Attributable to US NIH corrected Opening Balance (Exhibit B)	Rs. 17,664.43	
FY 1965 Contribution	250,000.00	Rs.267,664.43
Contributions to Operating Fund Attributable to GOP FY 1965 Contribution		250,000.00
Total Contributions Attributable to NIH or GOP		Rs.517,664.43
Percent of Contributions Attributable to GOP 250,000.00/517,664.43	48.3 Percent	
Balance of Operating Fund at June 30, 1965 for purpose of computing transfer (Exhibit B)		Rs. 19,855.26
Percent of Contributions Attributable to GOP		48.3 Percent
Proposed Transfer to Capital Reserve Fund		Rs. 9,590.09

Report On Audit Of Project No. 391-510-138
Pakistan SEATO Cholera Research Laboratory
From July 1, 1964 through June 30, 1965

Statement Of Source and Status Of Local Currency Funds
As Of June 30, 1965
(In Pakistan Rupees)

	Contributions GOP Rs.	Contributions NIH Rs.	Interest Rs.	Misc. Receipts Rs.	Total Receipts Rs.	Expenditures and Obligations Rs.	Transfers To Capital Reserve Fund Rs.	Uncommitted Bal. Rs.
General Operating Fund								
July-December, 1961	105,000.00	-	-	-	105,000.00	12,479.55	92,520.45	
January-June, 1962	105,000.00	105,000.00	790.35	-	210,790.35	70,785.64	70,002.35	
July 1962 - June 1963	210,000.00	210,000.00	4,372.50	217.18	424,589.68	394,660.22	42,971.00	
July 1963 - June 1964	210,000.00	210,000.00	3,041.00	-	423,041.00	448,459.39	13,878.00	
July 1964 - June 1965	250,000.00	250,000.00	2,601.58	-	502,601.58	500,410.75	9,590.09	
Totals	880,000.00	775,000.00	10,805.43	217.18	1,666,022.61	1,426,795.55	228,961.89	10,265.17

	Contributions GOP Rs.	Contributions US A.I.D. Rs.	Transfers From Operating Fund Rs.	Interest Rs.	Total Receipts Rs.	Expenditures and Obligations Rs.	Uncommitted Balance Rs.
Capital Reserve Fund							
FY 1962	2,680.00	96,000.00	162,522.80	634.14	261,836.94	77,449.00	
FY 1963	-	(799.55)	42,971.00	3,826.16	45,997.61	42,281.00	
FY 1964	-	-	13,878.00	3,532.00	17,410.00	93,710.50	
FY 1965	-	-	9,590.09	1,622.75	11,212.84	21,246.80	
Totals	2,680.00	95,200.45	228,961.89	9,615.05	336,457.39	234,687.30	101,770.09

	Contributions NIH Rs.	Interest Rs.	Total Receipts Rs.	Expenditures and Obligations Rs.	Uncommitted Balance Rs.
Research Agreement Fund					
FY 1962	533,755.00	3,537.39	537,292.39	44,284.52	
FY 1963	746,245.00	14,751.41	760,996.41	630,193.32	
FY 1964	773,619.00	11,688.00	785,307.00	1,105,561.96	
FY 1965	1,371,381.00	13,580.66	1,384,961.66	1,477,507.84	
Totals	3,425,000.00	43,557.46	3,468,557.46	3,257,547.64	211,009.82

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

Fifth Meeting of the

DIRECTING COUNCIL

Dacca, East Pakistan - March 9-10, 1966

PRESENTATION OF APPENDICES TO PERSONNEL REGULATIONS

DC 5/5

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

PERSONNEL REGULATIONS

---

15 July, 1965

The Personnel Regulation of the Pakistan-SEATO Cholera Research Laboratory is amended as follows :

Paragraph 3.6 is changed to read:

A former employee who attained permanent status and whose appointment was terminated without prejudice may be reinstated to his post in permanent status if he is re-employed within six months of his dismissal or resignation.

Abram S. Benenson, M.D.
Director, CRL

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

M E M O R A N D U M

TO : All Personnel, CRL

FROM : Director, CRL

Date: July 21, 1965

SUBJECT : Amendment to CRL terms of salary advance.

Amendment to CRL terms of salary advance, annexed to Financial Regulations Paragraph 4.4 as revised 19 November, 1963.

Effective immediately, the CRL terms of salary advance is amended by adding the following paragraph.

"5. Interest will be charged on salary advances; the amount will be based on the rate received by the Laboratory for moneys held in the local banks on fixed deposit."

—

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

M E M O R A N D U M

TO : All CRL Female Employees.

FROM : Director, CRL Dated, October 2, 1965.

SUBJECT : Maternity Leave.

Paragraph 7.1.d. CRL Personnel Regulations reads as follows:

> "Maternity leave: Married, female employees of the CRL, are entitled to maternity leave with full pay of 6 weeks before expected birth and 6 weeks after actual delivery. To be eligible for maternity leave, an employee must be legally married and must have been continually employed by the CRL for at least 9 months period to the date of delivery. When complications or other conditions arising out of the pregnancy warrant, the total leave may be extended to six months in a leave without pay status."

This regulation permits leave to be taken with pay for six weeks before the baby is born, and for six weeks after delivery of the child. This does not mean 12 weeks of leave - if the birth is delayed beyond expected date, leave without pay will be used. If delivery occurs before the expected date, only six weeks after delivery can be taken as paid leave.

By misunderstanding, a few employees have been promised time after delivery in exchange for working for a longer period before confinement. Such promises that have been made are being honoured, but no future adjustments of time will be permitted.

—

Pakistan-SEATO Cholera Research Laboratory
Institute of Public Health
Mohakhali, Dacca-5

M E M O R A N D U M

TO : All Probationary Employees, CRL

FROM : Abram S. Benenson, M.D.
Director, CRL

Dated, November 9, 1965.

SUBJECT : Amendment of Employment Certificate.
(Appendix II of DC 2/8)

The third sentence is abolished and replaced by the following :-

" I understand my appointment is probationary until I have satisfactorily served for three months. On expiry of that period I shall be informed in writing whether my appointment has been made permanent. "

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY
Institute of Public Health
Mohakhali, Dacca-5

—

M E M O R A N D U M

TO : All CRL Employees

FROM : Director, CRL Dated, November 24, 1965.

SUBJECT : Amendment of CRL Salary Grades.

1. CRL Salary Grade 15/4 and 15/5 are amended to read Rs.161.00 and Rs.168.00 respectively with immediate effect.
2. CRL Salary Grade 15/6 is introduced to read Rs.175.00 effective immediately.
3. CRL Salary Grade 5/6 is amended to read Rs.1586.00
4. CRL Salary Grades 4/4, 4/5 and 4/6 are amended to read Rs.1600.00, Rs.1631.00 and Rs.1762.00 respectively.
5. Stage 7 in all CRL Salary Grades is introduced effective immediately and will read as follows:-

CRL-2/7-Rs.3045.00, CRL-3/7-Rs.2451.00, CRL-4/7-Rs.1843.00
CRL-5/7-Rs.1654.00, CRL-6/7-Rs.1404.00, CRL-6a/7-Rs.1202.00
CRL-7/7-Rs.1256.00, CRL-7a/7-Rs.1042.00, CRL-8/7-Rs.819.00
CRL-9/7-Rs.690.00, CRL-10/7-Rs.612.00, CRL-11/7-Rs.584.00
CRL-12/7-Rs.452.00, CRL-13/7-Rs.318.00, CRL-14/7-Rs.241.00
CRL-15/7-Rs.182.00, CRL-16/7-Rs.140.00.

—

Abram S. Benenson, M.D.
Director, CRL.

SCHEDULE OF GRADES SHOWING MONTHLY PAY FOR PERSONNEL
OF THE PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

ANNUAL INCREMENTS

	1	2	3	4	5	6	7
CRL 1	Salary and allowances according to terms of contract.						
CRL 2	2378	2489	2600	2711	2823	2934	3045
CRL 3	1782	1895	2006	2117	2229	2340	2451
CRL 4	1350	1434	1519	1600	1681	1762	1843
CRL 5	1249	1316	1384	1451	1519	1586	1654
CRL 6	1070	1125	1179	1233	1291	1350	1404
CRL 6a	876	956	1017	1064	1110	1156	1202
CRL 7	916	985	1039	1094	1148	1202	1256
CRL 7a	762	806	850	895	939	998	1042
CRL 8	583	627	667	705	743	781	819
CRL 9	474	510	545	583	619	654	690
CRL 10	437	466	496	525	554	583	612
CRL 11	401	430	459	488	517	545	584
CRL 12	333	343	364	386	408	430	452
CRL 13	228	242	257	272	287	303	318
CRL 14	162	175	188	202	215	228	241
CRL 15	140	147	154	161	168	175	182
CRL 16	99	106	113	119	126	133	140
CRL 17	Temporary hire. Schedules to be determined.						

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

Institute of Public Health
Mohakhali, Dacca-5

M E M O R A N D U M

TO : All CRL Employees.

Date: 30 November '65

FROM : Director, CRL

SUBJECT : Contributions to CRL Staff Provident Fund.

Effective 1 January, 1966 the rate of contribution of employees and the employer to the CRL Staff Provident Fund shall be 6¼% of gross pay instead of 4%.

Abram S. Benenson, M.D.
Director, CRL

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY.

Institute of Public Health
Mohakhali, Dacca-5

M E M O R A N D U M

TO : All CRL Employees.

FROM : Director, CRL Date: 30 November'65

SUBJECT : Amendment to Employment Certificate (Appendix II of DC-2/8)

Effective 1 January, 1966, under head 'Deductions' *Provident Fund @ 4% will read "*Provident Fund @ 6¼% of Gross Salary."

Abram S. Benenson, M.D.
Director, CRL

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

Institute of Public Health
Mohakhali, Dacca-5.

M E M O R A N D U M

TO : All CRL Employees.

FROM : Director, CRL Date : 30 November'65

SUBJECT : Amendment of clause 4 of CRL Staff Provident Fund Trust Rules.

Effective 1 January, 1966, clause 4 under head "Subscriptions of Members" shall read as follows:-

"4. The Subscription of each member to the Fund shall be six and a quarter percent of his gross salary".

Abram S. Benenson, M.D.
Director, CRL

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

M E M O R A N D U M

TO : ALL CRL Employees

FROM : Executive Officer, CRL Dated, January 10, 1966.

SUBJECT : Amendment of Personnel Regulation para 8.5

As of 1 January, 1966 CRL Personnel Regulation Para 8.5 is ammended to read as follows:-

" 8.5 In the field, employees are expected to work the schedule prescribed by the team leader, regardless of their normal duty hours and no employee earns overtime or compensatory leave with the exception that compensatory leave may be earned by those field workers required to work on CRL holidays."

Robert E. Freise
Executive Officer, CRL

PAKISTAN-SEATO CHOLERA RESEARCH LABORATORY

Fifth Meeting of the

DIRECTING COUNCIL

Dacca, East Pakistan - March 9-10, 1966

BUDGET PROPOSAL FOR

FISCAL YEAR 1966 - 1967

DC 5/6

PROPOSED CRL BUDGET
FISCAL YEAR 1967

July 1, 1966 - June 30, 1967

HEADS OF ACCOUNTS	CRL OPERATING FUND (Rupees)	U.K. FUNDS (Pounds)	NIH RESEARCH AGREEMENT		SEATO-AID-NIH CHOLERA FUND (Dollar)
			Rupee	Dollar	
	Rs.	£.	Rs.	$	$
PERSONAL SERVICES:	416,000	5,500	1269,000	40,000	2,000
Professional	28,000		265,000		
Technical & Supporting	388,000		964,000		
Consultant	-		40,000		
TRAVEL & TRANSPORTATION OF PERSONS:	18,000	275	390,000	-	8,000
In Pakistan	3,000		150,000		
Outside Pakistan	1,000		50,000		
Consultant	14,000		190,000		
TRANSPORTATION OF THINGS:	12,000	275	20,000	5,000	15,000
Shipping & clearance	12,000		20,000		
RENT,COMMUNICATION & UTILITIES:	15,000	-	25,000	500	1,000
Rent	-		15,000		
Communication	15,000		10,000		
PRINTING & REPRODUCTION:	10,000		50,000		1,000
OTHER CONTRACTUAL SERVICES:	18,000		50,000	5,000	60,000
Repair	10,000		40,000		
Other	8,000		10,000		
SUPPLIES & MATERIALS:	107,000	2,200	238,000	5,000	38,000
Laboratory & Hospital	25,000		110,000		
Office & Janitorial	25,000		20,000		
Research Animal & Feed	10,000		20,000		
Fuel	2,000		10,000		
Hospital Food	20,000		30,000		
Linens & Uniforms	10,000		15,000		
Educational	2,000		2,000		
Others	13,000		31,000		
EQUIPMENT:	10,000	2,750	50,000	3,500	25,000
Laboratory & Hospital	1,000		10,000		
Transport	-		20,000		
Office	5,000		10,000		
Books	-		1,000		
Others	4,000		9,000		
TOTALS :	1/ 606,000	11,000	2/ 2092,000	3/ 59,000	150,000

1/ Represents equal contribution of Rs.303,000 from U.S. and G.O.E.P. U.S. portion already approved per agreement No.196802 - Amendment No. 3 dated May 5, 1965.

2/ This amount also approved per agreement noted in footnote No. 1.

3/ Represents a portion of the SEATO-AID-NIH CHOLERA FUND.