

INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASE RESEARCH,
BANGLADESH

REPORT OF THE
BOARD OF TRUSTEES MEETING

14-15 JUNE, 1982

1/BT/JUNE 82

AGENDA

BOARD OF TRUSTEES MEETING 14 & 15 JUNE, 1982

Document Code

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|--|---------------|
| 1. Approval of the Agenda. | 1/BT/JUNE 82 |
| 2. Approval of the draft Minutes of the meeting of the Board 18 & 19 November, 1981. | 2/BT/JUNE 82 |
| 3. Matters arising. | |
| 4. Report on Resources Development. | 4/BT/JUNE 82 |
| 5. Director's Report (Annual Report 1981). | 5/BT/JUNE 82 |
| 6. Report of Finance Subcommittee. | 6/BT/JUNE 82 |
| 7. Report of Personnel Management Subcommittee. | 7/BT/JUNE 82 |
| 8. Report of Selection Subcommittee. | 8/BT/JUNE 82 |
| 9. Election of Chairman of Board. | |
| 10. Election of Trustees. | |
| 11. External Review Report. | 11/BT/JUNE 82 |
| 12. Varia. | 12/BT/JUNE 82 |
| 13. Dates of next meeting. | |
| 14. Additional "Handouts" at Meeting. | 14/BT/JUNE 82 |

SCHEDULE

MEETING - BOARD OF TRUSTEES - 14 & 15 JUNE, 1982

Venue: Training Lecture Room

14 June, Monday

9.00	Opening Session
11.00	Tea
11.15	Re-convene
1.00	Luncheon at ICDDR, B
1.45	Re-convene
3.30	Tea
3.45	Re-convene
5.30	End of Session
6.30	Supper at Guest House No. 1
8.00	Evening Session if Required

15 June, Tuesday

9.00	Closing Session
11.00	Tea
11.15	Final Matters
12.00	End of Meeting

2/BT/JUNE '82

MINUTES OF THE MEETING OF THE BOARD OF
TRUSTEES, ICDDR,B, DACCA, 18-19 NOVEMBER, 1981
AND
RESOLUTIONS OF THE BOARD OF TRUSTEES MEETING
18-19 NOVEMBER, 1981

MINUTES OF THE MEETING OF THE BOARD OF TRUSTEES, ICDDR,B
DACCA, 18-19 NOVEMBER, 1981

Members Present:

Dr Hashim S. Al-Dabbagh
Mr M.K. Anwar
Dr D.J. Bradley
Dr C.C.J. Carpenter
Dr W.B. Greenough III - Secretary
Dr J. Holmgren
Dr G.W. Jones
Professor J. Kostrzewski
Professor L.J. Mata
Professor M.A. Matin - Chairman
Dr J. Sulianti Saroso
Dr M.K. Were
Dr Albert Zahra

Members Absent:

Dr A.Q.M. Badruddoza Chowdhury, Dr V. Ramalingaswami, Dr O.M. Solandt

The full meeting of the Board was commenced on Wednesday, 18 November, 1981 at the ICDDR,B Centre facilities in Dacca, Bangladesh. The meeting was opened by Professor M.A. Matin, Chairman of the Board of Trustees.

Agenda 1: Adoption of Agenda

The agenda was adopted with the following alterations:

- Item 1 - the category under Agenda 2
 - a) "Matters Arising" is to be inserted
- Item 2 - Agenda 11 - Varia
 - This would include the following item:
 - a) Search for new Director

With these insertions the following resolution was adopted:

RESOLUTION
1/NOV. 81.

The Board agreed to accept the draft agenda as presented with the additions noted.

Agenda 2: Approval of the Draft Proceedings of the Board of Trustees meeting, 11-12 June, 1981

The proceedings of the meeting of June 1981 were accepted with the following corrections and suggestions.

1. It was requested that the Agenda for this meeting be attached as a part of the body of the Minutes since it is referred to in the Minutes.
2. It was agreed to delete the Minutes of the Subcommittees from the main body of the Minutes of the full Board meeting.
3. There was a discussion on what should be incorporated into the report of the Minutes of the full Board meeting and it was agreed that only the officially agreed upon reports of the Subcommittees together with Proceedings and Resolutions would form the body of the Proceedings. It was requested that important background documents be available with the Proceedings in a convenient place accessible to the Board at Board meetings. The Director informed the Board that such materials were bound with sufficient copies to be available to the management of the Centre and in the Library. It was agreed that in the meeting room of the Board at future meetings the bound volumes containing all documents would be available for ready reference.
4. The following textual corrections were suggested and should be incorporated into the final Minutes.

Page 5 - after the word "operation" add the following sentence "If the fund withdrawal is not only temporary other steps must obviously be taken."

Additional small corrections have been made on the text of the Minutes on pages 14, 15 and 17.

It was further noted since the External Review was not considered complete it should not be appended to the Proceedings. The Proceedings have been reworded as necessary.

Agenda 2a: Matters Arising

It was noted that the procedures for electing the Chairman of the Board of Trustees, ICDDR,B indicated in Resolution 7/June 81 on page 6 of the Proceedings could cause embarrassment to the Chairman were he/she also a candidate for another term as Chairman of the Board. Accordingly, it was requested that the procedure drafted by the Selection Subcommittee on 9 June be substituted. However, since the content of the Minutes,

the Proceedings and Resolution 7/June 81 were correct, it was agreed that this matter should be taken up as an agenda under the item "Varia", Agenda 11.

Agenda 3: Director's Report

The Director's report having been circulated a further presentation was not made but comments were invited from members of the Board. In considering Policy Issue 4 "Global Scope" it was found important to highlight the close working relationship between the World Health Organization Control Programme for Diarrhoeal Diseases (CDD) and its collaborating centre the ICDDR,B. It was noted that in addition to this important cooperative linkage the Centre had full scope of independent initiative in areas of research and training particularly relevant to research matters.

A question was raised particularly with respect to the new Diarrhoea Information Service Centre (DISC) to be established under the sponsorship of IDRC, Canada through the Library and Publications Unit. It was reported that there had been a careful coordination with the World Health Organization in this matter and that the DISC would serve an unique purpose in surveying and collecting much of the literature that is not currently indexed in Index Medicus or major libraries in developed countries. In addition, it would also survey the informal information that were not currently in scientific publications. The Trustees were pleased with this initiative and also with the two major scientific conferences one on Cholera Vaccine and the other on Shigella that had taken place in the Centre in 1981 drawing on scientists from all over the world. It was suggested that a subject for 1983 might be the relation of diarrhoeal diseases and nutrition intervention measures. This suggestion was received with enthusiasm and the Trustees were informed that this was very much welcomed and in the minds of the Centre and its staff. The Board was also informed that in 1982 a major international conference would be hosted by the Centre on the issues of water interventions in the control of diarrhoeal disease. It is anticipated that this would be hosted by ICDDR,B and chaired by Dr Richard Feachem of the Ross Institute, London School of Hygiene and Tropical Medicine.

With regard to focus of work of the Centre in the context of primary health care (Policy Issue 8), the Centre is placed in an unique position for developing appropriate health technology to be applied in the control of diarrhoeal diseases, since such development should have a sound scientific basis. In this relation the oral rehydration studies were cited as a good example. The recent studies on local immunity of

the intestinal tract leading toward a development of effective vaccines against diarrhoeal diseases were also mentioned.

It was mentioned that the proceedings of such meetings would be of great value and that more formal publication than simply internal documents should be contemplated.

Other issues raised in the Director's report had been discussed in the informal sessions of the Board and are alluded to in the Minutes of this meeting where appropriate.

Agenda 4: External Scientific Review Report

The report of the External Scientific Review of the Centre as presented by the reviewers in the written document to the Board was discussed in detail. This discussion was participated in by all members of the Board. There was consensus among all present that the review was adequate within the areas of expertise of the members of the reviewing panel. It was noted, however, that the reviewers themselves indicated that they had not been able to give sufficient attention to matters of population, demography and nutrition research. It was pointed out that the areas of administration and management were very important but did not get adequate attention in the review. For this reason attention was directed to how best to address these lacunae. It was agreed that too frequent reviews and the exercises required before and after these occasions may distract from the work of the staff of the Centre so that every attempt should be made to convene an external review only once every two years and with a full panel of expertise represented in order to avoid any criticism of inadequate attention to any given area. It was recognised, however, that at the time the review was carried out, the situation was such that several of the reviewers could not be present in Bangladesh. The possibility of using reports by Dr Ranjit Senaratne in Social Sciences was raised and also the possibility of utilizing the recent review by the UNFPA and Government of Bangladesh of the Maternal Child Health Family Planning Project in Matlab. After considering the advantages and disadvantages there was a consensus that this would not satisfy the requirements.

Each point raised in the review was considered in detail and commented upon by the Director and members of his staff. It was agreed that the acquisition of a mass spectrometer needs further consideration, however, replacement of the regular laboratory equipment is a high priority. The merging of the Disease Transmission and Community Services Research programmes may not be desirable at this stage. All other points were being addressed or would be addressed in so far as possible in the 1982

budget. All agreed that this should be done.

It was the final consensus of all present that the review was incomplete and that an additional review should be carried out at the earliest possible time. The current incomplete review should not be released or commented upon further until that had been accomplished.

Main objectives of the Centre include training and extension. The activities of the Centre in these areas have grown rapidly during the past three years. Consequently it will be desirable to bring extension and training within the purview of the statutory review.

RESOLUTION
2/NOV. 81

The Director of the Centre must seek two outstanding reviewers one from the field of Population/Demography and one from Nutrition Sciences. One individual representing each of the two fields mentioned should be brought to Dacca to carry out a review of the areas of their expertise and prepare a report for the Board of Trustees based on their findings. This review should be carried out at the earliest feasible time before the next Board meeting in June 1982.

RESOLUTION
3/NOV. 81

The areas of administration and management being crucial to the achievement of the objectives of the Centre through scientific programmes should be included within the scope of the next review by inclusion of persons having outstanding administrative experience in the review team.

RESOLUTION
4/NOV. 81

Training and Extension should be included within the scope of the next review.

Agenda 5: Report on Resources Development

The report on Resources Development was presented in resume. This was followed by a lively discussion. The Trustees appreciated the fund raising efforts during 1981 which has substantially improved the financial position of the Centre over the beginning of the year.

The limitation of the Consultative Group meetings solely to donors was thoroughly discussed. The organization and invitation process was also reviewed based on two years experience. It was emphasized that the Consultative Group meeting provides an opportunity for presentation of the Centre's activities to a broader group of interested countries and agencies many of whom are not members of the Board of Trustees. Since on the Board all members act in their individual capacities only and not as representatives of countries or agencies, the Consultative Group is the sole form for representational discussions. A wide representation guards against the impression that is solely responsive to a "donor club"

or any multilateral groups. The consensus was that this concern was valid and the original policy of wide participation should be encouraged.

It was also felt that the Consultative Group meeting should be organized by the Centre in collaboration with UNDP. It will be more convenient if the Centre issues the invitations to attend and makes all other arrangements for documentation. Invitations should be sent to governments urging members of their permanent missions located at the site of the meeting to attend if representatives cannot be sent from the particular country.

Resources Development activities may be identified into two broad groups. These are contribution to the Core fund which the Centre is free to spend on any item it thinks proper and contribution on the basis of some protocol/project which the Centre is obliged to spend on agreed activities. Any contribution to the Core fund is welcome and should be encouraged. The initial years of the Centre being over, it is time some guidelines are developed for accepting funding which obligates the Centre to certain activities which may deflect from its main objectives and distort priorities. It is therefore necessary to evolve a mechanism to ensure that the contractual protocol do not result in too thinly spreading the resources. At the same time it should be recognised that an important part of the scientific strength of ICDDR,B both presently and in the past, has been its ability to rapidly incorporate and develop new technological advances into its own research and training. This clearly requires contacts and collaboration with scientists and laboratories outside the Centre, and should be encouraged as long as the collaboration falls within the objectives of the Centre and is internally judged to be of a first-rate priority. It was observed that there should be a mechanism to keep the Board members regularly informed of research activities of the Centre. There should be once a year together with the budget, a listing of details of protocols finalised since the last meeting. This should include all protocols including the ones funded from the Core fund.

It was strongly felt that some guidelines should be developed on the basis of which contractual obligations in the form of protocols, projects or in any other form are to be accepted/processed. This would also include criteria for establishing projects outside Bangladesh. The Director offered to prepare a working paper for consideration in the next Board meeting. He will consult some of the Trustees in preparing the guideline document.

It was the consensus that pending approval of the guidelines the following general principles should be followed in handling the funding of

contractual protocols.

"The objective must conform to the objectives of the Centre. There should be need for such a study at the particular time. It should be consistent with the work priorities of the Centre. The Centre should have adequate competence to undertake the job. The collaborating/interested party should meet all direct and indirect costs of the project or protocol, including overheads and made adequate provision for contingencies."

It was reported that phase I of the building program would be completed by the middle of 1982. A projection of the space required in the additional floors of the new building has been accomplished based on the current five year program projection. The Board was asked to agree to initiate the raising of funds for phase II.

RESOLUTION
5/NOV. 81

The Centre should proceed to secure adequate funds to continue the building program into phase II without interruption and requests the Director to present a detailed plan of development of the programme in relation to the second phase of the building construction including staff, equipment and activities. This plan will be presented to the Board at its meeting of December 1982.

Agenda 6: Report of Finance Subcommittee

"The Past

ICDDR,B began operation on July 1, 1979. Its revenue expenditure from then to December 31, 1980 was \$5,790,000 for the 18 months which is at a rate of \$3,860,000 for 12 months.

During 1980 a five year programme budget was discussed by the Board of Trustees and was approved as a planning target. The operating expenditures envisaged were -

Millions of US\$

1980	4.1 (not in the 5 yr. budget)
1981	6.1 (plus \$600,000 working fund)
1982	7.4
1983	8.6
1984	10.0
1985	11.7

At a meeting of the Board in December 1980 the Director presented a

programme which would cost about \$6.7 million. At that time the forecast of reasonably firm revenue for the year totalled about \$4.0 million. The Director therefore presented an alternative limited budget which proposed an expenditure of \$4.0 million. It was felt that this level of expenditure 'would seriously compromise all programmes, although all commitments could be met. In view of the prospects of added funds and the level of available funds through June 1981 it was felt possible to allow a rate of expenditure above the level of the limited budget presented' (quotation from the Minutes of Board Meeting December 2-5, 1980).

When the Board met on June 11-12, 1981 the Finance Subcommittee reported total funds available for operating revenue for 1981 were -

352,000	-	carry-over from 1980
4,065,000	-	pledges at beginning of 1981
536,000	-	new pledges since November 1980
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4,953,000	-	Total

Although this marked an improvement in position the Board commented at the meeting of June 11-12, 1981 as follows:-

'Total expenditure for the first four months of 1981 was \$1.753 million, an average of \$438,000 per month. Monthly expenditure is very uneven (January \$242,000, April \$729,000) due mainly to changes in travel, supplies and materials and equipment and furniture. Hence it is difficult to make an accurate prediction for the remainder of the year. The best estimate available which allows for foreseeable increases in personnel costs, and printing and for a reduced monthly expenditure on supplies and materials and equipment and furniture predicts expenditure at the rate of \$484,000/month for a 8 month total of \$3.87 million. The total expenditure for 1981 would then be \$5.63 million (\$470,000/month) or about \$670,000 more than the presently foreseeable revenue. The monthly rate of expenditure will probably approach \$500,000 in December.'

The Present

In preparation for the November 1981 Board Meeting the Director presented a record of revenue and expenditures - actual to the end of September and projected to the end of 1981. Actual expenditure for 9 months was \$4,357,000. Estimated expenditure for the remaining 3 months \$1,360,000 for a total of \$5,717,000. This includes \$167,000 of unanticipated expenditure on new projects. This was primarily an execution of some projects on which the Centre had to spend more than the amount received from the sponsors. It will be advisable to strictly limit acceptance

of such projects in the future.

Anticipated revenue for 1981 is estimated at \$5,326,000 as against an estimated expenditure of \$5,717,000 resulting in a predicted short fall of \$391,000. This revenue estimate of \$5,326,000 includes \$352,000 carried over from 1980 so expenditure for 1981 could exceed revenue by \$743,000, however, it is expected that an additional amount of \$300,000 will be available before the end of the year.

At its June 1981 meeting the Board requested the Director 'to exercise more effective control in consultation with the staff in such a way as not to adversely affect the research and training programmes'. As a result a reduction in commitments for supplies, materials and equipment began in July 1981. This will result in some reduction in expenditure in the early months of 1982.

Revenue Estimates for 1982

Anticipated receipts forecast for 1982 as follows:-

<u>Committed</u>	<u>Millions of US\$</u>
Unrestricted	3.50
Restricted	1.38
Other income	.30
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	5.18
	<hr/>

Additional projected support -

Aga Khan Foundation
Asian Development Bank
France
Middle East
UNDP-MCH-FP
US/AID - Palli Chikitshak

1,500,000

Each of the last 3 sources may involve some additional expenditures. It seems prudent to reduce the estimate of total revenue probably available for operating expenses to a round figure of \$6.5 million which

may be reduced by the 0.4 million deficit forecast for 1981.

If the projected support materialises the actual revenue of \$6.5 million in 1982 will be an increase of 30% over the \$5 million received in 1981.

Recommended Plan for 1982

The staff estimated that it would cost about \$8 million to fund all 1981 activities during 1982 with some added positions but no major new activities. This estimate undoubtedly has some fat in it but certainly not \$2 million. The only reasonable conclusion that can be drawn is that ICDDR,B is too big for its budget.

Consideration quickly shows that it is very difficult to cut the size of the Organization without very serious damage. The easiest place to cut would be in senior staff but this would reduce the productivity of the Centre out of all proportion to the savings realized. Cuts in junior staff would save less money and produce more complications. It is therefore recommended that ICDDR,B aim to operate during 1982 on an operating budget not to exceed \$6.5 million. This figure is chosen rather than the \$6.1 that now seems to be available because cost projections suggest that the small extra amount would add greatly to the productivity of the Centre and the prospects for getting the extra revenue are good.

Only three goals that will involve new expenditures should be considered for 1982. The first goal is to ensure the continued expansion of high quality research in order to attract increasing donor support. Progress toward this goal will be made by the hiring of two new senior international scientific staff in late 1981 and possibly one more in 1982. One new international level person can be added to the Resources Development section to increase the effort in seeking revenue. New local hiring must be limited to cases of absolute necessity.

The second goal is to improve expenditure control. The appointment of a senior and experienced person as Associate Director of Administration and Finance is expected before the end of 1981. This will initially result in increased expenditure but should produce a positive result during the year.

The third goal is to bring the pay and allowances of staff, both local and international, into a suitable relationship with the UN scales as soon as possible.

Increased operating costs resulting from the move to the new building must be kept to the absolute minimum.

Conclusions

The size of the staff and operations at ICDDR,B are now such that in 1982 the 1982 target in the 5 year plan of \$7.4 million is an optimum figure. With present revenue projections however this would produce a deficit of about \$1 million which cannot be tolerated. The experience of 1981 must not be repeated. The Board should instruct the Director to continue and improve all existing measures to restrain expenditure and to limit expenditures to the \$6.5 million expenditure ceiling. No new project grants or contracts must be accepted if they involve any unbudgeted expenditure of core funds. There must be no relaxation until increased revenue is firmly committed. The first available increase should be used to adjust salaries and benefits of staff not to exceed UN levels. No other increases in expenditure should be planned for 1982. If further funds become available they should, if possible, be retained as a working fund for 1983 and beyond.

The goals set out in this report can only be achieved if everyone affected immediately accepts the approved budget and begins to use the new tool to control their own expenditure. Support and encouragement from the Board will greatly aid in this important step forward.

Staff Provident Fund

Since the transition from PSCRL to ICDDR,B there has been no revision of the rules of the Staff Provident Fund. These rules have been reviewed in detail by members of the Finance Subcommittee and the following changes are recommended at this time:-

1. (a) In Rule 1(i) and wherever occurring including the forms except in Rule 2(x), the words 'Cholera Research Laboratory' be substituted by the words 'International Centre for Diarrhoeal Disease Research, Bangladesh'.
- (b) In Rule 2(i) the words 'Pakistan-Seato Cholera Research Laboratory' be substituted by the words 'International Centre for Diarrhoeal Disease Research, Bangladesh'.
- (c) The letters 'PSCRL' wherever occurring, except in Rule 2(x), be substituted by the letters 'ICDDR,B'.
- (d) In Rule 2(x) and Rule 2(xi) the words 'now defunct' be inserted immediately preceding the letters 'PSCRL' wherever occurring in the two sub-rules.
- (e) In Rule 2(x) and Rule 2(xi) the words 'which has now become the International Centre for Diarrhoeal Disease Research, Bangladesh Staff Provident Fund' be inserted immediately succeeding the word 'Fund' wherever occurring in the two sub-rules.

- (f) The word 'Laboratory' occurring in Rule 3 be substituted by the word 'Centre'.
 - (g) The words 'Registered' occurring in Rule 8 be substituted by the word 'Head'.
 - (h) The words 'in Pakistan' occurring in Rule 8 be deleted.
 - (i) The word 'Pakistan' occurring in Rule 9(ii) be substituted by the word 'Bangladesh'.
 - (j) In Rule 24 the words 'Government of Pakistan or its authorised representative' be substituted by the words 'Board of Trustees of the ICDDR,B'.
2. At the end of Rule 2, a new sub-rule be added as follows:
- (xi) Centre means the International Centre for Diarrhoeal Disease Research, Bangladesh established under Ordinance LI of 1978.
3. The existing provisions in Rule 3 be renumbered as Rule 3(i) and the following new sub-rules with numbers 3(ii) and 3(iii) be added.
- '3(ii) Any contractual employee with a minimum duration of contract for one year other than International level positions shall be eligible to become a member of the Fund.'
 - '3(iii) Any existing member of the Fund having been absorbed in the International level positions established in pursuance of section 14 of the Ordinance LI of 1978 shall cease to be a member of the Fund with effect from the date of absorption.'
4. (a) In Rule 5 the words 'eight and a third' be substituted by the word 'ten'.
- (b) In Rule 5 the word 'salary' be substituted by the word 'pay'.
5. In Rule 15(i) (c) the words 'or has been absorbed as an international level employee or on expiry of contract with minimum duration of one year' be inserted immediately succeeding the words 'ill health'.

The Government of the People's Republic of Bangladesh has indicated that such revision is within the jurisdiction of the Trustees of ICDDR,B. The text of this letter is as follows:

'I am directed to refer to your letter No. Nil, dated 16.3.81 on the above subject and to say that as per existing Ordinance of the I.C.D.D.R., B the Board of Trustee may take necessary action in the matter and therefore, the Government has nothing to do in the matter. Thanking you with regards,'.

Capital Budget

The Capital Budget was reviewed and accepted as presented. The description and discussion of Capital Development is contained in the report on Resources Development (5.c/BT/NOV. 81).

Reserve Fund

In the meeting of the Board, 11-12 June, 1981 the following resolution was passed Resolution 6/June 81:

'The Finance Subcommittee is requested to examine the desirability/possibility and mechanism of creating a 'Reserve Fund' to enable the Centre to attain better financial stability and also to enable it to retain a satisfactory level of work in case of uneven flow of resources for reasons beyond its control.'."

The report of the Finance Subcommittee was summarised for the Board. Further clarification was given on the methods of accounting which are used in presenting the budget which is the final part of the Finance Subcommittee report. It was mentioned that receipts are accounted on a cash basis and expenditures on accrual basis. Although this raises some difficulty in a delayed reporting of expenditures until an item has actually been received and put to use, it has been accepted by the auditors and is the current operating procedure. The possibility of improving this dichotomy by a different accounting system was mentioned.

Next the issue of overruns of the budget was discussed. It was pointed out that the original budgetary figure of \$4.1 million set by the Board was based on actual resources in hand and at the time it was noted that this would be an unworkable level of budget for the Centre. Accordingly the Board had authorised the Director to expend funds on programs up to the limits of receipts. It was noted that accordingly the projected overrun beyond this limit may occur by the end of the year leading to a deficit of \$339,238. However, there are still anticipated receipts between now and 31 December which may neutralise this deficit. It was noted however that in 1982 full budgetary control can be instituted because of the newly implemented financial system.

The reserve fund was discussed. It was recognised that the \$300,000 listed under the heading "working fund" is truly a contingency fund not a reserve fund and should be designated as such. However it was pointed out that in order to develop a reserve fund a definite figure must be set aside each year. It was agreed that 10% of the annual budget would be an appropriate amount. It was recognised that a full reserve fund could not be achieved in 1982 unless the fund raising was extraordinarily

successful. However every effort should be made to definitely set aside some part of the contingency fund to initiate a reserve fund in 1983. It was reported that in the expected contribution from Japan \$50,000 has been designated for the reserve fund.

The Reserve Fund requested by the Board was not fully discussed by the Finance Subcommittee which only provided for a contingency or working fund. After discussion the Board decided also to lay the basis of a true Reserve Fund by resolution.

The report of the Finance Subcommittee was accepted.

RESOLUTION
6/NOV. 81

- (a) There shall be a fund designated as "Reserve Fund" of the Centre in which specified amount shall be credited every year.
- (b) The target shall be to create a Reserve Fund of the order of \$US 10 million.
- (c) In case total receipts for the year 1982 is less than \$US 6.5 million an amount of \$US 100,000 is to be set apart and deposited to Reserve Fund.
- (d) If the total receipts is equal to or more than \$US 6.5 million the entire amount above 6.5 million not exceeding 10% of the total receipts will be set apart as Reserve Fund in addition to the amount of \$US 100,000 mentioned in (c) above.
- (e) In case receipts exceed \$US 7.25 million, the Director will come up to the Board with appropriate recommendations for utilizing the amount in excess of the budgetary commitments including Reserve Fund.
- (f) The Finance Subcommittee will work out the necessary details in respect of operation of the Reserve Fund, maintaining its account and other issues relating to its handling and utilization and will report to the Board.

RESOLUTION
7/NOV. 81

In view of the policy adopted in Resolution 9/Nov. 81 the increase in the Staff Provident Fund from eight and a third to ten is not accepted. Item 4(a) in the section of the report of the Finance Subcommittee on Staff Provident Fund is thus deleted.

Agenda 7: Report of Personnel Management Subcommittee

"The members of the Personnel Management Subcommittee of the Board have met on two occasions since the last full Board meeting in June. The meetings took place in Dacca on 13 and 14 November, 1981. All members

were present at both meetings. The following report is submitted for consideration and possible action by the Board.

The process for hiring consultants of more than three months, was discussed. There was a consensus that all positions of more than three months above the local scales should be selected by the Selection Subcommittee of the Board but that recruitment of consultants of less than three months term could be carried out under responsibility of the management of the Centre. It was cautioned, however, that such consultations should be assessed carefully in terms of their cost versus benefit and gain. In general, consultants in research should have qualifications, comparable to that of scientists. In the field of training and management/finance it should follow that criteria stipulated for that category. A resolution has been drafted for consideration and was adopted.

Next, the Subcommittee took up the matter of the relationship of ICDDR,B pay scales, benefits and personnel rules to those of the UN system. During the past two years the Subcommittee has considered the implications of a more complete application of UN scales, benefits and rules to the Centre. This process was further advanced by the reports of two consultants to the Centre, Mr Roger Eggleston, Chief Personnel Officer, WHO/SEARO and Mr Hugh Murphy, Director, Administration, IRRI, since the June Board meeting. These reports have been circulated to the members of the Board for their information. Mr M.K. Anwar of the Personnel Management Subcommittee has carefully reviewed these documents and commented on them in detail, and this report is available to the Board.

At this time a full consensus has developed in the Subcommittee that it would be highly desirable for the Centre to adopt recruitment procedures, the pay scales, benefits and rules of the UN system. The pay and benefits given to the Centre's staff should be carefully structured not exceeding the limits of this system. In addition, since there are variations within the UN system among the different agencies, it was felt important to designate the agency which will provide the guidelines for the Centre. The Subcommittee agreed that the World Health Organization was the appropriate UN agency to follow. This being the case it was felt that a clear enunciation of this policy by the Board would provide the necessary impetus for a full and careful evaluation of the current pay scales, benefits and rules. Revisions for implementation would be presented in a detailed manner to the Board for implementation at a future meeting. At such a time the financial implications to the Centre could be defined and a judgement made regarding the timing of implementation. By proceeding in this manner it is felt that serious problems could be averted in the future in that a clearly defined relationship to the WHO procedures, recruitment procedures, pay scales and benefits would insure that no double standard will be evolved between national and expatriate staff, and that the employees will be

protected by the adjustments in the system for increases in cost of living. An additional benefit would be that when members of the Centre work in other countries or regions there would be clearly defined regulations, rules and guidelines to govern administrative procedures in those areas.

Article 14, Clause 2 of the Charter enjoins upon the Centre to make salaries and emoluments of non-international level persons comparable to those paid by the United Nations Organizations in Bangladesh. In pursuance of these provisions several upward revisions and adjustments have been made in the recruitment procedures, pay and benefits of the non-international level employees. In view of the facts stated above and as a final step towards achievement of comparability with UN Organizations, it is necessary to take certain policy decisions on the subject. A resolution was adopted in this respect.

The final matter taken by the Subcommittee on Personnel Management was to recommend a minor correction for the procedure for selection of members for the Board of Trustees. The correction is in the form of a resolution.

With regard to the existence of the Subcommittee on Personnel Management this Committee recommends that the Board continues to have such a Committee to review the process and steps for implementing the policy decisions adopted by the Board and also to assist the Board in the discharge of its duties. However, the Board might wish to review the composition of the Subcommittee."

The Chairman presented the Committee's report highlighting the important points of this report. The main thrust of this report is to precipitate a policy decision on the part of the Board to move the Centre's pay, allowances and all benefits in cost and kind to a position that is equal to but not to exceed those of the UN system. The second purpose was to define which UN Organization was to be the model. It was agreed that the World Health Organization provided the most known and appropriate frame of reference for the Centre. The implications of either adopting a looser definition of "comparability" such as was suggested in the report of Mr Hugh Murphy or a very close comparability defined as equal and not to exceed was thoroughly discussed and the consensus arrived at that indeed the Centre's interest as well as that of its staff members will best be served by adopting a policy of moving toward equality not to exceed the pay and all benefits in cash and kind of the World Health Organization. The details of implementation and financial implications would be worked out by the management of the Centre and presented in a detailed and thorough manner to the Board of Trustees prior to any action.

It was underscored that in view of the budgetary limitations of the Centre during 1982 no major increase in pay and benefits would be possible. It was noted that at the present time with the current pay and benefits the personnel budget of the Centre was consuming more than 60% of the total resources as proposed in the 1982 budget.

There was little discussion of the minor amendment to the procedure for the selection of members to the Board of Trustees.

It was noted that in the minutes of both the Personnel Management Subcommittee and the Finance Subcommittee the need for strengthening the Resources Development function was noted and that although the international level position requested might not be necessary this year, there was a need for a talented individual perhaps somewhat below this level and short term consultants for the purpose of preparing documents and participating in teams particularly to the Middle Eastern countries. The importance of full facilities for the fund raising effort was underscored by several members.

After completion of the discussion of the material in the report of the Personnel Management Subcommittee there was reference back to the Finance Subcommittee report to call the attention of the members of the Board to the point that in the revision of the rules for the Provident Fund there was an increase from 8 1/3 to 10% in the contribution of this fund. This would result in a diminution in the take home pay of employees but in the long run would be to their benefit, there would be a small increased cost to the Centre were this implemented. The Board felt that in view of the policy being adopted of equality not to exceed WHO pay and all benefits in cash and kind any changes in the amount provident fund would further confound this process.

RESOLUTION
8/NOV. 81

Consultants should provide expertise not available at the Centre for the task at the time of the consultation. Such consultation for a period of less than 3 months is at the discretion of the Director. Consultants serving more than a period of 3 months shall be selected by the Selection Subcommittee of the Board. The period of consultancy shall not exceed eleven months consistent with WHO policies.

RESOLUTION
9/NOV. 81

(a) There are variations in individual components of salaries, emoluments and benefits among the different UN Organizations in Bangladesh. As a first step towards establishing comparability, it is essential to identify one of the UN Organizations to be adopted as a yard stick. As the Centre is a health related organization the nearest UN Organization in Bangladesh concerned with health is the World Health Organization. The Centre will therefore, follow the structure followed by the WHO in respect of

pay allowances and all other benefits in cash or kind paid by WHO to non-international level employees in Bangladesh.

- (b) Total of salaries and emoluments of non-international level positions in the Centre including pay, allowances, benefits in cash or in kind or in any other manner including pension, provident fund, retirement benefits shall be equal to but shall not exceed the total of those paid by the UN Organization (WHO) in Bangladesh to employees in equivalent positions.
- (c) Items of pay, allowances, and all other benefits in cash or kind shall be those as paid or allowed by UN Organizations. Deviations may not be allowed except in very special circumstances based on strong reasons. Such deviations, if allowed, must conform to the requirement of resolution (b) above.
- (d) It has been observed that some employees in international level positions have been enjoying benefits in cash and kind more favourable than those allowed by the WHO to employees in equivalent levels. On the lines adopted for non-international level employees, compensation to international level employees should be so adjusted as not to exceed the amount paid by WHO for equivalent positions.
- (e) The Director of the Centre shall take necessary steps to inform the Board of the consequences of implementation of this policy.

RESOLUTION
10/NOV. 81

In Section 5 of the procedure for holding election in seats of members at large of the Board of Trustees which was passed at the June meeting and inserted into the By-laws the following change should be made: the word 'recommendation of' is to be replaced by the word 'each candidate recommended by'.

RESOLUTION
11/NOV. 81

The Board appreciate the significant contribution made by the Personnel Management Subcommittee in the matter of management of the affairs of the Centre and decides that the Committee with its existing composition will continue to work to assist the Board of Trustees in the discharge of its duties.

Agenda 8: Report of the Selection Subcommittee

"The Selection Subcommittee of the Board has considered the following matters and reports them to the Board for their consideration and action:

1. The curriculum vitae and recent work of two members of the

scientific staff have been reviewed by two members of the Board for each individual. It is the opinion of the Selection Subcommittee that the comments by the reviewers taken together with knowledge of present activities that both members qualify at the rank of Scientist. The Subcommittee therefore asks the Board to recognise Dr Roger Glass and Dr A.K.M.A. Chowdhury as having attained the rank of Scientist in ICDDR,B. A resolution was adopted.

2. The Subcommittee has reviewed the status of long term Consultants at the Centre and reports to the Board that the positions currently occupied by two long term Consultants in the area of Construction and Physical Plant shall be terminated on December 31, 1981. It may be possible and desirable to retain the incumbents by creating two positions for longer terms during the current capital development phase of the Centre. The job descriptions for these two positions have been prepared and referred to the Personnel Management Subcommittee for their scrutiny and action. It was felt that the long term positions in Training and Financial Matters may not be necessary as regular staff positions, hence the position in Training will be terminated on 31 December, 1981. The position Consultant in Financial Matters will be required until the new Associate Director, Administration/Finance is in place and deems this position as no longer essential. The overlap period, however, should not exceed three months.
3. The Subcommittee has reviewed the process, credentials and recommendations regarding all candidates applying to the position Associate Director, Administration/Finance and finds Mr Michael F.L. Goon to be the most desirable candidate for the position. A resolution was adopted.
4. The process of selection of new members of the Board of Trustees was discussed together with the desirability of continuing the talents and knowledge of present members who might be able to serve a second three year term. It was noted that since in June 1982 the first Trustees would have served a full term that certain precedents would be set by the actions the Board takes on this occasion. It was felt important to have a full discussion of the precedents that might be set."

The report of the Selection Subcommittee was presented.

Para 4 of the Selection Subcommittee report regarding selection of new members of the Board of Trustees was discussed. Points for retaining the existing Trustees for a second term as against the advantages of

infusing new members were highlighted. The consensus was that the Selection Procedure for selection of the Board members are flexible enough to accommodate and reflect the general feeling of the Board. It was however felt that it may not be advisable to associate any individual with the activities of the Centre primarily with the expectation that such an individual may subsequently be elected as a member of the Board of Trustees.

The Board accepted the report of the Selection Subcommittee.

RESOLUTION
12/NOV. 81

The following two individuals may be recognised as having attained the rank of Scientist in ICDDR,B -

Dr Roger Glass
Dr A.K.M.A. Chowdhury

RESOLUTION
13/NOV. 81

The Board of Trustees, ICDDR,B authorises the Director of the Centre to enter into negotiation with Mr Michael F.L. Goon to secure his appointment as Associate Director, Administration/Finance.

Agenda 9: Approval of Budget 1982

The 1982 operating budget proposal was presented and discussed from many aspects.

Several Trustees commented on the need for preparing a programme and budget document providing further details in order to better analyse how the budget would be related to the programme areas showing new individual projects and research protocols. It was suggested that in addition to the brief presentation which has been provided that a budget book should be prepared by the Centre which would include a brief summary of programmes and together with the cost estimated for the coming year. Since a process of individual staff members filling budget sheets provides such information this should be possible. An annotated list of protocols together with their budgetary implications, it was agreed, it would be helpful for the Trustees to achieve rapid acquaintance with work going on at the Centre at each meeting.

The budgetary process was discussed and it was indicated that it might be demoralising to ask every individual to add up what he hopes to have for doing his projects and program then finding that such too large necessitating a cut back to a realistic level. This has been the process used during the past years. For a better budgetary process the receipts should be estimated from the fund raising past performance and the current climate for income, next an allocation should be made to areas and programs according to the priorities and goals of the Centre

and finally a real dialogue should be carried out within those allocations to optimize the utilization of the resources available.

The issue of staff size was raised since a large part of the 1982 budget would be absorbed by personnel cost. It was noted that overall staff should not be increased and that retraining and internal transfer of staff would have to be instituted to meet changing needs. If this is not done a freeze is likely to lead to stagnation of programs which is undesirable. It will be one of the primary functions of the Associate Director, Administration/Finance to study the present staffing positions in relation to their functions and the latter to the Centre's program.

The matter of cost savings was discussed. It was emphasized that with the new Associate Director, Administration/Finance, a more detailed process of cost savings could be undertaken which when looked at in an aggregate although appearing small in each item might result in significant overall savings to the Centre.

Substantial improvements in the facilities and basic equipment of the microbiological laboratories are urgently needed and will require appropriate budgetary allocation.

The following resolution was adopted:

RESOLUTION
14/NOV. 81

Budget for the year 1982 for a total amount of 6.5 million including contingency/working fund of 0.30 million is approved subject to the modifications contained in the resolutions of the current meeting of the Board, Report of the Finance Subcommittee, Report of the Personnel Management Subcommittee and other approved documents.

Agenda 10: Next two meetings of the Board of Trustees - date and place

The Board wished unanimously to accept Dr Leonardo Mata's invitation to hold the next meeting in Costa Rica at INISA. In view of the increased costs and limited budget it was decided to hold the June meeting in Dacca.

The dates of the June meeting were agreed on as Monday and Tuesday, 14 and 15 June, 1982. The meeting will be convened in Dacca due to the substantial added cost of a meeting in Costa Rica.

The November meeting would be convened in Dacca at the Centre - the week of December 7-12, 1982.

Agenda 11: Varia

(a) Search for new Director

A letter from Dr Solandt addressed to the Chairman of the Board of Trustees indicating that Dr Greenough the present Director will not be available to the Centre beyond June 1983 suggesting steps to be initiated for selection of a Director was placed before the Board. Dr Greenough confirmed that his services will not be available after June 1983 and recommended action as suggested by Dr Solandt. It was felt by the members that the selection process will take considerable time and the process should be initiated promptly. It was the consensus that the selection process should be completed by the middle of 1982 and invariably before the end of 1982. After discussion resolutions were adopted.

(b) Procedure for electing the Chairman of the Board of Trustees

After a brief discussion in which it was pointed out that since the procedure adopted in the meeting of June 1981 had not been used it was perhaps premature to change. The Board adopted a resolution in this respect.

(c) Audit

The Director reported that the procedure had been initiated to select an auditor for 1982. The results would be reviewed by the Finance Subcommittee and reported to the Board for final selection.

RESOLUTION
15/NOV. 81

- (a) The Selection Subcommittee will immediately initiate the selection process by issuing advertisements, contacting institutions and individuals and also taking any other necessary steps for obtaining names and particulars of prospective candidates from all over the world.
- (b) All names so received will be examined by the Selection Subcommittee in order to prepare a list of eligible candidates.
- (c) Eligible candidates from the different regions will, thereafter, be interviewed by groups of members of the Board of Trustees on the basis of geographical location of the Trustees and the candidates. Candidates from the American region may be interviewed by Drs Solandt, Carpenter and Mata, from European region by

Drs Bradley, Zahra, Kostrzewski and Holmgren, from the Asian region by Drs Matin, Ramalingaswami, Al-Dabbagh and Mr Anwar, from the Australasian region by Drs Sulianti Saroso and Jones. Similar arrangements may be made for the African region in case of need. The Director may make himself available to some of the groups according to his convenience.

- (d) Each of the groups will select two to three names. Selection Subcommittee expanded by the inclusion of Dr Carpenter and Dr Zahra will make the final selection from amongst the list prepared by the regional groups.
- (e) Efforts should be made to complete the process of selection before next meeting of the Board of Trustees.

RESOLUTION
16/NOV. 81

The following procedure shall replace that of Resolution 7/June 81.
Procedure for electing the Chairman of the Board of Trustees.

- (a) Each member of the Board proposes one name only by secret ballot. The name obtaining a simple majority of votes has been elected Chairman.
- (b) If the candidate elected is unable or unwilling to serve the procedure shall be repeated in full.
- (c) If there is no majority the two names with the highest number of votes will be regarded as candidates.
- (d) Each member of the Board will elect one candidate only by secret ballot. A simple majority of members present and voting will elect the candidate.
- (e) A ballot with two names is regarded as void.
- (f) Should a tie vote occur the incumbent Chairman will not vote.

The following corrections and amendments have been received for the Minutes of the Meeting of the Board of November 18 - 19, 1981

Page 1, line 7 - the correct designation is Ross Institute, London School of Hygiene and Tropical Medicine.

Page 3, line 4 - substitute:
"close working relationship" for
"interrelated working relationship"

Page 4, line 13 down - substitute the word "adequately" for "well done".

Page 4, line 18 down - phrase "were very important".

Page 7, line 9 down - substitute "meet all direct and indirect costs of the study, including overheads, and make adequate provision for contingencies".

Page 13, 4a) The words "six and a quarter" should be substituted for "eight and a third".

Page 13, Resolution 7/NOV.81 - The words "Six and a quarter" should be substituted for "eight and a third".

Page 14, paras 2 + 3 - Stop quotation at end of para 1. In para 2 say "reserve fund requested by the Board but not fully discussed by the Finance Subcommittee who only provided for a contingency working fund. After discussion, the Board decided also to lay the basis for a true reserve fund by the following resolution:"

Page 16 - After the word "from....." The figures 6% to 10% should replace 8 1/3 to 10%.

Page 21 - Reword as follows: The Board wished unanimously to be able to accept

Dr. Mata's invitation subject to the overriding need to spend no more money than by holding it in Dacca. In view of the increased cost it was decided that Dacca would be the site for the June and December meetings."

2/BT/JUNE 82

RESOLUTIONS OF
THE BOARD OF TRUSTEES MEETING
18-19 NOVEMBER, 1981

RESOLUTIONS
BOARD OF TRUSTEES MEETING
18-19 NOVEMBER, 1981.

RESOLUTION 1/NOV. 81

RESOLVED : The Board agreed to accept the draft agenda as presented with the additions noted.

RESOLUTION 2/NOV. 81

RESOLVED : The Director of the Centre must seek two outstanding reviewers one from the field of Population/Demography and one from Nutrition Sciences. One individual representing each of the two fields mentioned should be brought to Dacca to carry out a review of the areas of their expertise and prepare a report for the Board of Trustees based on their findings. This review should be carried out at the earliest feasible time before the next Board meeting in June 1982.

RESOLUTION 3/NOV. 81

RESOLVED : The areas of administration and management being crucial to the achievement of the objectives of the Centre through scientific programmes should be included within the scope of the next review by inclusion of persons having outstanding administrative experience in the review team.

RESOLUTION 4/NOV. 81

RESOLVED : Training and Extension should be included within the scope of the next review.

RESOLUTION 5/NOV. 81

RESOLVED : The Centre should proceed to secure adequate funds to continue the building program into phase II without interruption and requests the Director to present a detailed plan of development of the programme in relation to the second phase of the building construction including staff, equipment and activities. This plan will be presented to the Board at its meeting of December 1982.

RESOLUTION 6/NOV. 81

- RESOLVED : (a) There shall be a fund designated as "Reserve Fund" of the Centre in which specified amount shall be credited every year.
- (b) The target shall be to create a Reserve Fund of the order of \$US 10 million.
- (c) In case total receipts for the year 1982 is less than \$US 6.5 million an amount of \$US 100,000 is to be set apart and deposited to Reserve Fund.
- (d) If the total receipts is equal to or more than \$US 6.5 million the entire amount above 6.5 million not exceeding 10% of the total receipts will be set apart as Reserve Fund in addition to the amount of \$US 100,000 mentioned in (c) above.
- (e) In case receipts exceed \$US 7.25 million, the Director will come up to the Board with appropriate recommendations for utilizing the amount in excess of the budgetary commitments including Reserve Fund.

- (f) The Finance Subcommittee will work out the necessary details in respect of operation of the Reserve Fund, maintaining its account and other issues relating to its handling and utilization and will report to the Board.

RESOLUTION 7/NOV. 81

RESOLVED : In view of the policy adopted in Resolution 9/Nov. 81 the increase in the Staff Provident Fund from eight and a third to ten is not accepted. Item 4(a) in the section of the report of the Finance Subcommittee on Staff Provident Fund is thus deleted.

RESOLUTION 8/NOV. 81

RESOLVED : Consultants should provide expertise not available at the Centre for the task at the time of the consultation. Such consultation for a period of less than 3 months is at the discretion of the Director. Consultants serving more than a period of 3 months shall be selected by the Selection Subcommittee of the Board. The period of consultancy shall not exceed eleven months consistent with WHO policies.

RESOLUTION 9/NOV. 81

RESOLVED : (a) There are variations in individual components of salaries, emoluments and benefits among the different UN Organizations in Bangladesh. As a first step toward establishing comparability, it is essential to identify one of the UN Organizations to be adopted as a yard stick. As the Centre is a health related organization the nearest UN Organization in Bangladesh concerned

with health is the World Health Organization. The Centre will therefore, follow the structure followed by the WHO in respect of pay allowances and all other benefits in cash or kind paid by WHO to non-international level employees in Bangladesh.

- (b) Total of salaries and emoluments of non-international level positions in the Centre including pay, allowances, benefits in cash or in kind or in any other manner including pension, provident fund, retirement benefits shall be equal to but shall not exceed the total of those paid by the UN Organization (WHO) in Bangladesh to employees in equivalent positions.
- (c) Items of pay, allowances, and all other benefits in cash or kind shall be those as paid or allowed by UN Organizations. Deviations may not be allowed except in very special circumstances based on strong reasons. Such deviations, if allowed, must conform to the requirement of resolution (b) above.
- (d) It has been observed that some employees in international level positions have been enjoying benefits in cash and kind more favourable than those allowed by the WHO to employees in equivalent levels. On the lines adopted for non-international level employees, compensation to international level employees should be so adjusted as not to exceed the amount paid by WHO for equivalent positions.
- (e) The Director of the Centre shall take necessary steps to inform the Board of the consequences of implementation of this policy.

RESOLUTION 10/NOV. 81

RESOLVED : In Section 5 of the procedure for holding election in seats of members at large of the Board of Trustees which was passed at the June meeting and inserted into the By-laws the following change should be made: the word 'recommendation of' is to be replaced by the word 'each candidate recommended by'.

RESOLUTION 11/NOV. 81

RESOLVED : The Board appreciate the significant contribution made by the Personnel Management Subcommittee in the matter of management of the affairs of the Centre and decides that the Committee with its existing composition will continue to work to assist the Board of Trustees in the discharge of its duties.

RESOLUTION 12/NOV. 81

RESOLVED : The following two individuals may be recognised as having attained the rank of Scientist in ICDDR,B -

Dr Roger Glass

Dr A.K.M.A. Chowdhury

RESOLUTION 13/NOV. 81

RESOLVED : The Board of Trustees, ICDDR,B authorises the Director of the Centre to enter into negotiation with Mr Michael F.L. Goon to secure his appointment as Associate Director, Administration/Finance.

RESOLUTION 14/NOV. 81

RESOLVED : Budget for the year 1982 for a total amount of 6.5 million including contingency/working fund of 0.30 million is approved subject to the modifications contained in the resolutions of the current meeting of the Board, Report of the Finance Subcommittee, Report of the Personnel Management Subcommittee and other approved documents.

RESOLUTION 15/NOV. 81

- RESOLVED : (a) The Selection Subcommittee will immediately initiate the selection process by issuing advertisements, contacting institutions and individuals and also taking any other necessary steps for obtaining names and particulars of prospective candidates from all over the world.
- (b) All names so received will be examined by the Selection Subcommittee in order to prepare a list of eligible candidates.
- (c) Eligible candidates from the different regions will, thereafter, be interviewed by groups of members of the Board of Trustees on the basis of geographical location of the Trustees and the candidates. Candidates from the American region may be interviewed by Drs Solandt, Carpenter and Mata, from European region by Drs Bradley, Zahra, Kostrzewski and Holmgren, from the Asian region by Drs Matin, Ramalingaswami, Al-Dabbagh and Mr Anwar, from the Australasian region by Drs Sulianti Saroso and Jones. Similar arrangements may be made for the African region in case of need. The Director may make himself available to some of the groups according to his convenience.

- (d) Each of the groups will select two to three names. Selection Subcommittee expanded by the inclusion of Dr Carpenter and Dr Zahra will make the final selection from amongst the list prepared by the regional groups.
- (e) Efforts should be made to complete the process of selection before next meeting of the Board of Trustees.

RESOLUTION 16/NOV. 81

RESOLVED : The following procedure shall replace that of Resolution 7/ June 81.

Procedure for electing the Chairman of the Board of Trustees.

- (a) Each member of the Board proposes one name only by secret ballot. The name obtaining a simple majority of votes has been elected Chairman.
- (b) If the candidate elected is unable or unwilling to serve the procedure shall be repeated in full.
- (c) If there is no majority the two names with the highest number of votes will be regarded as candidates.
- (d) Each member of the Board will elect one candidate only by secret ballot. A simple majority of members present and voting will elect the candidate.
- (e) A ballot with two names is regarded as void.
- (f) Should a tie vote occur the incumbent Chairman will not vote.

4/BT/JUNE 82

REPORT ON RESOURCES DEVELOPMENT

RESOURCES DEVELOPMENT

ICDDR,B is now completing three years of international operation. During this period, the number of governments and agencies participating with the Centre has grown by almost 100 percent, from 18 to 35. During the same period the Centre's budget has shown an impressive growth rate from an expenditure of \$ 3.3 million in 1979 to an estimated \$ 6.5 in 1982, also an increase of almost 100 percent. This participation and support is indicative of the increased international interest and attention the Centre has succeeded in drawing. However, we must realize that from the donor perspective the so-called honeymoon period is coming to a close. This increased awareness also means increased expectations of the Centre's activities.

The Resources Development Programme began with the internationalization of the Centre and the consequent need for a wide donor base; the Centre currently receives support from 18 donors. Potential new donors are being identified and current donors are being followed up for renewal or diversification. The current unstable world economic and political situation is having a serious impact on our resources development activities. Convincing prospective donors to make commitments to the Centre is becoming increasingly difficult, while existing donors have to be persuaded even to maintain current levels of commitment, not to speak of any increase in support.

CONSULTATIVE GROUP MEETING

As per decision of the Board, the third Consultative Group meeting was held in Geneva on June 1, 1982. This meeting was again sponsored by UNDP and held during the UNDP Governing Council. However, the opening of the Governing Council coincided with the Consultative Group, resulting in representatives of several interested governments being unable to attend our meeting. Fourteen delegates attended, including representatives of Egypt and Bangladesh. Our gratitude must go to Mr. A.M.A. Muhith, Hon'ble Minister of Finance and a long-standing supporter of ICDDR,B who spoke on behalf of the host country. Dr. Mahler, Director General of WHO, also addressed the meeting.

The majority of delegates were already well-acquainted with the Centre. Consequently, discussion of the ICDDR,B programme covered many pertinent topics of both scientific work and financial requirement. During the meeting delegates from Japan and the Aga Khan Foundation formally announced their first contributions to the Centre. The delegate from Canada expressed his government's continuing interest in project support.

The year's Consultative Group was perhaps the most useful of the three which have been held. The major difficulty was the conjunction of the Consultative Group with the opening session of the Governing Council.

COLLABORATION

Saudi Arabia: At the invitation of the Saudi Ministry of Health, a delegation from ICDDR,B paid a ten-day visit to the Kingdom to explore the diarrhoeal disease position there and propose specific areas in which the Centre could provide technical assistance. The team visited various health facilities in different parts of Saudi Arabia, including the Central and Regional Laboratories. Through extensive discussions with health officials the team was able to identify several specific areas for collaboration and technical assistance. The Director led a second delegation to the Kingdom in March to present a proposal for assistance in the control and management of diarrhoeal diseases. Following discussions the Saudi Health Ministry requested that the proposal be revised to include a preliminary survey of diarrhoeal disease prevalence in the Kingdom.

During the World Health Assembly Mr. Bashir met with Saudi officials who requested that the scope of the proposal be redesigned and cover a period of two years. Assistance will include a limited epidemiological survey, strengthening of laboratory facilities and clinical training, and setting up of animal research facilities. The proposal is currently awaiting approval by the Saudi Ministry of Health.

ICDDR,B does not have the financial resources necessary to carry out such assistance programmes without external financial support. An

important aim of extending technical assistance to the Kingdom is to increase Saudi support to the Centre. Indications have been given that this effort will be successful.

Kuwait: In response to an invitation from the Ministry of Health, Dr. Greenough led a three member team to Kuwait in March. The team met with Dr. Al-Awadi and other health officials to discuss the possibility of technical assistance and collaboration between Kuwait and the ICDDR,B. Following this visit the Centre submitted a proposal for technical assistance and collaboration. No budget was included in the proposal, on the understanding that the project will lead to a substantial Kuwaiti contribution to the Centre's core fund. In this case also, the Centre lacks financial resources necessary to carry out such extension activities; these are undertaken to provide services which would generate funds for the Centre's operating budget.

Arab Gulf Fund: A proposal was submitted to the Arab Gulf Fund through UNDP/UNICEF Dacca, seeking their financial support to our clinical research, treatment centre, and training programmes and to the Capital Development Fund. The President of the Arab Gulf Fund, Prince Talal, will visit the Centre on June 16th, and following this visit we hope the Arab Gulf Fund will extend their financial support to us. This support will enable us to continue services and research which might otherwise be curtailed due to financial constraints.

China: The Centre has been actively collaborating with a number of Chinese institutions. Several Chinese scientists have received training at the Centre, and recently two of our scientists have visited China to provide technical assistance and follow-up. The Chinese Ministry of Health has invited ICDDR,B to send a delegation to explore and identify areas for closer cooperation between China and ICDDR,B. The visit of the delegation, which will be led by the Director, has tentatively been scheduled for October 1982. Prior to visiting China, the delegation will call on the WPRO of WHO to brief them on the visit. This collaboration is expected to lead to increased financial support for the Centre.

Bangladesh: The Centre enjoys excellent relationships with the host country, which is now one of our most important donors. The ICDDR,B continues to provide clinical and community based services at four different locations in Bangladesh. We are also imparting training to government health workers, paramedics and medical students. These projects are being funded by USAID and UNFPA country allocations.

Our Financial constraints are making the continuation of our research and service delivery programs difficult. The Board of Trustees in its November 1981 meeting decided that the Centre should approach the Government of Bangladesh for total income tax exemption. We have taken up the matter with the Government of Bangladesh and hope that total tax exemption will be allowed to the Centre. Money so released will be

utilized for our health and research activities in Bangladesh.

WHO: The Centre is collaborating with WHOCDD Programme and conducts regular training courses with WHO. Recently WHO has proposed that ICDDR,B and WHO jointly take up the implementation of extension programmes particularly in the Middle East, several of which have already been initiated by the Centre. ICDDR,B welcomes this proposal provided that programme implementation and financial obligations are clearly delineated.

USAID: The Centre has been requested by USAID/Jakarta to conduct an epidemiological study in one province of Indonesia which is experiencing an outbreak of cholera. This will be funded by USAID.

We have also been approached by several donors to extend technical assistance to countries in Africa and the ASEAN region, possibly in a tri-partite framework. These programmes will be fully funded by the donors and will enable us to meet all costs while assisting developing countries wishing our participation.

PARTICIPATION

Turkey: The Government of Turkey has announced its participation with the Centre, becoming the 35th participant. Several Turkish health officials have received training at the Centre.

FUNDING

New Donors: The following countries and agencies have become new donors or have announced additional financial commitments to the Centre. These are in addition to the existing donors.

Japan: The Japanese Government has given a grant of \$ 200,000 towards our core fund. At the November 1981 Board meeting it was reported that this amount would be \$ 500,000 for 1982 as informed by the Japanese Embassy in Dacca. Following meetings with the Foreign Ministry on Tokyo in April, we expect that this amount will be increased in 1983. Japan has also provided scientific equipment valued at \$ 100,000 to the Centre.

France: A significant achievement has been the participation of the French Government in the ICDDR,B. They have formally announced a contribution of FF 400,000 for our research activities. A French scientist has been deputed to the Centre, at their cost, for a two-year assignment. In addition France will provide faculty members for ICDDR,B international training courses.

Aga Khan Foundation: The Aga Khan Foundation formally announced a grant of \$ 100,000 to the Centre at the Consultative Group meeting in Geneva earlier this month. This amount will provide partial support to the Cereal-Based Oral Rehydration project which is already in progress as a high priority using core support.

USAID: The Agency for International Development has agreed to provide \$ 104,000 support to Operations Research and \$ 430,000 in 1982 to the MCH-FP extension project.

IDRC: The International Development Research Centre has approved a grant in the amount of \$ 200,000 to establish the International Diarrhoeal Disease Information Service and Documentation Centre. DISC will fulfil a longstanding need for a reference centre for information on diarrhoeal diseases. The IDRC also announced a grant of \$ 41,000 for the Infant Mortality and Morbidity protocol.

UNICEF/HKI/Private Donors: The Centre received \$ 20,000 from UNICEF towards the Teknaf Sanitation and Water Project and \$ 12,000 from Helen Keller International for a computer terminal. The Centre also received Saudi Riyals 50,000 as a private grant. We would like to thank Dr. Dabbagh for his efforts in obtaining private contributions.

RENEWAL OF DONOR COMMITMENTS

No donor makes a commitment to the Centre in perpetuity. Some commitments are renewed on a yearly basis through Parliamentary approval, while others are multi-year agreements. In 1981 Switzerland became the first donor to renew such a multi-year contribution. In 1982 and '83 several major agreements must be renegotiated, which we anticipate will be a difficult exercise in view of the current economic and political situation.

Ford Foundation:

The original grant from the Ford Foundation-New York was intended to provide support through June of 1982. Recently the Vice President of the Foundation visited the Centre and discussed continuation of their support. We are also negotiating with the Foundation for an endowment (reserve) fund in order to meet the Centre's cash-flow problems caused by irregular grant disbursements. We hope that the Foundation will continue its active support to the Centre as a part of their new emphasis on survival and health of children.

UNDP:

The present cycle of the UNDP grant for clinical research expires in 1983. We have begun negotiations with UNDP-New York for a second funding cycle which should include 20 percent annual inflation rate.

UNFPA:

The UNFPA has been providing two kinds of funds to the Centre. The first grant provides support under the Country Programme for MCH-FP. This agreement has just been renewed through December 1985. However, the UNFPA support to the extension component has been reduced to \$ 50,000 for one area for 1982 only. USAID/Dacca has agreed to support the two remaining extension areas through 1985. The second is a grant under their Regional Programme for Demographic Surveillance in Bangladesh. This grant expires in June of 1983 and the UNFPA has expressed its financial

inability to renew its support. Canadian CIDA had originally expressed its interest in supporting extension activities but could not commit funds before 1983. Therefore we are suggesting that they support the Demographic Surveillance System at Matlab through the UNFPA Regional Programme.

Belgium: The Government of Belgium had agreed that \$ 100,000 would be made available in 1982 for project support. Of this amount \$ 25,000 would support a Belgian scientist for his research at the Centre. The Belgian scientist has been working at the Centre since November of 1981, but the Belgian grant has not yet been released. We are hopeful that the grant will be made available this year.

OPEC FUND: The OPEC Fund, in addition to their original grant of \$ 562,000, last year approved our proposal for a second grant of \$ 950,000. This amount was received early this year through UNDP. On completion of construction of the ground-floor clinical centre we will request the OPEC Fund and other donors for further support to the Capital Development Programme.

We endeavour to make realistic forecasts on which the Centre's activities can be planned with greater certainty. Our forecast for 1981 was \$ 4.6 million, against which we were able to raise \$ 5 million. This year's forecast is \$ 6.5 million, including \$ 300,000 for a reserve fund. Of this amount we have so far received commitments for \$ 5 million. For

the balance amount we have recently negotiated and submitted proposals to the Arab Gulf Fund, Saudi Arabia, Kuwait, the United Nations Capital Development Fund and the Federal Republic of Germany for their support to the Centre.

The world wide economic recession and political uncertainties increase the difficulties in receiving commitments. Under the present circumstance it is very difficult to make a realistic forecast for 1983, but we expect that we will be able to maintain the same overall level of donor support forecast for 1982. Nonetheless the Resources Development Office has continued its aggressive search for support.

5/BT/JUNE 82

DIRECTOR'S REPORT
(ANNUAL REPORT - 1981)

Board of Trustees Meeting
June 14-15, 1982

DIRECTOR'S REPORT

In your folders you will find my report to the Consultative Group Meeting in Geneva earlier this month. The Annual Report expands on this brief resume highlighting specific achievements. An abstract summary of each current project together with its budget is available in an expanded budget presentation as requested at your last meeting. I will not take time to go into any further detail on programs at this time as this will be the principle focus of the December Board Meeting.

In addition to the Annual Report and the matters to be covered in detail at this meeting I regret to inform you that there has been a delay in completion of Phase I of the new building. At the request of the Chairman of the Board I requested the new Associate Director, Administration and Finance, Mr. Michael Goon, to review thoroughly the progress on the building. He has done this and given a report. We now anticipate completion by October 1982.

This delay in completion will also delay our ability to seek new funds for Phase II from the UNDP/OPEC fund. We have recently submitted a full progress report to the OPEC Fund in Vienna. I am pleased to report that Mr. Goon has a depth of experience in the construction of buildings from the point of view of management and finance and has materially accelerated progress since his arrival.

ICDDR, B
CONSULTATIVE GROUP
1 June 1982

Annual Report
W.B. Greenough III, M.D.
Director

It is my pleasure to highlight for you some of the achievements of the International Centre for Diarrhoeal Disease Research, Bangladesh during 1981. Further details are available to you in our Annual Report and, for those who wish to go into great technical depth, the publications listed in the Annual Report can be provided on request. The main programmes of the Centre have continued during the third year of its operation. The problem of diarrhoeal diseases continues to be viewed in its full context of health.

First let me say something about our individual programmes. The Community Services Research Programme views the problem of diarrhoea in its broadest context. During the past several years we have shown that the provision of simple health care to a rural population in Bangladesh when linked to control of fertility results in a sharply decreased rate of population growth while mortality rates decrease *pari passu*. The health components in this major study are very restricted but powerful oral rehydration therapy sharply reduces death from diarrhoeal diseases. It is provided in the home. Immunization against tetanus for mothers of the child-bearing age abolishes neonatal tetanus. Improved nutrition of mothers and children raises health and vitality.

During 1981 the health component was enriched to include immunization against measles and diphtheria. A focus on the complications of pregnancy and child birth has been established to reduce maternal and neo-natal mortality. Additional improvements in health care will be added during the coming year to test the idea that additions to health care will result in a further reduction in fertility. The efficacy of each intervention will be assessed along with measures of overload of field workers. I am happy to report that even with a reduced rate of population growth now 1.7% per year, the infant mortality rate has dropped from 140 toward 90 in the space of less than three years. The present phase of the study will continue for two more years.

We now have further studied causes of death in rural Bangladesh. A higher economic status is associated with only a small improvement in mortality rate. Children of mothers educated to the sixth grade level are correlated to survive 4 to 5 times more frequently than those of all others families regardless of wealth or status. Studies to determine why this is so are now being planned.

The Nutrition Programme has shown that the absorption of carbohydrate derived from rice is little affected by severe diarrhoeal diseases. Absorption of fat and proteins is reduced to a greater extent. This observation strengthens the thrust toward use of cereals as a basis for oral rehydration solutions. The underlying concept is that starch from food grains is easily digested by the intestine even during diarrhoeal diseases. The starch releases glucose, which provides the carrier molecule by which the essential salts are moved into the body from the intestinal tract repairing the dehydration of diarrhoea. Controlled trials have been reported documenting that rice powder is an excellent basis for oral rehydration solutions. We believe that the use of rice and perhaps other cereals will further reduce the cost, simplify measurements and ensure that the water in which oral rehydration solution is made up will be sterile since it must be boiled to cook the cereal. We envisage that in future the appropriate salts, sodium chloride, sodium bicarbonate and potassium chloride, will be packaged without glucose or sucrose and mixed in the household with solutions based on food grains. This eliminates the most bulky ingredients that must be shipped if packets are prepared at a distance from their site of use. Sugar or glucose which interact with the other salts to reduce shelf life of packets will be unnecessary. One component now requiring careful measurement, glucose, will be substituted by the common food which all households measure and cook daily. A greater density of calories during and after diarrhoea will be provided to the affected individual. We regard these observations as the foundation on which the next stage of field testing and investigation of other sources of starch as a basis for ORS will grow.

Since nutrition is affected by diarrhoeal disease, prevention of diarrhoeal disease might be expected to improve nutrition. This idea is being tested in the Teknaf Field Station. During the past year of this study water supply and latrines have been provided, together with some health education, to all households. Any impact of this study on diarrhoeal disease incidence and on nutrition will be visible during 1982.

The Disease Transmission Programme has observed the emergence of a new strain of antibiotic resistant cholera which includes resistance to gentamicin. This further complicates antibiotic therapy of cholera. The manner in which more recently discovered causes of diarrhoea spread have been studied. Rotavirus is detected on hands of family members, suggesting spread by direct contact of this important new disease. New bacteriophages capable of making genetic changes in Vibrio cholerae have been discovered for the first time. These will speed the understanding of the genetics of Vibrio cholerae. This is needed for the genetic engineering necessary to prepare a living vaccine against cholera.

The Host Defence Programme has shown that milk from mothers who have good antibodies against cholera will prevent cholera as an illness in their children although it does not prevent infection by the cholera germ. A non toxic component of the cholera toxin, called B Subunit, has been given to prevent cholera in families who are at high risk and has been shown to be effective. Further understanding of how the intestine defends against diarrhoeal disease has been acquired.

The Pathogenesis and Therapy Programme has documented that a common drug, chlorpromazine, will reduce the requirement for oral rehydration therapy in small children. Unfortunately it is also a sedative and drowsiness makes it a less desirable drug than one without this side effect. A low dose of aspirin has been tested and shown to have no effect in reducing fluid loss in cholera. A study has shown that either citrate or acetate can replace bicarbonate in oral rehydration solution. Since bicarbonate is one of the unstable ingredients of ORS, along with sugars, the use of these more stable components will be a significant advance in lengthening the shelf life of ORS packets. Reviewing the causes of death in hospitalized patients with diarrhoea in Dacca, the most common abnormality associated with death is low serum sodium. Most paediatricians have been more concerned that the risk of death in diarrhoeal disease is a high serum sodium caused by too much salt in replacement solutions. This suggests that the present formulation of ORS should not have its concentration of sodium reduced until further studies in developing countries are done on the real risks.

The Training Programme has held ten major conferences and courses, four in collaboration with the World Health Organization. Participants have come from 28 countries to attend these courses.

Fellows from seven countries have also worked at the Centre on individually tailored programmes. The Library and Publications Branch of the Centre has been very active, producing 28 new reports or special publications in its internal series and one full monograph. In addition the Centre has published 50 full papers in the world literature, including 9 chapters in current books.

In our Extension Programme we have begun to apply the methods used successfully in our field areas, within the Government health system. Initially two new areas will be taken up to seek the optimum ways to transfer the improvements in health seen in Matlab to other parts of Bangladesh. Learning from this effort we expect to be able to generalize to the benefit of Bangladesh and many other developing countries.

During the next six months a new five year scientific programme plan will be developed and presented to the ICDDR,B Board of Trustees. Some of the directions I anticipate the programme will take include: the development of an effective living oral cholera vaccine; investigation of means by which the use of water can be changed to prevent the spread of diarrhoeal disease; the development of cereal based oral rehydration solution, with emphasis on enhanced nutrition to children during and after the diarrhoea. The impact of knowledge of particular diarrhoeal diseases on utilization of food, together with interventions which may blunt the effect of disease on the absorptive process, will be studied. There will be an emphasis on developing a base of knowledge on organisms that damage and destroy the intestinal tract and which now have become the principal cause of death in diarrhoeal diseases. Replacement of fluids in such diseases is not the whole answer. There will be a major effort at simplification with retention of accuracy of the methods by which events in populations can be followed, including death and disability due to diarrhoeal and complicating diseases. These simplifications in surveillance methods will usually be linked to interventions designed to prevent disease while reducing population growth rates. Success of programmatic efforts requires that the underlying disciplines which support programmes be brought to the highest quality using technology that can best address the issues and goals of the programme. We expect at the next Consultative Group meeting, a year from now, that we shall present to the assembled group a new five year programme plan, together within its budgetary implications.

6/BT/JUNE 82

REPORT OF FINANCE SUB-COMMITTEE

REPORT OF THE FINANCE SUBCOMMITTEE OF BOARD OF TRUSTEES, ICDDR,B

- JUNE 1982

At the meeting of the Board in December 1980 the Director presented a programme for 1981 which was estimated to cost about \$6.7 million. The forecast of reasonably firm revenue for 1981 totalled about \$4.0 million. The Director therefore presented an alternative limited budget that proposed an expenditure of \$4.0 million. The Board felt that this level of expenditure "would seriously compromise all programmes, although all commitments could be met. In view of the prospects of added funds and the level of available funds through June 1981 it was felt possible to allow a rate of expenditure above the level of the limited budget presented". (Quotation from Minutes of Board Meeting December 2-5, 1980)

When the Board met on June 11-12, 1981 the estimate of total funds available for operations was

Carry over from 1980	\$ 352,000
Pledges at beginning of 1981	\$4,065,000
New pledges since 1980	\$ 536,000
	<hr/>
	\$4,953,000
	<hr/>

The estimated expenditure for 1981 (four months actual - 8 months projected) was \$5.63 million or about \$670,000 more than the foreseeable revenue. If the carry over from 1980 is excluded the shortfall in current revenue would be \$1.04 million.

The actual results for operations (excluding capital) for 1981 were

Revenue	\$4.52 million
Expenditure	\$5.84 million
Deficit	\$1.32 million

Income of \$709,000 for 1981 that was received in 1982 served to offset part of this shortfall so the actual operating deficit for 1981 was \$609,000 - very close to the predicted \$690,000.

The bank overdraft on 1 January, 1982 as shown on the balance sheet in the audited accounts was \$1,130,719.

When the 1982 budget was reviewed in November 1981 committed revenue was estimated at \$5.18 million and confidently predicted support at a further \$1.50 million for a total of \$6.7 million.

The staff estimated that it would cost about \$8 million to fund all 1981 activities during 1982 with some added positions but no major new activities. The Board being reluctant to cut staff and optimistic about revenue instructed the Director to aim at operating expenditures not to exceed \$6.5 million for 1982.

A review of the year 1982 (four months actual and eight months projected) shows that presently committed revenue totals \$5.17 million. Since the opening bank overdraft was \$1.05 million the funds now available for operations total \$4.12 million.

Forecast expenditure for the full year now totals \$5.67 million which will result in a cash shortfall at year end of \$1.55 million.

New donations, not yet received, but considered to be almost certainly committed now total more than \$660,000 and there are also some prospects of reducing expenditure during the remainder of 1982. Therefore the deficit carried over into 1983 should be less than \$900,000.

The projected cash flow statement for 1982 shows a shortage beginning in May. By borrowing internally from the Capital

Fund of \$860,000 it will be possible to avoid bank borrowings till July. The overdraft will reach \$378,000 and from then on will rise steadily to the year end forecast of \$1,550,000. Reductions in spending and further revenue that is not yet certain may well reduce this even below the \$900,000 mentioned above. No arrangements have yet been made for the bank line of credit that will be required.

In addition to the overdraft at the bank the Centre is accumulating internal deficits that do not appear in the books. Equipment purchases are deferred, severance pay reserves are not fully funded, staff travel is being restricted, vehicles are not being replaced, buildings are not fully maintained and no reserve has been built up for equipping the new building.

There are good prospects for further donations in 1982 and 1983 but the Finance Subcommittee strongly urges that the present financial restraints be maintained until enough new money is in the bank to pay off the deficit, adopt the new WHO related salary scale and establish a small reserve. The possibility of expansion to use new project funds is discussed below.

Plans for 1983 and Beyond

The record of the past years shows that the staff and programme of ICDDR,B have been too large to be adequately supported on the available income. The policy has been to make large plans and then attempt to scale them down to meet actual revenue. This cannot be done effectively because the greater part of the budget is spent on staff salaries and benefits and these expenditures cannot be reduced without almost a year of advance warning.

The planning policy should be changed by the Board at this meeting. The Director should be asked to present, more than a year in advance (e.g. the 1984 plan at the November 1982 meeting) a

basic plan, including detailed staffing levels, that can be carried out within a very conservative estimate of the revenue that is reasonably certain to be available. To this basic budget should be added plans for new programmes or projects in order of priority to be initiated, if, as and when more money reaches the bank.

The fundamental goal of this new policy is to keep the basic continuing staff and facilities small enough to be adequately supported by the lowest annual revenue than can reasonably be foreseen.

Added to this basic operation will be new projects. As in the past, donors should be encouraged to give unrestricted funds that can be transferred between projects. Even if the funds used for hiring new staff are unrestricted all hirings should be on contract for restricted terms.

In the case of project research, where the funds are donated for a very specific purpose, donor should pay the full cost plus a small contribution which might be designated for a reserve or for a project development fund. All staff should be hired on contracts limited to the term of the project and the estimate given to the donor should include all termination charges. New hirings should be held to a minimum by using existing staff wherever possible.

1983 Revenue

Reasonably firm commitments by donors for 1983 now total about \$5 million. There are prospects for additional funds up to about \$1 million but none of them are yet sufficiently firm to include them in the revenue forecast at this time.

1983 Expenditure

The change to the WHO payscales plus normal salary increments will add \$282,900 to the 1983 personnel service costs. An

absolute minimum of \$400,000 must be provided to reduce the deficit carried over from 1982. The severance pay fund was under funded by \$300,000 in 1982. This must be restored before a new pension fund is started. Much of this can probably be earned by moving the fund overseas immediately to get higher interest and possible exchange gains. This then means that the total funds available for operations in 1983 is \$4.6 million (\$4.3 + \$0.3 million for increased personnel costs). Operating expenses must be reduced from \$5.67 million in 1982 to \$4.3 million in 1983 a cut of over 30%. If efforts to curtail expenditure are begun at once it might be possible to reduce 1982 costs to say \$5.4 million. A reduction of \$200,000 in the deficit would then leave \$4.5 million for 1983 operations. This represents a cut in total expenditure, including personnel costs of 20%. This will require major cuts in staff and programmes.

The Centre should, as soon as it is free of a deficit, establish a reserve fund. Even a small reserve would greatly facilitate the achievement of a more stable financial operation.

The Auditors have urged the adoption of depreciation on fixed assets so that the accounts will more accurately portray the financial condition of the Centre. It is recommended that this be instituted in 1983 and that as much as possible of the resulting funds be put in a capital replacement fund. The next step would be to start a general reserve fund to act as a balance wheel to smooth out cash flow and year to year financial fluctuations.

Conclusion

The Board should be fully aware of the risk that all our banks may refuse to grant us a line of credit to cover a large overdraft. There has been no difficulty in the past because we asked only for a short term credit to tide us over until the arrival of a delayed donation that was firmly committed. In the future we could

be seeking an unsecured loan for an indeterminate period.

The problem of inducing donors to pay for research already completed and for interest on outstanding loans also cannot be ignored.

The only prudent course of action is to reduce the basic size and hence operating cost of the Centre, eliminate the deficit, establish reserves as soon as we can and remain poised to take full advantage of new funds when they appear.

7/BT/JUNE 82

REPORT OF THE PERSONNEL MANAGEMENT SUBCOMMITTEE

REPORT OF PERSONNEL MANAGEMENT SUBCOMMITTEE OF BOARD OF TRUSTEES,
ICDDR,B - JUNE 1982

In its report to the Board meeting November 1981, the Personnel Management Subcommittee suggested two resolutions which were adopted by the Board. Resolution 9/Nov. 81 was as follows:

"RESOLUTION
9/NOV. 81

- (a) There are variations in individual components of salaries, emoluments and benefits among the different UN Organizations in Bangladesh. As a first step towards establishing comparability, it is essential to identify one of the UN Organizations to be adopted as a yard stick. As the Centre is a health related organization the nearest UN Organization in Bangladesh concerned with health is the World Health Organization. The Centre will therefore, follow the structure followed by the WHO in respect of pay allowances and all other benefits in cash or kind paid by WHO to non-international level employees in Bangladesh.
- (b) Total of salaries and emoluments of non-international level positions in the Centre including pay, allowances, benefits in cash or in kind or in any other manner including pension, provident fund, retirement benefits shall be equal to but shall not exceed the total of those paid by the UN Organization (WHO) in Bangladesh to employees in equivalent positions.
- (c) Items of pay, allowances, and all other benefits in cash or kind shall be those as paid or allowed by UN Organizations. Deviations may not be allowed except in very special circumstances based on strong

reasons. Such deviations, if allowed, must conform to the requirement of resolution (b) above.

- (d) It has been observed that some employees in international level positions have been enjoying benefits in cash and kind more favourable than those allowed by the WHO to employees in equivalent levels. On the lines adopted for non-international level employees, compensation to international level employees should be so adjusted as not to exceed the amount paid by WHO for equivalent positions.
- (e) The Director of the Centre shall take necessary steps to inform the Board of the consequences of implementation of this policy."

The Director employed the services of a Consultant, Mr Robert Weil, to thoroughly explore the implications for the Centre of the above resolution.

The Personnel Management Subcommittee met twice separately, on June 8 and 11, and once together with the Finance Subcommittee, to review the consequences of implementation of Resolution 9/Nov. 81. The following matters were taken up:

1. The General Service Staff Salary - Levels I-VI. There was agreement that all employees in this category should be moved to the WHO General Services Payscale as established for Bangladesh and that all other benefits in cash or kind would be exactly the same as those for World Health Organization, excepting the dependants allowance should be paid up to a maximum of 2 dependents. Furthermore, there was consensus that all staff at these levels should be informed of the relative pay and benefits they would receive under the WHO Service Rules and that they could choose whether they wished to enter those salary scales and rules or remain at their present salary and benefits. A grace period of 30 days was suggested for the staff to make up their mind. It was

emphasized that the WHO payscales and benefits include retirement or pension benefit which would replace any existing similar or comparable benefits currently in existence under the ICDDR,B, namely the provident fund and the severance pay benefit. Once an employee accepted the WHO payscales and benefits there would be no discussion regarding carry forward of any existing benefits or the addition of any allowances or benefits not within the WHO Regulations. For staff not desiring to accept the WHO scales and benefits, they would lose the opportunity to enter these scales at a later date and would remain at their present pay and benefits for the duration of their employment.

2. There was an extensive discussion concerning positions at levels VII and VIII. These categories do not exist in the WHO scales. The various options suggested in the report of Robert Weil were considered. It was felt that the extended level suggestion which does not exist in WHO in Bangladesh might not be consonant with the Ordinance and also was an invitation to inflation of numbers of staff at that level. It was recognized that there are many useful people and crucial functions currently at these levels. If frozen and depleted there would be serious demoralization that would be detrimental over both short and long term to the Centre. Unfortunately, the P scales of WHO are much too high at P level in comparison to the General Services Scales of WHO for Bangladesh. To solve this problem adoption of the X scale which is used by WHO in countries other than Bangladesh would be closer to the spirit and letter of the Ordinance than the current levels VII and VIII or any more anomalous interim measure.

On the basis of these discussions it is recommended that the Board adopt the following resolutions:

- (a) Salaries and benefits of Grade I to Grade VI staff shall be equal to those of General Service Staff level I to level VI of WHO in Dacca including pension and retirement

benefits approximating as closely as possible to the pension scheme existing in WHO with the modification that dependants' allowance shall be limited to two children only.

- (b) Staff members in Grade VII and Grade VIII shall be paid salary and benefits based on a newly established scale graded I to III for scientific, training and management staff comparable to "Extended Levels" existing in certain WHO Offices including pension and retirement benefits approximating as closely as possible the pension scheme existing in WHO with the modification that dependants' allowance shall be limited to two children only.
- (c) Any other benefits in cash or in kind the personnel of above categories might be enjoying presently which do not conform to the WHO benefits shall be discontinued.
- (d) Staff members will be given option to retain their existing salaries and benefits or to opt for the WHO salary and benefits. Option once exercised shall be final.
- (e) The salary and benefits as mentioned at (a), (b) and (c) above shall come into force on 1 January, 1983.

3. The matter of international level staff was discussed. It was agreed that international level positions should be exactly according to WHO scales and rules including all benefits in cash and kind. There was consensus in this matter and no discussion. The Director appraised the members about steps taken by him to cut down the excess benefits enjoyed by some international staff. Contractual obligation was identified as an impediment in the way of eliminating all excess benefits. After a thorough discussion the Committee suggested the following resolutions to be adopted by the Board:

The Board noted with satisfaction the specific steps taken by the

Director in pursuance of Board's Resolution No. 9(d) to cut down items of pay and benefits enjoyed by some of the international level staff as a consequence of which the position has improved significantly. The Board requests the Director to continue efforts to eliminate all deviations from WHO pay and benefits by 1 January, 1983 in respect of international staff.

4. The matter of Staff Rules was discussed. The draft rules prepared by Mr Weil will require examination before these can be adopted. It was, therefore, agreed that the Director will follow the WHO staff rules with consequential and corollary changes. In case of need for any deviation from the WHO rules the same should be reported to the Board as and when such deviation is required.

5. (a) The Board in its meeting on 18-19 November, 1981 decided to retain the services of Mrs Niehaus, Financial Consultant, for a period not exceeding three months after the Associate Director, Administration & Finance is in place. The Director reported to the Committee that Mrs Niehaus will be leaving the Centre on 30 June, 1982 on which date the period of overlap with the Associate Director, Administration & Finance will be a little over three months. The Committee recommends to the Board to regularise her consultancy until 30 June, 1982.

- (b) The Board in its November 1981 meeting also decided to terminate the consultancy of Mr Mark Tucker and Mr F. Sarkar on 31 December, 1981. The Director explained that because of exigencies of circumstances and necessity of services of these two consultants, he was unable to release them by 31 December, 1981. The Director requested for extension of the consultancy of Mr Sarkar until 30 September 1982. The Committee recommends to the Board for acceptance of the report of the Director.

(c) Mr Mark Tucker has already crossed 60 years and the Director recommended that his consultancy may also be extended until 30 September, 1982. The Committee recommends for acceptance of the request of the Director and in view of the long service of Mr Tucker the Board may adopt the following resolution.

The Board of Trustees ICDDR,B recognizes the outstanding services over many years, often under the most trying conditions, of Mr Mark P. Tucker and request the Centre to settle his dues as admissible according to rules.

6. Recommendation of international level position in administration. To assist the Associate Director, Administration & Finance in stabilizing and streamlining the work in administration, the Subcommittee agreed with request from the Director to recommend to the Board to establish one position at the international level (Pl.P2), designated as "Personnel Officer".

It was noted that Mr Robert Weil made suggestions regarding other matters, including budget and organizational structure. Budget matters were referred to the Finance Subcommittee. With regard to the organizational structure the Committee recommends that the Director be requested to present an un-dated organizational diagram and staffing pattern to the Board at their next meeting reflecting the evolution of the Centre since 1979.

The Committee acknowledge with thanks the contributions made by Mr Robert Weil through his report which were of great help in the preparation of this report to the Board.

GENERAL SERVICE STAFF
COMPARATIVE PRESENT AND PROPOSED SALARY SCALES

Level	Yearly Incr.	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	- %
1 A *	416	13052	13468	13884	14300	14716	15132	15548	15964	16380	16796	17212	17628	18044	
1 B **	620	(13020)	13640	14260	14880	15500	16120	16740	17360	17980	18600	19220	19840	20640	+6.80%
2 A	624	16393	17017	17641	18265	18889	19513	20137	20761	21385	22009	22633	23257	23881	
2 B	722	(15162)	(15884)	(16606)	(17328)	(18050)	(18772)	(19494)	(20216)	(20938)	(21660)	(22382)	(23104)	(23826)	-3.86%
3 A	871	19565	20436	21307	22178	23049	23920	24791	25662	26533	27404	28275	29146	30017	
3 B	858	(18018)	(18876)	(19734)	(20592)	(21450)	(22308)	(23166)	(24024)	(24882)	(25740)	(26598)	(27456)	(28314)	-6.79%
4 A	1157	22880	24037	25194	26351	27508	28665	29822	30979	32136	33292	34450	35607	36764	
4 B	1070	(22470)	(23540)	(24610)	(25680)	(26750)	(27820)	(28890)	(29960)	(31030)	(32100)	(33170)	(34240)	(35310)	-2.87
5 A	1378	27326	28704	30082	31460	32838	34216	35594	36972	38350	39728	41106	42484	43862	
5 B	1560	32760	34320	35880	37440	39000	40560	42120	43680	45240	46800	48360	49920	51480	+18.60%
6 A	2041	41431	43472	45513	47554	49595	51636	53677	55718	57759	59800	61841	63882	65923	
6 B	2184	45864	48048	50232	52416	54600	56784	58968	61152	63336	65520	67704	69888	72072	+10.00%

* Present ICDDR,B salary (in Taka)

** Proposed salary (WHO Salary + 5%) (in Taka)

() WHO salaries with lower income as previous ICDDR,B salaries (average % = -4.51%)

PROPOSED SALARY SCALE FOR SCIENTIFIC, TRAINING AND MANAGEMENT STAFF

	Yrly. Incr.	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
I	+ 3500	75000	78500	82000	85500	89000	92500	96000	99500	103000	106500	110000	113500	117000
II	+ 5000	98000	103000	108000	113000	118000	123000	128000	133000	138000	143000	148000	153000	158000
III	+ 6000	125000	131000	137000	143000	149000	155000	161000	167000	173000	179000	185000	191000	197000

8/BT/JUNE 82

REPORT OF SELECTION SUB-COMMITTEE

REPORT OF THE SELECTION SUBCOMMITTEE OF THE BOARD OF TRUSTEES -
JUNE 1982

The Selection Subcommittee of the Board has met on two occasions since the meeting of the full Board November 1981. This report is based on these meetings on 3 May and 12 June, 1982 and correspondence with Dr Jan Holmgren who was not able to attend.

On 30 June, 1982 the first members of the Board of Trustees to have served the full three year term mandated in the Ordinance will have completed a full term of office. From the appended list of distinguished individuals the following individuals have been suggested for consideration by the Board. Implicit in considering these people are policy issues. The suggestions reflect a judgement that opening an opportunity for individuals from new countries to participate on the Board is important. The second issue is to enrich the number of Trustees with a background in the Social Sciences. The Committee would have preferred to urge the presently sitting members to accept a second term apart from the policy priorities felt. In addition it should be noted that the list of proposed candidates includes many very distinguished individuals not now recommended by reasons of geographic distribution and maintaining the balance of skills and proportions of developed and developing countries.

The following names are proposed to the Board for their decision:

1. Dr Yoshifumi Takeda, Institute for Microbial Research, University of Osaka, Japan - Medicine and Microbiology.
2. Mme Imita Cornaz, Swiss Development Cooperation and Humanitarian Aid, Switzerland - Social Sciences.
3. Mr David Bell, Professor of Population Studies, Harvard University,

Boston, Massachusetts, U.S.A. - Science administration and finance; Population Research.

The Committee reports that the position of Director was advertised and the attached list of candidates reviewed. In this process the present incumbent has indicated his wish to be considered for a second term. Accordingly, the Selection Subcommittee requests the full Board to express their wishes in light of the performance of the present Director and prospects from the search at this stage. Should selection of the current incumbent be desired he has indicated a need to be offered a contract at the present time.

The contract periods of international level staff will expire for most on 30 June, 1983. A process has been established in which all such staff will submit to the Secretary of the Selection Subcommittee evidence of their work from 1 July, 1980 through 30 June, 1982. The most important work will be noted by indicating up to three published communications. This material will be sent to two Trustees with expertise in the relevant discipline and two other external reviewers. The results of this process will be submitted to the Board with the recommendations of the Selection Subcommittee.

Staff at the current levels VII and VIII will be evaluated by the Selection Subcommittee and fitted as appropriate into the new extended scales if established by the Board. The results will be reported to the full Board at their December 1982 meeting.

An early evaluation by the full Board of the currently incumbent Associate Director, Resources Development is requested of the full Board at this meeting in order to offer him a new contract for three years beginning 1 July, 1983 if desired by the Board.

The ranking of the Training staff will proceed to completion and review by the Selection Subcommittee according to the

criteria set by the Board (doc. 8/BT/Dec. 80) to be reported to the Board at its December 1982 meeting.

NOMINATIONS FOR MEMBERS OF THE BOARD OF TRUSTEES - 30/4/82

<u>Person Nominated</u>	<u>Nomination Received From</u>
Richard Feachem	British High Commissioner, Dacca
Professor John Waterlow	"
Dr D.M. Mackay (now deceased)	"
Dr Gauri Sankar Lall Das	UNFPA Coordinator, Dacca
Dr Carl Taylor	"
Jon E. Rohde	Kenneth Warren, Rockefeller
Gerald T. Keusch	"
Richard Guerrant	"
Dr Jesus C. Azurin	Minister of Health, Philippines
Dr Joaquin Cravioto	Clifford A. Pease
Dr Jose Obdulio Mora	"
Dr Fernando Monckeberg Barros	"
Dr Jose Eduardo Dutra de Oliveira	"
Dr Abdulwahab Al-Mehedib	Authorities in Saudi Arabia
De Abdullah Al-Baqui	"
Dr Ali Al-Saif	"
Dr Kenji Takeya	Charles C.J. Carpenter
Dr Dhiman Barua	Dr A. Zahra
Dr David Bersh	"
Dr Guillermo Ruiz-Palacios	"
Dr Pornchai Matangkasombut	"
Dr (Mrs) A. Mangay-Angara	"
Dr B.K. Adadevoh	"
Dr Aziz El Kholi	"

Person Nominated

Prof. Natth Bhamarapavati

Dr Aung Than Batu

Dr Prakorb Boonthai

Prof. D. Rowley

Prof. D. Habte

Dr Md. Safwat Mohieldin

Dr Indra Bahadur Khatri

Dr Manindra Ranjan Baral

Dr David Bell

Dr Sune Bergstrom

Dr Immita Cornaz

Dr Yoshifumi Takeda

Nomination Received From

Dr Z. Sestak

"

Government of Thailand

Australian Government

SAREC

Ministry of Health, Egypt

Dept. Health Services, Nepal

"

US Ambassador, Dacca &

Mr Mashler, UNDP, NY

Mr Mashler, UNDP, NY

Swiss Development Cooperation and
Humanitarian Aid

Government of Japan

* Nominations received for persons already Trustees not included.

SEARCH FOR DIRECTOR - LIST OF ACTUAL APPLICATIONS RECEIVED

Dr M.N. Hoque	-	British	-	
Dr P.J. Little	-	New Zealander	-	51 years
Dr W.R. Douglas	-	American	-	
Dr Andrew Pearson	-		-	
Dr David Nalin	-	American	-	41 years
Dr Subash B. Duggirala	-		-	36 years
Prof. W. Odling-Smee	-		-	
Dr David L. Madden	-	American	-	49 years
Dr K.A. Monsur	-	Bangladeshi	-	62 years

SEARCH FOR DIRECTOR - INTEREST SHOWN - NO FORMAL APPLICATION

Dr Robert G. Faust

G. Nabi Mir

Dr David Jenkins

Dr R.N.P. Sutton

Dr Dominique Frommel

Dr Stephen H. Richardson

Dr John E. Craighead

SEARCH FOR DIRECTOR - RECOMMENDATIONS RECEIVED

<u>Name</u>	<u>Recommended By</u>
Prof. Miles Vaughan-Williams	Dr Omond Solandt (from Prof. F.C. McIntosh)
Dr Selwyn Baker	Dr C.C.J. Carpenter (from previous meetings plus extras)
Dr Aung Tan Batu	"
Dr Bliznakov	"
Dr Lincoln Chen	"
Dr J.P. Craig	"
Dr H.E. de Restrepo	"
Dr Frederick Dunn	"
Dr E. Gangarosa	"
Dr Gerald Keusch	"
Dr Holger Lundbeck	"
Dr Dilip Mahalanabis	"
Dr Howard Minners	"
** Dr K.A. Monsur	"
Dr Robert Oseasohn	"
Dr N.F. Pierce	"
Dr M. Pornchai	"
Dr Jon Rohde	"
Dr Bernard Rowe	"
Dr R.B. Sack	"
Dr W.E. Woodward	"
# Dr Jan Holmgren	"
Dr Leonardo Mata	"

<u>Name</u>	<u>Recommended By</u>
# Professor Neville Stanley	Dr Gavin Jones (in conversation with Dr Derek Rowley)
Dr Michael Alpers	"
Dr Bob Douglas	"
Dr Dhiman Barua	Dr Jan Holmgren
Dr Alexander Muller	"
Dr Frits Ørskov	"
Dr Joaquin Cravioto	"
# Dr John Feeley	"
Dr Robert L. Clancy	Dr Gavin Jones
Dr Greg Lawrence	" (Walter and Eliza Hall Institute in Melbourne)
Dr A. Henderson	Professor N.F. Stanley

** Subsequently applied for 1983

Not available for consideration for 1983

MAY 19 12:30

- 2a -

65012 ICDD RJ
27821X OMS CHD
65012 ICDD BJ

INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASE RESEARCH
Dacca


10653 ASIBS

PFVY LETTER 16 APRIL 1982 EYE HAVE PLEASURE IN
NOMINATING DR F. ASSAAD, DIRECTOR, DIVISION OF COMMUNICABLE
DISEASES, WORLD HEALTH ORGANIZATION, GENEVA, TO SERVE AS MEMBER
OF BOARD OF TRUSTEES OF INTERNATIONAL CENTRE FOR DIARRHOEAL
DISEASE RESEARCH, BANGLADESH, FOR PERIOD OF THREE YEARS COMMENCING
JUNE 1982, THEREBY REPLACING DR A. ZAHRA. DR ASSAAD WILL ATTEND
MEETING OF BOARD OF TRUSTEES ON 14 AND 15 JUNE 1982 IN THIS
CAPACITY

MAHLER UNISANTE GENEVA

18/05/82

65012 ICDD BJ
27821X OMS CH

*Please acknowledge by
Telra* 

GA 6527821+
MAY 20 11:45

65012 ICDD BJ
27821A OMS CH
65012 ICDD RJ

RE: 10653 ASIBS

DATE: 20.5.82

TLX: 27821 9.

NOTE: ADVISE:

RE: TELR ADVISING DR. F. ASSAAD REPLACING DR. A. ZAHRA AS WHO
MEMBER OF BOARD OF TRUSTEES FROM JUNE 1982. NOTE DR ASSAAD
ATTENDING BOARD MEETING 14 AND 15 JUNE IN THIS CAPACITY.

../2b.

MOST IMMEDIATE
By special messenger

Government of the People's Republic of Bangladesh
Ministry of Health and Population Control
Health Division

No. ~~JS(A)/PA-78/82~~ 42

Dated Dacca, the 9th June, 1982.

From :- Brig. (Retd) Mohd. Yunus Dewan,
Joint Secretary (Admn.).

To :- The Chairman,
Board of Directors,
ICDDR,B.,
Mohakhali, Dacca.

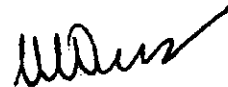
Subject :- Nomination for Member of the Board of Trustees.

Reference :- This Office letter No. JS(A)/PA-78/82 dated 15.12.81

Sir,

I am directed to say that Govt. in the Health Division has been pleased to nominate Major Gen. M. Shamsul Haq, Adviser Incharge of Ministry of Health and Population Control, as one of the Director of Board/Member of the Board of Trustees in place of Mr. Hyder Hussain, who was earlier nominated vide our above quoted letter.

Yours faithfully,



(Brig. (Retd) Mohd. Yunus Dewan)
Joint Secretary (Admn.)

11/BT/JUNE 82

EXTERNAL REVIEW REPORT

REPORTS FROM THE EXTERNAL SCIENTIFIC REVIEW COMMITTEE

TO

THE BOARD OF TRUSTEES, ICDDR,B, JUNE 1982.

REVIEWERS

Derrick B. Jelliffe, M.D.,
Professor of Public Health
and Pediatrics,
School of Public Health,
University of California,
Los Angeles,
California,
U.S.A.

E.F. Patrice Jelliffe, M.P.H.,
Adjunct Lecturer and Researcher
in Public Health,
School of Public Health,
University of California,
Los Angeles,
California,
U.S.A.

Dr Dilip Mahalanabis,
Kothari Centre of Gastroenterology,
c/- The Calcutta Medical Research
Institute,
7/2 Diamond Harbour Road,
Calcutta,
India.

Professor A.S. Muller,
Director,
Department of Tropical Hygiene,
Royal Tropical Institute,
63 Mauritskade,
Amsterdam-OOST,
Netherlands.

Dr O. Ouchterlony,
Department of Bacteriology,
Institute of Medical Microbiology,
University of Goteborg,
Guldhedsgatan 10,
S-413 46 Goteborg,
Sweden.

Dr Samuel Preston,
Director,
Population Studies Center,
University of Pennsylvania,
Philadelphia,
Pennsylvania,
U.S.A.

Dr Vinodini Reddy,
Deputy Director,
National Institute of Nutrition,
Indian Council of Medical Research,
Jamal-Osmania P.O.,
Hyderabad - 500 007
India.

CONTENTS

Preface	-	Director
Part I	-	Pathogenesis and Therapy, Host Defence, Disease Transmission and supporting Branches.
Part II	-	Population Program (Community Services Research)
Part III	-	Nutrition

PREFACE

This document is the result of the first External Scientific Review of the work of ICDDR,B since its inception in 1979. The initial Review Committee convened in Dacca in June of 1981 and made their report to the Board within the two year period required by the Ordinance. The Board felt although it was helpful they requested further specific reviews of the Nutrition and Population Programs of the Centre. Accordingly, in May 1982 these subsequent reviews were completed and reported to the Board.

The report which follows includes all of these reviewers' comments which have been accepted by the Board at their meeting in November 1981 and June 1982. The contents of this report is the basis now for internal Program review and planning for 1983 and 1984.

PART I

REPORT FROM THE EXTERNAL SCIENTIFIC REVIEW COMMITTEE,
ON PATHOGENESIS AND THERAPY, HOST DEFENCE, DISEASE TRANSMISSION
AND SUPPORTING BRANCHES, JUNE 1981

A.S. Muller, D. Mahalanabis, O. Ouchterlony.

INTRODUCTION

Our appraisal is based on a personal visit to Dacca, Matlab and Teknaf, May 31 to June 19, 1981 (Muller and Ouchterlony) and Dacca June 6-12, 1981 (Mahalanabis). Material which has been available is Annual Reports 1979 and 1980, research protocols, working papers, scientific reports, special publications, published papers, 1981 budget proposal, five year program proposal June 1979 and a multitude of other papers. Topics and problems looked into have come about as a selection after talks with the Director, the Deputy Director and most of the relevant investigators at present with the Centre.

Terms of reference of our review were given at the Board Meeting December 1980 Proceedings, Agenda 11, as follows:

"The time frame of the review shall include both work done since 1979 and the projected work for the next five years and it shall comprise all aspects of the scientific work in the clinic, the field and the laboratory. The reviewers shall examine, review, and discuss with the staff the ongoing and projected programme of the Centre and provide a report to the Trustees. The review committee shall consider both the scientific quality and the scope of the programme both in itself, in the relation to the Ordinance and programme projection of the Centre, in relation to the facilities of the Centre, in relation to its site in Bangladesh and in relation to the WHO. It shall also consider the Centre's role and activities in training for research. The Committee shall append any organisational implications of their review."

The reviewers have found the above quoted terms of reference unrealistic considering the limited period of time allotted to such a broad task. With all due respect concerning the Board's just mentioned request we therefore and hereby present our report well aware of the fact that it does not reach the level of completeness the Board has asked for.

GENERAL

Organisation

It is difficult, if not impossible, to get a good idea as to how a research organisation of the size of ICDDR,B operates; the thoughts expressed here should be taken as the result of casual observations and impressions. We have felt a strong sense of hierarchy pervading the Centre. Communication between investigators in the various programs appears not optimal.

It seems to us that there is an undesirable dichotomy between scientists and other academically trained staff. There appears to be little active involvement of staff with the rank of "medical officer" in ongoing research. They should at least be given elementary

in-service training in research methodology and practice. We are not sure that the addition of junior staff members' names to protocols always reflects active participation by them in its formulation.

The structure of "programs" rather than "departments" is meant to avoid compartmentalization but does not appear to work that way. Program Heads can exercise a beneficial influence in this respect by a flexible attitude, ability to stimulate and to make interaction possible. Within the overall aims of the research program of the Centre, junior scientists' interest and competence should determine their participation in research projects rather than being assigned to them by the Program Head.

The existing research protocol review procedures guarantee that every significant research effort is properly documented and registered. They also provide a tool with which junior scientists can become familiar with the process of organising one's thoughts on the design, execution and analysis of a research project and communicate them to their colleagues. Care should be taken however that the review system does not hold back creativity through its inherent rigidity.

Program Heads and other experienced scientists should provide assistance without being dominating. They should see to it that a protocol does not reach final consideration by the Review Committee until the Program Working Group is satisfied that it is a sound proposal.

The protocol format provides for a detailed presentation of the budget. It would be very useful if the costs for the use of Matlab or Teknaf facilities are included in the estimates.

Collaborative Studies

The Annual Report 1980 lists sixteen collaborative research protocols of which only two are with institutions or organisations in Bangladesh. It is our view that there is scope for collaboration with many more Bangladeshi institutions. In the field of health services research the Ministry of Health is an obvious partner while when it comes to joint undertakings in which both partners have a research contribution to make several university, government, semi-autonomous and private institutions and organisations are likely to be interested provided the Centre is prepared to spend money and considerable effort.

In the medical field ICDDR,B is probably by far the most powerful research institution in the country. In such a situation it is not likely to greatly benefit from collaborative research in the short run. On the other hand, precisely because of its dominant position, it may actually impede the development of research capability elsewhere in the country. In the long run this may threaten the credibility of the Centre from the Bangladeshi's point of view. We believe that collaborative research may go a long way to prevent such a situation to arise.

In respect of international collaboration, this should continue to be encouraged as long as it serves the aims and objectives of the Centre. The nature of the collaborative research being carried out in Bangladesh should primarily be dictated by the Centre's research program rather than the program of the overseas partner. If the latter seconds a staff member at the Centre a local counterpart should be made available chosen because of his interest in the subject and because he can benefit from it by gaining research or clinical experience. Reversely, such a counterpart can be of immense value to the newcomer from overseas.

Staff

It is hardly necessary to note the shortage of senior scientists preferably competent to act as Program Head as well. This is known to everyone associated with the Centre. The lack of an experienced epidemiologist is of particularly serious concern.

It is realised that a well organised, well staffed Training and Extension Program is an essential part of the Centre's activities. We are satisfied that at the present time involvement of scientists in training and teaching activities does not seriously interfere with the research programs. However the possibility that it will in the future is real and this dilemma should be constantly taken into account. To the extent this is possible, junior scientists should be involved in teaching.

External Scientific Reviews

These should be kept to a minimum. Too many visits of consultants and reviewers may create a sense of insecurity among the scientists. Obviously requests by the Centre's scientists for external advice on specific topics should be encouraged.

Publications

We are impressed by the quality of the reports published by the Centre. Glimpse is an informative newsletter. In addition we feel that a similar but more professionally oriented newsletter containing short abstracts of recent research results and research projects in preparation would be useful. It should be given a broad and rapid circulation among the scientific community.

MICROBIOLOGY AND IMMUNOLOGY

Scientific Quality and Scope of the Programs in General

In the three programs where microbiology and sero-immunology are directly involved the scientific goals in general are relevant and adequately expressed. However, the ambitions of the Centre as illustrated by the great number of protocols (projects) finished, going on or planned and by the Five Year Program Proposal of June 1979 seem to be somewhat

unrealistic considering the limited resources of the Centre above all the finances. It would be advantageous to have indications of how evaluation of priorities down to project level, availability of qualified investigators and financing would affect possible re-adjustments of the different programs and projects.

Research Projects Finished and Accounted for 1979-80

The studies carried out at the Centre seem to have followed more or less the aims set for the Centre as well as individual protocols (titles and spotchecked summaries or abstracts). The output from the Centre concerning number of reports etc. is considerable and the diversity regarding orientation is obvious. The highlights of the results obtained (top of an iceberg) are adequately given in the annual reports under the headings of the different research programs.

To try to estimate the true scientific weight of the iceberg mentioned would in my present situation be unfair to the Centre and its investigators. I would only like to mention that the results from a number of investigators have reached and apparently stopped at the level of, for example, a working paper or a special report and probably rightly so. However, quite a few projects or parts thereof have reached the level of publication in acknowledged scientific journals with a strict referee system.

At last one general comment on the research output from the Centre (section microbiology, sero-immunology) during the period for present appraisal. My impression is that the activities of the sector I have looked into are maybe too widely spread. Thereby the scientific capacity of the laboratory sector in question has been in danger of being stretched too thin (see also under research planned). WANTED: A simple special publication series (Glimpse like) containing an abstract of each completed project (maximum one typewritten page) as well as short summaries of protocols for new projects. For broad and rapid distribution!

Research Projects On-going and Planned

The activities under this heading should be considered not only against the background of the aims of the different programs but also taking into the account the main tasks of the microbiology section. These tasks I have put into three categories as given below.

Service Functions for Individual Projects

Analysis of specimens originating from different projects by means of relevant test methods. Collection and characterization of strains isolated. Keeping strain collection as well as serum samples for possible future analysis. General Comment: It is necessary not to overload this sector of laboratory activities. For every project initiated the number and kind of specimens and the types of analyses performed should not exceed what is directly needed for trying to live

up to the objectives of each project. This implies a close collaboration between the principal investigator and the laboratory. The laboratory should also beware of a self perpetuating diagnostic "overkill" and it should hold the number and types of characterization analysis down to the level relevant to the objectives of the project. It is noted that a multitude of projects fall in the category of needing the service function of the microbiology laboratory.

Service Functions for the Clinical Routine

This activity of the laboratory which usually is on a minor scale is depending on the information given by the patients' physician and should offer what is available in the regular diagnostic arsenal of the laboratory. No particular comment needed.

Studies on Analytical Methods

Introduction and evaluation of existing techniques within the scope and instrumental capacity of the laboratory include diagnostic procedures and their simplification. Elaboration of new techniques in accordance with projectual needs. Comment: The laboratory is pretty good at picking up new techniques and diagnostic methods but due to i.a. the present lack of qualified manhours comparatively little effort goes into research on e.g. diagnostic methodology. The ought to change and existing external collaboration should be extended and other partnerships should also be tried out.

Studies on Basic Problems Microbiology and Sero-Immunology in Diarrhoeal Diseases

If the expression basic is used in a broad sense a number of ongoing and planned projects could be placed under this heading. My categorization used here implies that laboratory investigators concerned step out of their role as persons merely providing laboratory service for a particular project and that they act as an essential individual contributor possibly and when justified principal investigator of a project.

The way the laboratory is working at present only a limited number of sufficiently qualified scientists manhours is at hand and the moment immunology is involved the lack of a senior scientist at the Centre with experience in medical immunology is strongly felt. Therefore the need of, at least pro tempore, external collaboration is quite obvious. Cooperation of this kind is established and seems to run smoothly but it may have to be enlarged.

For reasons mentioned and considering the financial situation at present as well as the auspices for the next few years a too great diversity in the orientation of projects has to be avoided. Only carefully chosen projects within areas of high priority at present should be carried on or initiated. Mentioned below are examples of areas of this kind (personal opinion and no ranking).

- (1) Studies on the gut invasiveness of strains belonging to certain

genera and species of enteropathogens e.g. shigella, E. Coli and entamoebas.

- (2) Phage and plasmid studies on strains belonging to various species and types of vibrios (importance for e.g. classification in epidemiology, genetics and ab-resistance, oral dead and alive vaccines).
- (3) Studies on the enteropathogenic mechanism(s) of campylobacter and rotaviruses (influence on e.g. epidemiological studies of diarrhoeas by these contagions).
- (4) Studies on local intestinal immunity in relation to infection alt. live or dead vaccines (protective immunogens). If field trails WHO endorsement is recommended.

It should be mentioned that projects within 2-4 have been worked on or are under way at the Centre as well as in external collaboration.

Suggestion for a Strong Upgrading (Revival) of Area of Research

Before closing the section on "Basic Problems", I would like to put forward an area of research where an initiative by the Centre with possible external collaboration should be taken. The topic is "Water ecology studies with special reference to enteropathogenic microbes". My recommendation may seem untimely and unrealistic taking the financing and other factors into consideration. However, this area of research has been, is and will be of utmost importance for handling and prevention of cholera and related epidemics. Ecological studies should comprise sweet and brackish water as well as seawater. The Centre being located in Dacca and having field stations offers quite unique opportunities for investigations along water ecological lines.

A few words have to be said about resources at the Centre for possible projects under the title of ecology. Expertise in marine microbiology, limnology and applied chemistry has to be established at the Centre locally or by external collaboration. The planning should encompass facilities for pure laboratory experiments, small scale field experiments as well as more extended ecological-epidemiological studies. If the research mentioned is to be upgraded as recommended a budget for special equipment has to be calculated.

It should be mentioned that a couple of ongoing projects at the Centre including external collaboration may serve as budding cells for the growth of more penetrating studies in the future.

Matlab and Teknaf Field Stations

At both stations microbiological laboratory work is performed however somewhat differently oriented. Assuming that local field studies are to be continued along approximately the same lines as present the following short comments are made.

The primary function of the laboratory at Matlab is to handle specimens coming from the field and on a smaller scale from the

stations own hospital. Quite a few analyses are performed at the side but samples are also forwarded directly to the Dacca laboratory. The locally performed diagnostic work is quite justified as a service to the hospital (comparatively few analyses). The diagnostic work of most of the other specimens could be centralized to Dacca if needed taking the daily transport into consideration. The present system however might quite well be a good policy to keep the technicians on their toes.

Anyhow the space for the laboratory's activities is pretty small considering the load of work to be done and this makes it difficult to organise the laboratory routine according to good hygienic principles. The technicians working on their own mostly are dedicated and with adequate experience as judged from the interview. I would like to comment that in all probability more frequent visits from the central laboratory (guidance and encouragement) would improve the situation.

The Teknaf laboratory is in some respects different from that of Matlab. Its equipment is even more primitive (kerosene level) and it is in a more remote area without facilities for rapid daily communication with the Dacca laboratory. Diagnostic work performed locally is therefore of greater importance. However the local "clinic" is very small (a few beds) and urgent specimens from there are consequently few. What was said about Matlab concerning laboratory space available and its consequences the dedication and experience of the technicians goes for the Teknaf laboratory as well. So does also the question of more frequent visits from the central laboratory however of greater importance in Teknaf than in Matlab.

As a last comment I would like to say that if there should come up the question of possible improvement of the resources for the two field laboratories I would advise to give Teknaf the priority.

Facilities and Space at the Microbiological Laboratory in Dacca

The maintenance of the rooms for the microbiology laboratory is in parts so neglected that it interferes with proper laboratory procedures. The washing and cleaning area is extraordinarily bad and should be redesigned and renovated. By a bit more streamlining of the routine diagnostic work some additional space could probably be gained for other activities. The storage of strain collections could also be improved and valuable space would be gained.

Some of the basic equipment is very run down, e.g. sterilizers and should be replaced when possible and definitely before any other major investments are considered e.g. for instruments, new ones not being a necessary replacement of already existing obsolete ones. For chemistry needed the microbiological laboratory could in part fall back on the existing resources of the biochemistry laboratory.

Personnel

In reference to scientists at the Centre within my field

of competence I would only point out that there is a need for an immunologist with a medical background and at the level of a senior scientist. If water ecology projects are increased as recommended expertise on the scientist level is required (see under research projects, ongoing or planned).

There is also a need for a senior scientist to relieve the Director from the immediate leadership of the Host Defence and the Pathogenesis and Therapy Programs. However, such a change is, I am told, underway.

Research Training:

For comments see the common part at the beginning of the present review.

EPIDEMIOLOGY

This part of the review deals with epidemiological and demographic aspects of the Centre's research activities. It is based on talks with a number of staff members and - due to limitations of time rather superficial - reading of a vast array of protocols, working papers, scientific reports and other, mostly internal, documents.

No attempt was made to form an opinion on the quality of research design and the execution of individual projects; it would be pretentious to claim that a sound judgment can be passed on a large number of projects within a period of ten days. Rather, some general comments will be made on the present research program in relation to epidemiology and demography and suggestions will be offered as to its direction in the coming years.

On the whole good quality epidemiological research is being carried out by a well motivated, competent staff. The research program is consistent with the aims and objectives of ICDDR,B and relevant to the immediate health problems of Bangladesh and other developing countries.

Most of the studies are intervention studies using a population group exposed to a specified intervention and a comparable control group not exposed.

Some of these studies make use of very large numbers of study subjects which makes them very expensive.

Ideally the control group is strictly comparable to the study group except for the intervention which effect is being studied. In practice this is often not the case and if it is, it may not remain so in the course of the study. In addition activities outside the control of the investigator may develop in the comparison area which can have an effect on the outcome measure similar to the effect of the

planned intervention, thus "diluting" a possible difference in outcome between study and control group. In view of these uncertainties and the usually high costs of intervention studies, every detail of the research design has to be very carefully considered while it should be established beforehand that the required data can be collected, processed and analysed properly with the available staff. The Centre has enough qualified scientists to ensure that this is done and whenever desirable, external advisers have been invited to assist.

The Matlab and Teknaf study areas provide the large populations needed for such studies. The quality of the surveillance data produced appears to be high. The system of collecting, recording and processing these data is well designed if perhaps somewhat cumbersome; supervision of field staff, checking and cross checking of recorded data is done thoroughly.

However, there is a constant need for reviewing the system in terms of cost-effectiveness. Can procedures be simplified or frequency of home visits be reduced without loss of accuracy? If there is a loss of accuracy, to what degree may this be acceptable in view of the research questions at hand?

Three major interventions have been or are being studied by the Centre: the effect of widespread distribution of oral rehydration salt (ORS) on morbidity and mortality of diarrhoea, the effect of the provision of integrated MCH and FP services on the acceptance rate of contraceptive devices and the effect of sanitary provisions (water pumps, latrines, health education) on diarrhoea related mortality.

These trials are designed to demonstrate the effect or lack of effect of certain interventions in two closely supervised study areas, i.e. under quite artificial conditions.

Plans are under way to start working in extension areas. These areas have been designated for special health care efforts by the Ministry of Health. One of these areas includes the Teknaf study area.

The Centre has an opportunity to "export" its research findings to these areas in close collaboration with the Ministry of Health and semi-autonomous and private organisations in Bangladesh engaged in health care delivery. This is not to say that the Centre should assist in running the Country's health services. Rather, it should assist in measuring their impact. In order to be able to measure impact one needs monitoring activities among the population at large.

In Matlab and Teknaf highly sophisticated monitoring systems have been developed. They cannot be reproduced elsewhere in the country but they can be used in many ways to help achieve country-wide monitoring at a cost the country can afford. For instance, the Centre has a vast experience in respect of the kind of tasks various levels of field staff can or cannot perform, what degree of reliability can be obtained at various levels of supervision; in Matlab and Teknaf estimates

can be obtained on the Bangladeshi mother's ability to recall mortality and morbidity experience of their children.

A study of causes of death could involve certification of the cause of death by various levels of health personnel and laymen and the results to be compared. In addition to diarrhoea, important "killer" diseases (measles, pneumonia, pertussis) can be included in the disease surveillance in a part of Matlab in order to study the ability of laymen to diagnose them.

Several studies of this nature can now be carried out in Matlab in anticipation of work on monitoring, surveillance and evaluation activities in the extension areas, which will constitute a major challenge to the Centre.

With the present world-wide emphasis on FP, EPI, CDD as part of PHC leading to HFA 2000 the need for "cheap" surveillance systems to monitor births, deaths and morbidity is continuously being stressed but very little actual work has been done in relation to it.

It is a type of applied research which is far from glamorous. It requires ingenuity, flexibility and perseverance. It also requires a multidisciplinary approach. The need for a strong sociological-anthropological input is obvious.

The Centre could subsequently develop a strong health services research component particularly in the field of MCH. Presently some valuable contributions are being made in this field by a few staff members but I am not sure whether the available expertise in health services research is substantial enough to initiate large projects.

Another urgent matter the Community Services Research Program has to address itself to is the embankment project which, I understand, will involve part of the Matlab study area.

This is an unique opportunity to measure the impact on health of a vast water development project. A thorough study will have to be made soon as to what health problems are likely to occur as a result of the scheme, what the most suitable indications are to measure them and what type and level of surveillance is needed to collect the required data. There is a widely recognised need for such studies, also expressed by international agencies which are in a position to finance them.

Routine data collected at Matlab provide an easily accessible basis to study socio-economic determinants of mortality. An initial analysis has produced interesting findings but more, multi-variate, analyses need to be done. Morbidity data are presently being collected in order to relate morbidity to socio-economic status. More, carefully designed studies in samples of the Matlab population are required in order to define high risk children according to a variety of environmental variables. The followup of those studies are relevant

for the allocation of limited resources to those children most in need of them. It should be recognised however that this is a difficult field. In several analyses of this kind the environmental variables studied explain only a small proportion of the total variation in mortality and/or morbidity experience.

In the field of infectious disease epidemiology the emphasis should be on Shigella and Rotavirus. The recently described shigellosis-malnutrition complex calls for in-depth studies of the sequence of events leading to malnutrition.

To what extent does malnutrition lead to enhanced susceptibility to diarrhoea in general and Shigellosis in particular? The establishment of serotypes of Rotavirus is of great significance for the study of the epidemiology of this infection.

In respect to enterotoxigenic E. Coli better, more easy-to-handle diagnostic tools need to be developed before embarking on large scale field studies.

Studies on Campylobacter have revealed an epidemiological picture widely different from that found in temperate zones. Its role as a pathogen in Bangladesh needs further elucidation.

The aetiology - specific diarrhoeal investigation in Teknaf currently going on as part of the sanitation intervention project may provide useful epidemiological information from a dry rural area in contrast to the situation in Matlab.

I have been able to spend only a very limited period of time with the computer section. In addition, I miss the qualifications to give an opinion on the merits and deficiencies of the newly acquired computer configuration. It is admirable that the DSS in the past has produced what it did without computer facilities at the Centre. It is not surprising that there is a backlog in demographic data analysis and it is hoped that this situation will soon be overcome. The recording, checking and storage of the data received from Matlab and Teknaf is done in a very meticulous way.

Little can be said about the contribution of the social sciences to the Program because there is so little of it. A few very useful studies have been done by a few individuals but there is no apparent coordinated effort to make medical sociologists and anthropologists an integral part of the research plan. In addition there is need for a health economist, certainly if the Centre is to involve itself more deeply in health services research.

Unfortunately, I have not had the time to have a serious look at the population based nutrition programs. The Board may want to consider to invite a public health oriented nutritionist to review this part of the Centre's scientific activities.

There is considerable overlap between the Community Services Research Program, the Disease Transmission Program and the Nutrition Program. This is not necessarily a disadvantage as long as intensive interaction between the Programs' staff takes place at the management level as well as between individual scientists in the different Programs.

My impression is that this is not the case. This may partly be due to temperamental differences between various staff members. In addition, the hierarchical way in which some of these vertical Programs are run is not conducive to a climate of intensive interaction and collaboration.

It would appear to me that the present separation of "dry" (Community Services Research Program) and "wet" (Disease Transmission Program) epidemiology in two different Programs is unfortunate and unnecessary.

PATHOGENESIS AND THERAPY AND NUTRITION

Introduction

This part of the review looked into the following Programs:

- (a) Pathogenesis and Therapy.
- (b) Clinical and metabolic projects of the Nutrition Program.

Review Methods

Review methods included the following:

- (a) Study of the documents, e.g. annual reports, list of publications and reprints, memoranda prepared by the investigators, protocols, various reports on the activities of the Centre.
- (b) Discussion with the investigators and supporting staff members.
- (c) Visit to the facilities including treatment and patient study areas, laboratories, data management section, animal laboratories and other relevant facilities of the Centre.
- (d) Discussion with the other members of the Review Committee.

The Programmes

The reviewer proposes to comment on broad categories of scientific investigations being carried out and proposed. No attempt will be made to evaluate protocols individually.

Pathogenesis and Therapy Program

The stated aims of the Program include studies on the pathophysiologic mechanisms by which micro-organisms and parasites produce disease, and development of simple and effective treatment and preventive measures. The Program addressed itself to important and relevant studies in this area. Scientific quality of the projects is generally high and

they are being competently executed. Results of several studies are of great practical importance. As an example, promising results with cereal based oral rehydration solutions are potentially important for the national diarrhoeal disease control program in the developing countries. The reviewer appreciates the proposed vigorous follow-up of this preliminary study to explore the scope of this approach and its possible nutritional benefit. Anti-diarrhoeal agents based on recent knowledge on the mechanism of diarrhoea production are a subject of one other broad category of research. Results of studies with chlorpromazine for its antisecretory activity in cholera should lead to testing newer agents. In this connection the reviewer suggests stimulating young investigators to use the excellent animal laboratory facilities at ICDDR,B for pharmacological and physiological experiments on an ongoing basis. Ongoing clinical studies with salicylates is showing interesting results and the reviewer feels that the study should include not only cholera but also diarrhoea due to ETEC and other etiologies which may help testing hypotheses on its mechanism of action.

Two broad groups of proposed future study deserve special mention. Studies on Rotavirus diarrhoea according to its serotype with emphasis, at present, on the clinical aspects, prevalence and nutritional consequences could help design more ambitious studies on sero-epidemiology of Rotavirus diarrhoea. This refers to the proposed collaborative study on the Rotavirus serotypes and how important each one of them is in producing disease and their epidemiology. The other group of studies concern chronic diarrhoea. Chronic diarrhoea affects infants, children and adults. Morbidity and mortality (specially in infants) is very high. Understandably 'leads' in this area are not many and initial efforts may be spent in acquiring background information. The reviewer feels that the diagnostic and clinical facilities, and patient care need to be upgraded before any ambitious studies on chronic diarrhoea are contemplated. This includes training and orientation of the skilled manpower giving care to the patients.

Another category of study of substantial practical importance is complications of acute diarrhoea e.g. hypoglycemia syndrome, hypernatraemia, convulsive disorders, hemolytic uremic syndrome. These should be pursued with minor modifications as suggested by the reviewer during discussions with the investigators.

Several other studies which do not fall under the above broad categories have also been reviewed and found to be generally well thought out and useful studies. They include studies on parasite related diarrhoea and pathogenetic mechanisms at cellular level and others. Study protocols on trial of ORS under 6 months of age could be further simplified and still provide the scientific information asked for.

Nutrition Program

The stated goals of the program include studies to understand how diarrhoea produces poor nutrition, discover whether malnutrition leads to a high incidence of diarrhoea, and to find the points where the diarrhoea-malnutrition cycle can be most effectively and inexpensively

interrupted. Better knowledge on the etiology of diarrhoea has opened up the possibility of studying nutrient absorption and metabolism in etiology - specific diarrhoea. Valuable information has already been generated by the metabolic studies carried out by the program. Prolonged malabsorption, particularly for nitrogen demonstrated in children with Rotavirus diarrhoea and in ST E. Coli diarrhoea is of great concern and needs to be confirmed by studies in age matched controls (e.g. in children suffering from non-intestinal ailments). Knowledge on nutrient absorption and metabolism from varied dietary regimes may lead to optimum dietary intervention and help to interrupt the diarrhoea-malnutrition cycle. These studies have direct relevance to the global Diarrhoeal Disease Control program launched by WHO. The reviewer feels that the study area should be strengthened in terms of physical set up, metabolic kitchen, skilled manpower (including their training and orientation).

The reviewer feels that these metabolic studies should receive high priority for the next five years since the information obtainable is not only scientifically attractive but also of great practical value.

Interesting studies on protein loss through the gut wall were carried out by using α_1 - antitrypsin loss in the stool as a marker. The reviewer feels that other markers should be attempted and the present marker be studied in children with non-enteric disease (e.g. lower respiratory infections). This area of investigation may be valuable in understanding the pathophysiology of etiology-specific diarrhoeas.

Some general comments/recommendations

- (a) Excellent clinical/metabolic studies have been conducted at this Centre over the past decade using relatively simple clinical study set ups. These were made possible by the tenacity and ingenuity of the investigators and improvisations were the rule rather than the exception. As more and more ambitious clinical studies are attempted the improvisations are pushed to their limits. The reviewer feels that the physical set up for patient care and clinical research should be substantially improved to facilitate more demanding study protocols. This effort should include manpower development at all levels e.g. clinical technicians, nursing staff, and other technical manpower. This point should not be interpreted as a suggestion for new recruitment.
- (b) The metabolic unit is an important infra-structure for clinical research activities in the priority areas. This unit should be provided with improved physical facilities. The unit should also develop a cadre of trained manpower on a regular basis.
- (c) In view of the ethical problems in studying infants and children the newer tools of using non-radioactive stable isotopes for metabolic and tracer studies should be explored. This involves one expensive equipment i.e. mass spectrometer. Initially samples could be analysed in other laboratories having a mass spectrometer until the Centre is able to get one.

- (d) The Centre has one of the finest laboratory animal facilities. In the late 60's and early 70's excellent physiological studies have been conducted in this laboratory using experimental animals. The reviewer feels that more use could be made of the animal laboratory for conducting pathophysiological and pharmacologic studies. Findings may also help furnish ethical justification for future human studies. ICDDR,B is better suited for animal studies because here it can be carried out at much less expense than feasible in any laboratory in a developed country.
- (e) The reviewer was impressed by the quality of the biochemistry laboratory. The recent introduction of external quality control is highly commendable. The sophisticated equipments, however, need better accommodation.
- (f) The clinical investigators who generate small volume data for each program usually utilise the services of data management branch for analysis and testing. Statistical consultations prior to launching clinical studies appear to be lacking. The clinical investigators may derive benefit by consulting a statistician before starting the program, or, better still, at the stage of preparing the protocol.
- (g) Dearth of experienced investigators in this area was a felt need.

PART II

REPORT FROM THE EXTERNAL SCIENTIFIC REVIEW ON POPULATION PROGRAM

(COMMUNITY SERVICES RESEARCH), MAY, 1982.

Samuel Preston

This review of population programs is based upon a visit to the Centre during May 16-21, 1982 and a selective reading of protocols and research papers. Population research and programs are carried out in several Working Groups, among which Community Services Research plays the leading role. Cooperation with the reviewer by ICDDR, B was splendid. Several staff members had an opportunity to read and comment on a draft of most of this review, particularly with an eye toward eliminating inaccuracies. Doubtless, some remain.

Introduction

The ICDDR, B has been an enormously important source of demographic information and research in the past two decades. In Matlab, it maintains the largest continuous system of accurate vital registration for any sizeable population in a developing country. This data base has served to document long-term trends in vital rates; the demographic and epidemiologic consequence of natural experiments such as the 1974 famine; the cause of death structure and incidence of diseases; and the levels and trends in the biological intervening variables that determine fertility levels. The data base has also served as a sampling frame for more intensive investigations and as the basis for evaluating a variety of experimental health interventions. ICDDR, B's contribution to improved understanding of the determinants of population change in developing countries probably exceeds that of any other single locale or even country. There are few demographic issues that research based upon ICDDR, B data has not served to clarify. The most notable recent achievements are the extension of demographic surveillance and certain health interventions to Teknaf, representing a very different ecological zone from Matlab¹ and the clear documentation of a major fertility decline induced by an expanded family planning program in Matlab treatment areas.

The state of present staff, facilities, and work program seems in general to be quite healthy. However, there are several areas of concern that will be addressed below.

Work Program

The work program consists of three major projects and a large number of small scale studies. The largest component, quantitatively and qualitatively, is the Demographic Surveillance System (DSS) and its associated annual reports. These reports have been altered in the last two years to provide information on vital rates in treatment and comparison areas within Matlab, adding considerable interest and usefulness to the reports.

The DSS has considerably improved the timeliness of its issue. Although the last published annual report is for 1979, pre-publication versions of both the 1980 and 1981 reports are available. This represents an acceleration in data processing,

¹ Responsibility for the Teknaf program rests mainly with the Nutrition Working Group and it is not directly reviewed here.

attributable in good measure to the successful implementation of the IBM System 34 computer. Data coming from the system appear to be quite high quality in terms of the completeness. Accuracy of characteristics is good and is improving, especially in age recording as the DSS population consists of more and more people whose births were recorded in the system. The field staff are very experienced and take great pride in the completeness of their records. Recording, transmission, coding, entry, and tabulation of data all appear to be done with a high degree of quality control.

A question remains whether it is necessary to visit households as frequently as once a fortnight in order to maintain records of such high quality. An experiment was conducted in 1978 to see whether and how much accuracy was lost by visiting households only once every two months, but these data have not been analyzed. Impressions of staff involved are that data quality deteriorated, but a systematic evaluation should be made. For Matlab the issue may be moot since the field workers (Community Health Workers and Health Assistants) who are responsible for initial recording of vital events are also performing health-related functions in the treatment areas that may require fortnightly visits. But the experiment has more general applicability and should be analyzed.

The vital records are now also routinely used to update the file of household and individual records so that a "census" can be taken at any time desired. This includes creating a printout of age-sex distributions that can serve as denominators of incidence or prevalence rates, and creating a printout of members of each household that can be checked for completeness and accuracy in the field. These relatively recent innovations in data processing have added usefully to the capabilities of the data system. Complete and reliable linkage of records of different types in the DSS is still not possible, however, which is inhibiting research on a number of important questions. Some form of probabilistic linkage might be attempted to circumvent identification number errors, which are prevalent. It seems particularly desirable to create and update longitudinal files of individuals, particularly of women of reproductive ages. Such a file of pregnancy, birth, and child survival histories (supplemented with socioeconomic information and regional identifiers) could be used to address many questions that cannot otherwise be answered, since their detail on timing of events allows examination of many cause-effect relationships. Impressive analytic strategies for exploiting such data have been developed by the World Fertility Survey. A file of this sort is being constructed by Johns Hopkins based upon events up to 1978, but no attempt is being made to update the file beyond that point when it would become particularly useful for examining details of the fertility decline induced by the family planning program in treatment areas.

A second major component of CSRWG's work is the conduct an evaluation of family planning and health intervention experiments in Matlab. The experiments consist principally of implementing expanded, cafeteria-style family planning services as well as oral rehydration therapy and tetanus vaccination in a treatment area, while maintaining a comparison area not receiving the treatment. The health component is now being expanded to include other measures such as DPT inoculation and ante- and post-natal maternal health education.

This experiment appears to have been conducted with great care and attention to detail. A high quality field staff has been recruited and a tight system of supervision and monitoring is in place. The family planning experiment appears to have scored a great success, with crude birth rates declining by about 10/1000

more in treatment areas than in comparison areas, or by some 25%, and crude death rates declining by 2.5/1000 more in treatment areas, or by some 20%. Equally impressive is the apparatus that has been used to evaluate this project. High confidence can be placed in the estimated program effects because of the excellent time series data available for the populations as well as the very capable analysis that has been performed of the family planning effort. I believe the Matlab experiment to be the best--documented and scientifically most satisfactory example of family planning program evaluation in a developing country. However, no comparable analysis of family planning program effects on family health has been done or is projected; this seems a gap in the work program, particularly in view of widespread questions about these relations and their programmatic importance.

The evaluation of the family planning program is aided by a supplementary data system in Matlab. The system records on a monthly basis in treatment areas the use of contraception, reasons for discontinuation, and physical complaints related to the contraceptive device. The system is mainly being used at present to establish prevalence rates of contraception. The huge volume of data assembled from the fortnightly visits and its amorphous character for a time overwhelmed the Center's capacity to process the data. Only recently have the records, produced since 1977, become available for analysis. Several useful studies of determinants and consequences of contraceptive use are projected. The first is comparing side effects among Depo Provera users in 3 - and 6 - month use segments. The large and lengthy data set available should support many valuable studies.

Marked village clustering of contraceptive use and birth rate declines has been noted. Reasons for this clustering--worker effects, village effects, diffusion processes--are being investigated in a sensible and well-designed project.

Evaluation of the first-year of the tetanus campaign has been satisfactorily completed; evaluation of the oral rehydration campaign is progressing more slowly because of data processing problems. Plans for evaluation of the DPT and measles campaigns are not well formulated. This slow pace is troublesome in view of the aspirations to introduce "successful" interventions into extension areas; at the present research pace it will be a long while before successes can be identified.

The third major element of the population work program, mainly under the auspices of the Training and Extension Working Group, is an extension of Matlab-style family planning and health interventions to two new thanas and possibly to a third. A major aim is to test the proposition that Matlab approaches can be successfully introduced through the government health system by suitably training government workers. While preliminary surveillance work on these two (Serajganj and Noapara) began on January 1, 1982, funding for the full-scale project has not yet been approved by the expected donor, USAID, nor has the protocol been approved internally. Nevertheless, some comments are in order because the project raises some important issues about the future direction of the Centre.

In particular, it appears that the Centre is intending to reduce the scope of the evaluation component of this project very considerably relative to equivalent projects in Matlab and Teknaf. No "comparison areas" are being utilized that would be monitored but receive no program. Instead, a before-after design is intended, although there will also be some internal variation in the program that can be evaluated. However, the quality of demographic data will be lower than that available

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 in Matlab and Teknaf, so that trend comparisons will be less secure. It is particularly troublesome that the baseline (pre-program) period may stretch for less than a year, so that program effects may be confounded with seasonal effects. Even with one year of baseline data, there will likely be kinks in the system that are gradually getting ironed out, and that will affect recorded baseline rates. Contraceptive prevalence rates can doubtless be recorded with reasonable accuracy, as can other intermediate health outputs.

In short, the extension project represents a serious compromise of the unusually high data quality and research design standards with which the Centre has been associated. Clearly, those standards are unrealistically high for widespread applicability, but they have served as essential underpinning of most of the Centre's research activities and are responsible for much of its reputation and uniqueness. I believe that the Centre should undertake extension activities only when it can be reasonably sure of performing a reliable evaluation of those activities with regard to their impact on rates of disease, death, and birth. Otherwise it forfeits its research character for that of a service delivery organization. With relatively small changes, the draft protocol can be adapted to meet this criterion. It might be noted that the project also represents a new departure for the Centre in its emphasis upon health services research (with some precedent in the Munshigonj project) and reinforces the trend towards increased focus on family planning activities.

Smaller projects underway in the CSRWG appear in general to be well-designed. They build logically upon existing programs and capabilities. Particularly promising are quantitative analysis of the contribution of breastfeeding and other biological components of fertility to inter-birth intervals; intensive investigation of lay reporting of causes of death in Matlab and physician verification of lay diagnosis; and intensive investigation of nutritional practices among women in the periods of pregnancy and immediate post-partum.

The process of reviewing protocols is time-consuming but it appears to be working well in the sense that the quality of approved protocols is high,³ staffing and budgetary implications are clearly worked out ahead of time, and many people come to know the nature of other's work in the Centre. It was clear in the case of a proposal to study socioeconomic mortality differentials that the review process had sharpened the aims and methods between first and last draft. In the case of CSRWG there seems to be a need to increase involvement of high-level staff persons from this as well as other Working Groups in the protocol formulation and review process.

Several protocols have taken an inordinately long time to review, up to a half year. These long delays are inefficient and breed frustration.

² Household visits for demographic surveillance are projected once every 4 months; but Matlab impressions noted above are that data deteriorate even with bi-monthly visits. I believe that the projected frequency of visits should afford a reasonable basis for capturing program effects, providing that field work is of high quality.

³ I would judge the average quality of approved protocols to be similar to that of those approved by the external peer review process at the US National Institute of Child Health and Human Development's Center for Population Research.

Monitoring of projects after they are approved seems inadequate. The Scientific Review Committee basically considers its task completed after the review of protocol. Some form of mandatory progress reporting to the Scientific Review Committee should be considered.

In addition to those items noted above, there are several research areas that are ripe for intensified activities. Enlistment of a health economist to evaluate the cost-effectiveness of various health interventions in Matlab seems clearly desirable at this point. Also, the data can be used to address some major issues in population economics. The successful family planning effort, combined with the excellent data system (including a 1982 Census of socioeconomic status and wealth), affords a unique opportunity to examine the economic impact of the family planning program on incomes, labor force participation, and levels of physical and human capital in treatment areas relative to comparison areas. Every effort should be made to capitalize on the uniqueness of the Matlab data and the experimental interventions whose results are being registered in that data.

Several years down the road the Centre has an extremely attractive opportunity to evaluate the effects of the large scale Embankment project in the Matlab region on demographic and household behavior. The areas affected by Embankment are distributed between treatment and control areas, so that there will be the possibility of exploring the joint effects of a development project and a health/family planning project. Plans are being formulated to take advantage of this opportunity.

Staff

The staff involved in population research is a well qualified and very capable group. They are also hard-working and dedicated to the goals of the Centre. I was very favorably impressed both with the field staff located primarily in Matlab (with whom my contact was very limited) as well as with the research staff in Dacca.

Opportunities to attract qualified scientists to the Centre at their own expense (e.g., on sabbatical) seem to be inadequately exploited in the population field. Disproportionately few of the post-doctoral affiliates in recent years have been working on population-related topics. These persons could provide important backstopping of technical aspects of programs and aid in protocol formulation and review. The unique data base and experimental studies ought to serve as a powerful attraction for population researchers; more promotion of these possibilities is needed. This could also supply specialized skills, e.g. medical anthropology, that the Centre cannot afford to maintain among regular staff.

Vigorous attempts to train local staff have met with considerable success, among both research and support staff.

Despite the expense involved, it is very desirable to ensure that middle and senior staff be able to travel to professional meetings at least once per year. The danger in Dacca is clearly one of isolation from main currents of research. Travel would also help to disseminate the Centre's research and to foster collaborative arrangements.

I had the impression that certain junior and middle level staff had more to offer in research than they were being asked to deliver. A more open, collegial environment for junior staff should be fostered. More frequent review of personnel classification seems desirable, particularly for persons who take on new responsibilities, undergo additional training or exhibit new skills or achievements.

Collaborative Arrangements

Collaboration with Johns Hopkins University for the production of specialized data files does not appear to have been successful and is being terminated. It may be necessary to look for an alternative arrangement. The acquisition of the new Prime computer by BIDS affords an excellent opportunity to implement statistical software packages that are too large to be used on the System-34. The Centre should actively pursue a strategy of gaining guaranteed access to a sizeable bloc of time on the Prime. However, this new computer is not capable of solving the problem of data linkage nor of longitudinal data file construction.

An informal collaboration with Australian National University has been highly beneficial to the Centre in terms of facilitating data production, training, and joint implementation of protocols. The UN Statistical Office and the University of Namur (Belgium) have successfully collaborated in on-the-site training of computer programmers.

The Centre faces a key question about circulation of its data files to researchers outside the Centre. There is no question that adoption of a highly restrictive policy will in the short run inhibit the progress of knowledge based upon the Centre's experience and activities. On the other hand, data access can be exchanged for a variety of long-term Centre benefits--consultation, training, introduction of new blood and ideas--that help ensure the long-term health of the Centre. Setting aside some period of time for uncontested Centre analysis of data would also maintain incentives for Centre staff involved in data production.

The Centre does not have a clear policy consensus with regard to circulation of data sets. I believe that the Centre's best interests should be broadly construed in this matter and that published research by non-Centre researchers based on Centre data should be counted on the credit rather than the debit side of the ledger. I also feel that those involved in generation of the data should appear as co-authors of any such publications and should be involved in the analysis. What seems to me unfortunate is that attitudes in the population group about circulation of data have gotten bound up with notions of equity and exploitation. A hard-headed view should be adopted that has as its single goal maximizing the contribution of Centre activities to the accretion of knowledge about ways to improve health conditions in developing countries.

In a sense the problem of data circulation outside the Centre mirrors a problem inside the Centre. Researchers "own" data sets to an unfortunate extent, and permission for other staff members to use them is not routinely extended. But very few data sets in the Centre are produced by a single individual and all depend upon the infrastructure of the Centre. The administrative structures in the Centre should be more active in ensuring that data are optimally exploited and that permanent ownership of data sets is prohibited. The Scientific Review Committee may be the best organ to ensure proper use of data.

Organization

The Centre is organized around Working Groups. Researchers can be full associates in only one group but can be adjunct members in others. There is considerable fluidity of staff among projects in different Working Groups.

In general, I did not find the Working Group boundaries to be unduly rigid, although any large organization develops a degree of territoriality.

Relations between CSRWG and the Training and Extension Working Group are not clearly developed with regard to the extension project. Because of its extensive experience in Matlab, it seems desirable that CSRWG be involved in that protocol, particularly in the evaluation component. But formal arrangements for such have yet to be developed. Strained personal relationships seem partially accountable. There is a considerable degree of divisiveness among individuals within and between the groups. This stems largely from legitimate disagreements regarding scientific matters and the Centre's mission. A certain creative tension seems to result, but also a loss of time and coordination. Morale and recruitment may suffer in the long run if the situation persists.

There is also some confusion about what form of review the extension project is to undergo and what the review's timetable is to be.

Relations between the Matlab field staff and the research staff headquartered mainly in Dacca appear to be very close, cordial, and productive.

Lower level staff, especially programmers, lack project identification. Many projects would benefit from working repeatedly with the same junior staff, who could build up project-specific capital. Assignment of staff should attempt to maintain some continuity of personnel on projects, which would also engender esprit d'corps.

Priorities for allocation of computer time and personnel are established by a Computer User's Group. This group has met only twice in the past year, and interim decisions are made by the Head of the CSRWG. It seems desirable that meetings occur more frequently both to ensure reflective procedures and to protect the Head from charges of bias. Eventually, as computer facilities expand, it seems reasonable that computer administration be reorganized under the Director's office. At that time the System 34 presently in use would likely become primarily a service facility for DSS and would continue to be administered under present arrangements.

This review has proposed several expansions of activity for the Scientific Review Group. Unfortunately, service on this Group is already very time-consuming. Some thought should be given to creating a post of Associate Director for Research who would head the Scientific Review Committee, coordinate activities in the different Working Groups, and help set intermediate and long term research goals.

PART III (a)

REPORT OF EXTERNAL SCIENTIFIC REVIEW OF NUTRITION PROGRAM,

JUNE 1982

Vinodini Reddy

INTRODUCTION

The review is confined to the nutrition research program and is based on a personal visit to the center (June 1-8, 1982), discussions with the scientific staff and examination of relevant documents eg: annual reports, scientific articles and research protocols.

The Nutrition Working Group has focused on problems directly related to diarrhoeal diseases. This is in accordance with the aims and objectives of the center. It has addressed itself to three important questions, how diarrhoea leads to malnutrition, whether malnutrition modifies diarrhoeal morbidity and how best diarrhoea-malnutrition cycle can be interrupted to improve the health.

RESEARCH PROJECTS

Studies on Food Intake:

Breast feeding and food intake were studied in a group of children admitted to the hospital for diarrhoeal illness. Calorie and Protein intake was found to be significantly lower during the acute stage. Nutrition education of the mothers had not improved the food intake indicating that in the sick child, anorexia is an important cause of reduced food intake. However, the number of children studied is very small. Since this is a problem of major concern, studies should be extended to cover a larger number of children, with intensive efforts to promote supplementary feeding. Similar studies should be done in the community to assess the food intake of children in the home environment and see to what extent this can be improved by nutrition education. Efforts should also be made to develop recipes based on familiar foods which are acceptable and useful during illness.

Prolonged breast feeding appears to be a common practice among women in Bangladesh. A significant observation made was that the intake of breast milk was not altered, though the intake of supplementary foods was reduced during diarrhoea. This study emphasizes the importance of breast feeding in maintaining nutrition during diarrhoea.

More recently, studies were undertaken to assess the food intake in relation to etiology of diarrhoea. About 30% reduction in food intake was observed during the acute stage in all types of diarrhoea. In most of the cases, the intake reached the recommended level within 4-5 days. A significant observation made here was that, during the convalescent period the intake exceeded the recommended allowance. This may perhaps be an attempt to achieve calorie balance. It is important to determine the overall balance during the whole period of acute diarrhoea and convalescence. These observations are of practical importance and help in the assessment of nutrient requirements of children frequently exposed to infection.

It was observed that Rota virus patients took a longer time to return to the same level of intake as other diarrhoeal cases. This has been attributed to the pathology of Rota virus disease. However, variation in the food intake could be due to the age differences, since Rota virus patients were younger than other diarrhoeal cases. Further studies need to be done in age matched children to confirm the findings.

Food intake may be expected to vary with the severity and duration of illness. Longterm studies are needed to assess the total duration of diarrhoea and other illness in a year, and its impact on the growth of children. Studies should also be undertaken to determine the extent to which nutrition intervention can modify diarrhoeal morbidity. This type of information is useful not only to assess the role of diarrhoea in malnutrition but also for planning public health programs to improve nutrition and health of children.

Studies on Nutrient Absorption:

Loss of nutrients due to malabsorption is one of the mechanisms by which diarrhoea affects the nutritional status. Studies have been undertaken to obtain quantitative information on intestinal absorption in diarrhoea caused by specific agents. Malabsorption was found to be greater in Rota virus infection than in other diarrhoeas. Prolonged malabsorption particularly for nitrogen demonstrated in children with Rota virus disease is of great concern and needs to be confirmed by studies in age matched controls. Studies with different types of diets are also necessary to develop suitable dietary intervention.

Although intestinal function is altered in acute diarrhoea there is still substantial absorption of nutrients which would benefit the host. Thus the study emphasises the importance of feeding during diarrhoea. It has profound implications especially in areas where recurrent diarrhoea is common.

No correlation was found between xylose absorption and absorption of other nutrients including carbohydrate. Such a discrepancy has been reported by many workers from other developing countries and the validity of the test has been questioned. Similarly, the lactose tolerance test is also of limited value. Despite a high incidence of lactose malabsorption, many children are able to tolerate milk supplements given in moderate amounts.

Lactose Malabsorption:

A study has been proposed to investigate secondary lactase deficiency in children with diarrhoea, using breath hydrogen test. Although this test is a non-invasive procedure, it suffers from the same drawback as the standard lactose tolerance test. There is evidence to show that lactose intolerance does not necessarily imply milk intolerance

and therefore, the test has no practical relevance. Direct studies on clinical response to milk feeds are suggested to determine whether milk intolerance is a significant problem in diarrhoea. Young children with acute diarrhoea and also those with chronic diarrhoea should be investigated. Details of the study have been discussed with the concerned investigator.

Protein Loss From the Gut:

Interesting studies have been done on protein loss through gut; using antitrypsin in the stool as a marker. Protein loss was noted not only in invading diarrhoea but also in other types of diarrhoea. Further studies are needed to establish its significance. Quantitation of the loss and its impact on the nutritional state needs to be evaluated.

Studies on Vitamin A:

A community survey carried out in Matlab area showed a very low prevalence of xerophthalmia in children. This is contrary to the reports of National Nutrition Surveys and suggests that this area may not be representative of Bangladesh. It is surprising to note that the prevalence of keratomalacia is higher in adults than in children. However, this is a retrospective study and the diagnostic criteria have not been clearly defined. More careful surveys need to be conducted to assess the prevalence of xerophthalmia in children, using WHO criteria.

Some association has been observed between night blindness and diarrhoea. Further studies are needed to establish the causal relationship.

Results of the clinical study indicate that substantial amount of Vitamin A is absorbed during diarrhoea. This is based on the rise in serum vitamin A concentration following a single oral dose. Although this is a useful screening test, it does not provide quantitative information. Studies with radio-active vitamin A are more useful in this regard. Such studies have been conducted in children before and should not pose any ethical problem.

Since children with diarrhoea are at greater risk of developing xerophthalmia, administration of vitamin A along with ORS may be considered as a public health measure for prevention of nutritional blindness. Efficacy and technical feasibility of this approach needs to be evaluated. This is one of the priority areas for research since vitamin A deficiency is an important cause of blindness in children.

Ascariasis and Nutrition:

A study is proposed to determine the effect of periodic deworming on the nutritional state of children. Earlier reports indicate that if

at all this treatment has any nutritional benefit, it is seen only in those with severe infestation. Such cases are few in any community and hence mass treatment of the whole child population has been questioned. The proposed study appears to be repetitive and unnecessary, unless the research protocol is modified to obtain some new information.

Rice Starch Electrolyte Therapy:

Earlier studies have shown that ORS containing rice powder and electrolytes was as effective as sucrose electrolyte solution in the treatment of acute diarrhoea. Further studies are proposed to determine whether higher amount of rice powder can be given to provide more calories through ORS. This study is of practical importance and may lead to better management of diarrhoea. The study design, however, needs some modification. The patients are given either the standard ORS or rice powder ORS without any other food, which is an artificial situation. It is suggested that an additional group of children receiving the usual food along with ORS may be investigated to see how it influences the overall calorie balance.

Post Measles Diarrhoea:

Measles is a widespread disease among children and diarrhoea is an important complication. The synergistic effect of these diseases can adversely affect the nutritional status. Information has been collected on food beliefs and practices in measles. A study is now proposed to assess the effect of measles on the nutritional status. The research protocol needs certain modifications which have been discussed with the concerned investigator. The children should be followed up for a longer period and more detailed information should be collected on food intake, morbidity pattern and weight changes following measles.

Influence of Nutritional State on Diarrhoeal Morbidity and Mortality: diarrhoea

Although Δ s more prolonged in severely malnourished children, the mechanisms involved are not clear. A more important question is whether mild and moderate grade of malnutrition, which are more common among children in the community, modify the diarrhoeal morbidity. A longitudinal study has been done on growth and morbidity of children in Mehran. Analysis of data will provide valuable information on the relationship between diarrhoea and malnutrition.

In another study wherein children hospitalised for acute diarrhoea were followed up after discharge, the mortality was found to be very high in those who had severe malnutrition. Most of them died within 3 months after discharge. This study clearly shows that diarrhoeal treatment alone will not be effective in reducing mortality unless it is integrated with nutritional services.

Mild and moderate degrees of malnutrition did not seem to have any appreciable effect on mortality. This is a striking observation and suggests a remarkable adaptation or capacity to withstand the stress of food deficiency and consequent malnutrition, death occurring only in extreme circumstances. However, this is a retrospective study based on hospitalized children. Community studies need to be undertaken to confirm this important finding.

Nutrition Education: Action-cum-Research Project:

Studies are planned to develop effective nutrition education programmes to improve health and nutrition of children. This type of studies have to be done in a phased manner. A baseline survey is essential to obtain information on current feeding practices, and how they are influenced by socio-economic and cultural factors. The research protocol needs certain modifications which have been discussed with the concerned investigator.

Another short term study on nutrition-related behaviour is proposed by the same Investigator in a different community. Since there is some overlap between the two studies, it is suggested that the information may be collected on the same population.

Intervention Studies:

Two important intervention studies have been undertaken by the Center, Oral Rehydration Program in Matlab and Water Sanitation Program in Teknaf. Data analysis may be expected to show not only the effect of these interventions on diarrhoeal morbidity and mortality but also their impact on the nutritional status.

Oral Rehydration Therapy:

Large scale field studies have been conducted on efficacy and feasibility of oral rehydration in rural communities. However, no attempt has been made to integrate this program with other primary health care services. Although it has been demonstrated that deaths due to diarrhoea could be prevented, this approach had no impact on overall mortality. These observations emphasize the importance of integrated health care services to reduce childhood mortality. Apart from diarrhoea, malnutrition, measles and respiratory infection are important causes of death and must be tackled in a more comprehensive manner.

Maternal and Child Health:

MCH program was started in Matlab area with the aim of reducing maternal and infant mortality rate. However, the nutrition component of

MCH care has been totally neglected. Neonatal mortality rate is still very high in this area and may be related to poor maternal nutrition and low birth weight. The nutrition component of MCH services must be strengthened and its impact on infant mortality rate should be evaluated.

SPECIFIC RESEARCH RECOMMENDATIONS:

1. Studies on chronic diarrhoeas associated with malnutrition to understand the underlying causative factors and to evolve suitable dietary interventions.
2. Clinical studies to evaluate the efficacy of oral rehydration therapy in severely malnourished children with diarrhoea.
3. Studies on associated complications in malnourished children in order to develop simple and effective measures for their management.
4. Clinical studies to determine whether milk intolerance is a significant problem in children with acute or chronic diarrhoea.
5. Studies on vitamin A deficiency and iron deficiency anaemia in relation to diarrhoeal diseases.
6. Studies to determine the role of breast-feeding in resistance to diarrhoea.
7. Longitudinal studies on growth and morbidity in relation to feeding practices to determine the most appropriate time for introduction of supplements under the prevailing conditions.
8. Field studies to determine the social and cultural factors influencing feeding practices during diarrhoea and other illnesses.
9. Studies to evolve special supplements based on familiar foods which are acceptable and useful in diarrhoea.
10. Studies on relationship between maternal and infant nutrition and the impact of nutrition intervention on infant mortality rate.
11. Community studies to integrate nutrition intervention with MCH care and to evaluate its impact on growth of children.
12. Operational research to integrate diarrhoeal interventions with other primary health care services and to evaluate their impact on childhood mortality.

Some of the studies have already been initiated. However, the next five year program needs to be worked out in detail depending upon the available resources and qualified investigators.

GENERAL COMMENTS AND RECOMMENDATIONS:

Quality of Research Work:

Scientific quality of work is generally high. The studies are well designed and executed by competent staff. However, nutrition has not received adequate emphasis in the research activities of the Center in general. The output of nutrition program is relatively less compared to other research programs. This may be due to shortage of qualified investigators.

Since nutrition is an important determinant of health and is closely related to diarrhoeal diseases, research in this field should receive high priority.

Scope of the Program:

The Clinical and metabolic studies have provided valuable information on the nutrient losses in diarrhoea. More field studies are needed to understand the interactions of diarrhoea and malnutrition in the community. Basic information has to be collected on the social and cultural determinants of feeding practices in order to develop effective nutrition interventions. Population based nutrition programs should receive more attention.

Some community studies have been undertaken to determine whether diarrhoeal intervention measures have any impact on the nutritional status. Operational research is needed to see how these interventions can be integrated with nutrition and other primary health care services.

Staff:

Nutrition program has the smallest working group. Apart from the program head there are only 3 scientists basically interested in nutrition. There is a need for additional staff, especially social scientists and medical officers with experience in public health nutrition. Young scientists will be benefited by short term training in nutrition at other Institutions in developing countries, rather than visiting western countries.

Collaborative Research:

The center has initiated a number of collaborative projects but none of them in the field of nutrition. There is scope for such collaboration with other Bangladesh Institutions engaged in nutrition research. This will not only increase the research output of the center but also help in the development of research capabilities in other Institutions. Thus, collaboration would be mutually beneficial.

At the international level, collaboration with research organisations in other developing countries should be encouraged, especially with Institutions engaged in studies on nutrition and infection.

Metabolic Unit:

The metabolic ward is too small for keeping patients and there is no place for mothers to stay. There is no separate room to draw blood samples or do any other investigation. Hospital kitchen is used for preparing food. Excellent studies have been conducted inspite of these limitations. However, a well-equipped metabolic unit is essential for clinical research activities. There is an urgent need to improve the facilities of the unit in terms of more space, separate kitchen and training of the staff.

Biochemistry:

The biochemistry laboratory is fairly well equipped. Studies on trace element nutrition can be undertaken with atomic absorption spectrometer. Microfluorometric method is suggested instead of Carr-Price reaction for vitamin A estimation. The recently introduced external quality control is highly appreciated.

Research Protocols:

The existing research protocol review procedure ensures that the studies are well designed with all details worked out. However, this appears to be a lengthy procedure. The scientists are not allowed to make any modifications which may become necessary during the course of the study. Such a rigid system may obstruct the research activities. Some flexibility should be permitted in this regard.

There is some overlap between the Nutrition Program and the Community Service Research Program which may be unavoidable. Free interaction between the investigators should be encouraged to reinforce the research efforts.

Publications:

Glimpse is an informative newsletter but the quality of the annual report needs to be improved. The description of research programs is too brief and does not provide scientific information. There is no link between the reports published year after year. The annual report should contain short abstracts highlighting the resulting of recent studies as well as the current research projects which would be useful to the scientific community.

PART III (b)

REPORT OF EXTERNAL SCIENTIFIC REVIEW OF NUTRITION PROGRAM
(SUGGESTIONS FOR FURTHER DEVELOPMENTS), MAY 1982

E.F. Patrice Jelliffe, Derrick B. Jelliffe.

INTRODUCTION

These comments and suggestions are made on the basis of the following sources of information and should be viewed in relation to the obvious limitations of such a brief acquaintance with the situation in Bangladesh and at the ICDDR,B. Nevertheless, it is hoped that past experience with similar nutritional problems in various parts of the world, notably two years in West Bengal, may make these suggestions of use.

Sources of Information

- (1). one week visit to Bangladesh, primarily concerned with development of a nutrition education project geared to overcoming "cultural blocks" in feeding practices in mothers and young children (see later).
- (2). review of documents, including ICDDR Reports and the 1979 Five Year Program Proposal.
- (3). short discussions with ICDDR,B staff.
- (4). short discussions with some of the other groups working in the field of community nutrition in Bangladesh (including the Institute of Nutrition and Food Sciences, Institute of Agricultural Research, Institute of Medical Research, Save the Children Fund, CARE, USAID, etc.)

(II.) SUGGESTIONS

It is evident that the Centre has become increasingly concerned with the application of basic research in nutrition to practical problems in real-life. For example, the investigations into food losses in diarrhea and the addition of rice flour to ORS are of world-wide significance -- for which the Centre deserves the highest recognition and credit.

The suggestions made below are likewise concerned with the focusing of all forms of research onto major practical issues concerning the prevention of malnutrition and of diarrhea with limited resources and through village-level primary health care services. In particular, emphasis is given to the significance of cultural factors in public health nutrition programs.

While it is realized that goiter and iron deficiency anemia are common, these comments are largely concerned with protein-energy malnutrition in young children and pregnant and lactating women, with passing reference to avitaminosis A.

- (i) Puerperium. As emphasized in the draft research document in preparation*, the "colostrum rejection syndrome" needs especial attention. This is so because of the role of colostrum in the prevention of neonatal diarrhea and because of its under appreciated nutritional contributions, notably vitamin A and zinc. In passing, it may be that the reported early development of giardiasis could be partly related to this gap in the biological

* With Dr. Najma Rizvi, anthropologist, ICDDR,B.

protective screen during the first days of life. The cultural causation and the nutritional and anti-infective consequences of the colostrum rejection syndrome need detailed study, as does the search for culturally based programs to try to circumvent this dangerous practice.

- (ii) Early Infancy (0 - 6 months). The prevalence of suboptimal lactation needs investigation, especially, it would seem, in urban slum areas. Such research should, however, include not only considerations of the presence of severe malnutrition and/or infectious disease in mothers, but also modern understanding of the commonness of "dysreflexia" -- that is interference with one or both of the maternal milk reflexes -- the prolactin reflex and the let-down reflex. The likelihood of urban stress being involved in interference with the let-down reflex seems likely in some instances.

As a corollary, a small scale study is needed to attempt to assist with dysreflexia and/or maternal nutrition and health, as indicated. Cultural, economic and logistic problems will obviously need consideration. If indicated, the possibility of developing a supplement in the form of a "ball" of gur, enriched with finely chopped dark green leafy vegetables and other foods, might be explored as a high calorie supplement to be consumed directly by the mother.

(iii) Late "Infancy" (6 months - 2 years +). It was readily apparent that "late" marasmus was very common and, in the draft research document, further investigation of its etiology is outlined, notably the significance of poverty, infections (especially diarrhea) and cultural factors. It is suggested that studies are indicated both by questionnaire and by in-depth participant observation in a sample of households.

Ranking of available foods has been suggested in relation to probable cultural acceptability, culinary feasibility, "infectious potential" and cost. Cost-nutrient nonograms need to be constructed for the main seasons.

Parallel studies are suggested into the religious literature, especially the Hadis, for guidance concerning advice to be used in nutrition education programs aimed at circumventing existing "cultural blocks" -- that is practices and customs which prevent the mothers using available foods for themselves or for their young children. Likewise, the investigation of "positive deviants" -- that is families whose children do not develop malnutrition needs to be included.

It is suggested that the possible role of the potato in home-prepared food mixtures needs special study. It would seem that the potato consumption is increasing, especially amongst the poorer population; the price has risen less steeply than with rice. Indigenous techniques have developed to dry potatoes when in season. Also, as the potato* is relatively new to the area,

* The potato's nutritional value has been under-estimated. Food consumption tables do not reflect the fact that the potato absorbs very little water during boiling compared with rice. It may be less likely to be made into

there seem to be less cultural restrictions concerning its use for young children.

The selection of foods for village multimixes needs to be based on such considerations, which will be clarified in some ways by the proposed research project, and by information from other groups working in this field (e.g. Institute of Nutrition and Food Sciences, Save the Children, etc.).

The choice of messages and methods of communication need the advice of experts in these fields, but tentatively it may be suggested that such a culturally - attuned nutrition education program ought to be channelled simultaneously through village health workers, school teachers and mullanas.

(iv) Nutritional Surveillance. The lack of agreement concerning growth charts for young children seemed an important issue, hopefully in the process of being resolved.

In addition, two other practical nutritional research projects need mention -- (a) the development of simple maternal weight chart for pregnancy (possibly a modification of the Kusum Shah** chart), and (b) consideration of the development of

a gruel than rice, and can be mashed directly. Its protein has sulfur-containing amino acids as "limiting." These can best be complemented with animal product (c.f. fish, milk), and, less expensively, with rice and breast milk (available in the infant's stomach).

** "Appropriate technology in maternity care: the Kasa experience" (1982) Advances in International Maternal and Child Health, Vol. 2.

a standardized low cost "anthropack" (bag with scales, length board and arm circumference tape) for researchers in the area.

- (v) Coordination. As everywhere, there was an obvious need for coordination -- in the Centre between basic and applied research workers in various fields and outside the Centre with those working in, for example, "weaning food mixtures."

It is suggested that an international workshop be held on "Practical Issues in Maternal and Young Child Nutrition in Bangladesh" which might pool the research endeavors and the practical experience of various groups, including studies at the Centre, and perhaps lead to a publication on practical guidelines, based on a consensus of opinion and applied research work.

12/BT/JUNE 82

V A R I A

International Centre for Diarrhoeal Disease Research, Bangladesh

20 May, 1982.

As per list attached.

Dear

One of the principal goals of the International Centre for Diarrhoeal Disease Research, Bangladesh is to strengthen and facilitate research in organizations in Bangladesh. To accomplish this, in Section 12, Sub. (4) of the Ordinance, a Programme Coordination Committee is to be formed. It has been suggested that the Programme Coordination Committee for the Centre be formed among institutions working on areas of mutual interest. Since ICDDR,B has occasionally cooperated with your institution and has scientific areas of mutual interest, I would like to invite you to participate in an organizing meeting for this important Committee in order to strengthen co-operation. We would like to convene the first meeting of this group by the end of August. Please let me know whether the date of 31 August, 1982 would be convenient to your schedule.

Sincerely yours,

W.B. Greenough III, M.D.,
Director.

WBG:jc

(Formerly Cholera Research Laboratory)

G.P.O. Box 128 Dacca-2 Bangladesh Cable : Cholera Dacca Phone : 300171-78

National Organizations Contacted for Programme Coordinating Committee.

Dr. A.K.M. Aminul Huq
Vice Chancellor
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Mymensingh.

Replied on:

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Vice Chancellor
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Prof. Nurul Islam
Director
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1.6.82 (yes)

Prof. M. Ibrahim
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Prof. Kamaluddin Ahmed
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25.5.82 (yes)

Dr. Habibur Rahman Director Institute of Public Health Nutrition Mohakhali Dacca.	<u>Replied on:</u> 7.6.82 (yes)
Dr. K.M. Badruddoza Director Bangladesh Agricultural Research Institute Joydevpur Dacca.	1.6.82 (yes - verbally by 'phone)
Dr. Mobarak Ali Director National Institute of Preventive & Social Medicine (NIPSOM) Mohakhali Dacca-12.	25.5.82 (yes)
Dr. M.A. Latif Director Institute of Public Health Mohakhali Dacca-12.	1.6.82 (yes - verbally by 'phone)
Dr. Md. Abdul Mannan Principal Paramedical Institute Mohakhali Dacca-12.	25.5.82 (yes)
Dr. Shafiqur Rahman Director Bangladesh Fertility Research Program 3/7 Asad Avenue (1st floor) Mohammadpur Dacca-7.	28.5.82 (yes)
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Dr. Monawar Hossain
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Dr. Bazlur Rahman
Chairman
Bangladesh Council for Science and
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Prof. S.A. Akanda
Director -
Institute of Bangladesh Studies
Rajshahi University
P.O. University of Rajshahi
Rajshahi.

Replied on:

3.6.82 (yes)

3.6.82 (yes)

14/BT/JUNE 82

ADDITIONAL "HANDOUTS" AT MEETING

1. Kenya Project

International Centre
for Diarrhoeal Disease Research, Bangladesh

Memorandum

TO Board of Trustee Members

FROM Director



DATE June 13, 1982

SUBJECT KENYA PROJECT

... The attached two reports reflect the current status of the Rotavirus research component of the Kenya Project.

WBG:ls

PRELIMINARY REPORT ON THE STUDIES OF CLINICAL FEATURES OF
ROTAVIRUS SEROTYPES IN BANGLADESH AND KENYA

Dr. G. H. Rabbani

Objectives of the study:

This clinical study was undertaken at the ICDDR,B with the following objectives:

1. To document the number and relative prevalence of different serotypes of Rotavirus in Bangladesh children under 5 years of age.
2. To compare the clinical severity of illness due to different strains of Rotavirus.
3. To compare these between African and Asian children.

Serotype specific clinical features are not known and are crucial for developing an effective vaccine against rotavirus.

Progress of Clinical Work at ICDDR,B Dacca:

The clinical study began at ICDDR,B in October 1981 and is expected to be completed by December 1982. The total number of children required are 500, of which 220 have been sampled so far. Of the 220 admitted cases, 170 were analysed for this preliminary report, pending the results of rotavirus serotyping.

Children with acute gastroenteritis were randomly sampled from the outpatient department so as to ensure a representative distribution of all etiologies including rotavirus into the sample. After hospitalization detailed clinical informations were obtained, these are duration of illness, severity of diarrhoea, presenting symptoms and signs, degree of dehydration, nutritional status, fever, vomiting and other clinical findings. Patients were followed in the hospital for about 7-10 days which is the average duration of illness with rotavirus infection.

Elisa technique was used to detect the presence of viral antigens in the stool specimens at the ICDDR,B. However, the serotyping of Rotavirus will be undertaken by Prof. Zissis at the Free University of Brussels in Belgium under a collaborative program with ICDDR.

A batch of 200 stool specimens have recently been sent to Brussels for rotavirus serotyping, the results are expected any moment. Clinical records of these 200 children are being processed by the IBM system/34 computer at the centre and an early print will be available by the next month.

Clinical work at Nairobi, Kenya:

Due to some technical difficulty clinical work at the Kenyatta National Hospital, deptt. of paediatrics began a little later in January '82 and so far studied 130 cases. The data were collected in identical format so as to ensure an comparative analysis at the end. Arrangements have also been made with London School of Hygiene and Tropical Medicine to provide statistical constltancy for data analysis. The clinical study at Nairobi is progressing satisfactorily.

Results of the preliminary analysis:

So far we have analysed 170 cases, another 300 cases will be admitted over the next 6 months.

This preliminary data show that rotavirus is the predominant agent associated with acute gastroenteritis in children under the age of 5 years (see Table 1). In Bangladesh rotavirus was detected in stool samples from 60-70% of infants aged 6 months to 2½ years, who came to a rural treatment centre at Matlab, Bangladesh with diarrhoea (Sack et al, Lancet, Aug 5 '78). In another study at Matlab, treatment centre visits for rotavirus diarrhoea reached a peak at 6-11 months of age (Black et al, Lancet Jan 17, 1981). These are consistent with our present findings.

Table 2 describes the age specific incidence of rotavirus diarrhoea in children below 5 years of age. The peak incidence appear to be in the 7-12 month age group. This is consistent with the finding of Black et al from Matlab rural area in Bangladesh. It is evident from the table that a large proportion of cases occur under the age of 24 months.

Bar chart:

The enclosed bar chart shows the monthly incidence of rotavirus isolations at the ICDDR,B hospital Dacca. The peak incidence has occurred during the cool, dry month of December. This is consistent with the finding of Black et al from Matlab in 1977-79. However the seasonality of rotavirus infection has not yet been well understood.

Rotazyme Test:

This test is now being set up at the ICDDR,B laboratory. This is a rapid qualitative enzyme-immunoassay for detecting rotavirus in clinical specimens. We would soon compare its sensitivity with standard Elisa method.

Summary:

1. A clinical study was started at the ICDDR,B to establish and compare the clinical severity of infection caused by different serotypes of rotavirus in children.
2. The study has progressed half way, 220 children were admitted. another 300 will be needed to complete the study.
3. Serotyping of rotavirus in clinical specimen is being processed at the moment by Prof. Zissis in Belgium. Type specific clinical feature will be compared after serotyping.
4. Preliminary analysis of 170 cases show an incidence of 55% of rotavirus in the under 5 years age group. The peak age is 7-12 months, and peak season is the cool dry month of December. There findings are consistent with earlier reports from Bangladesh.
5. A final report of type specific clinical finding will be available by January 1983.

TABLE - 1

Total number cases admitted: 220 (October '81 to 10 June '82)

Number of cases analysed for this report: 170

Isolation of Rotavirus and other enteric pathogens From 170
children admitted with acute gastroenteritis

<u>Agent</u>	<u>Nos. positive</u>	<u>Percent</u>
Rotavirus (using ELISA):	93	55
Esch. coli (ST/LT positive)	18	11
Vibrio Cholerae	11	6
Shigella	11	6
E. coli + Rotavirus	2	-
Cholera + Rotavirus	2	-
No organism isolated	33	19
<hr/>		
Total	170	

TABLE - 2

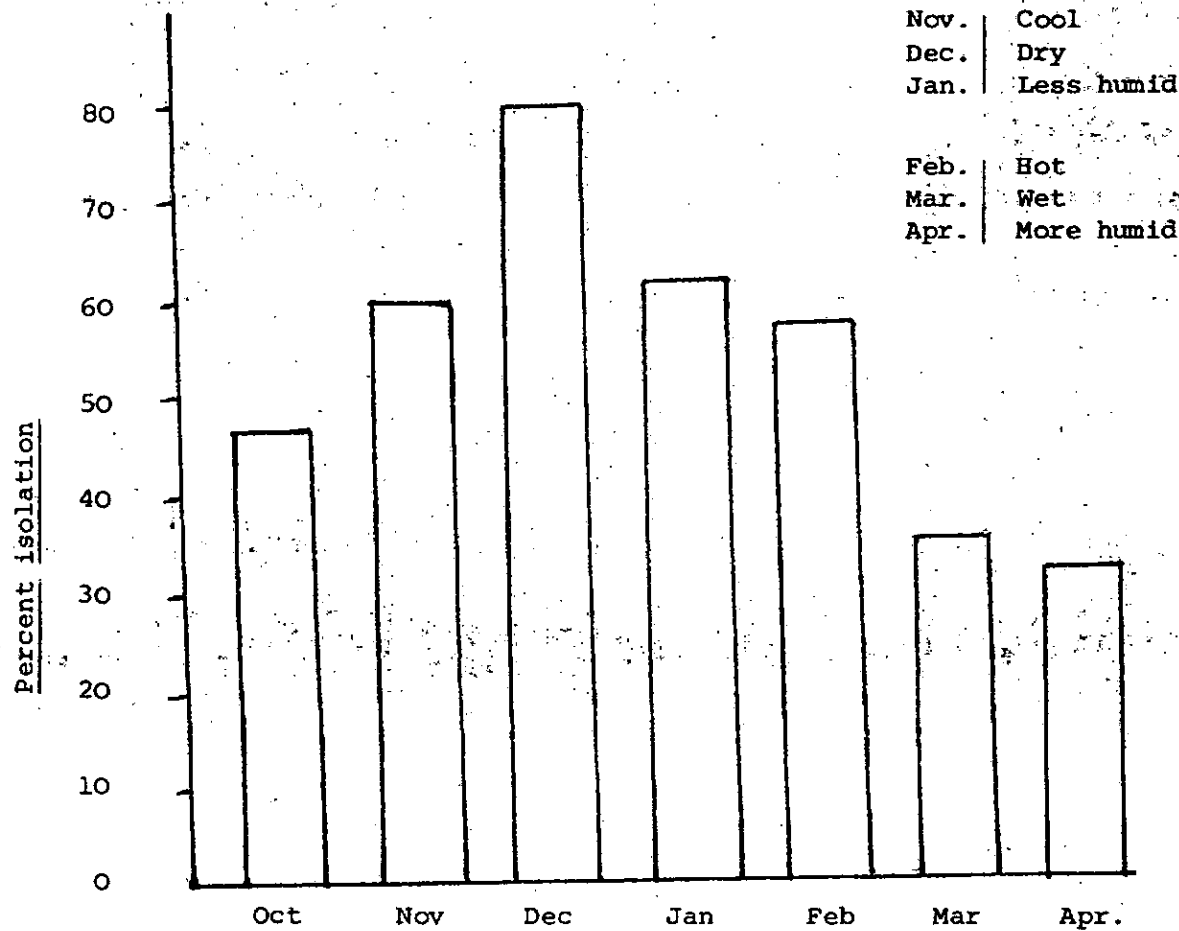
Age and sex distribution of Rotavirus and other patients

	Age, in months (Mean \pm SD)	Male	Female	Total
Rotavirus (n = 93)	12.1 \pm 6.1	62 (54%)	31 (54%)	93
E. coli (n = 18)	15.2 \pm 9.4	9 (8%)	9 (8%)	18
Cholera (n = 11)	21.1 \pm 14.0	6 (5%)	5 (16%)	11
Unknown (n = 33)	17.0 \pm 11.0	23 (20%)	10 (18%)	33

TABLE - 3

Age specific incidence of Rotavirus infection in children under
5 years of age admitted to ICDDR,B hospital during
October '81 - June ' 82

Age in months	Total Nos. tested	Nos. positive	Percent
0 - 6	16	9	56
7 - 12	102	63	62
13 - 18	24	15	62
19 - 24	15	4	27
24 - 36	9	2	22
36 above	4	0	0



Bar chart: Showing monthly isolation of Rotavirus in Dacca,
October 1981 - April 1982.

DIARRHOEA STUDY PROGRAMMES IN KENYA

by

DR. L.N. MUTANDA

ROTAVIRUS SEROTYPING

Serotyping of rotaviruses isolated from Bangladesh and Kenya was undertaken by Dr. Zissis, Hospital Universitaire, Belgium last year. A preliminary report of the strains from Bangladesh was published in the Lancet Vol.1:944, 1981. From the first batch of specimens collected over a period of one year from out-patient children, it seemed that rotavirus type 3 was the most frequently encountered in Dacca. May be a full report has been sent to the Director, ICDDR.B.

In Kenya, the stool samples which were collected from both in and out-patients during 1976-77 were mailed to Dr. Zissis. He did the typing, and the results are given in Table 1. It can be seen from the figures that type 3 was again the most commonly isolated during that time. The results were interesting in a way. According to Dr. Zissis, in Belgium where they have run a longitudinal study over a 3 year period (1978-1981) in out-patients, they found that the three subgroups or types of rotaviruses were equally present in the population.

Fortunately enough, before I got the results from Dr. Zissis I had already started a surveillance study of rotavirus infection in children from middle and high social income groups attending an out-patient clinic. These children belong to different races, live in scattered residential areas in Nairobi. ~~But~~ Some isolates from these children are being typed and the results are to be compared with those which will come from children being admitted to hospital (Kenyatta National Hospital) for acute diarrhoea. In this report the number of specimens collected from each race and the percentages positive for rotavirus are given in Table 2. So far there is no difference in the incidence of rotavirus infection in children of different races living in similar conditions. More children are being examined to establish this observation and more important,

to know the incidence in different age-groups. In my previous study, I found that rotavirus infection peaked in the 0-6 months age-group. Dr. Makino has confirmed my results by studying children in Nyeri and Mombasa. It would seem that rotavirus infection in African children peaks in a different age-group from what has been reported in temperate and other sub and tropical countries. There is, therefore, a need to establish this factor in a community-based study in Kenya and set the age at which vaccination against rotavirus can begin.

Clinical Study of Children admitted with Diarrhoea to
Kenyatta National Hospital:

A study aimed at defining the clinical features of children admitted to hospital with acute diarrhoea was undertaken with emphasis on the role of individual rotavirus serotypes in causing diarrhoea of varied severity. Isolations of rotavirus from cases and controls is given in Table 3. Isolates are due for serotyping by Dr. Zisis. The occurrence of serotypes in hospitalized children will be compared with that of the out-patients which are being collected at the same time. Another important aspect of this study is to establish the seasonal variation of rotavirus infection. From my previous study and that of the Japanese, it seems that infection has two peaks which are somehow different from what has been observed in other temperate and sub and tropical countries. This also calls for another study confined to a certain community. In other words, rotavirus infection in Africa may present a different picture from that already known from other countries. This point should be considered seriously by the committee. Studies in Bangladesh alone cannot answer such questions.

TABLE 1 STOOL SPECIMENS FROM NAIROBI (Dr. L.N. MUTANDA).

Total number of specimens : 266

Number rotavirus positive : 68 (ELISA ASSAY).

Determination of subgroup specificity :

Subgroup 1	:	1
Subgroup 2	:	6
Subgroup 3	:	38
Undetermined*	:	23

Total	:	68
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*i.e. Not typable due to lack of virus material

Table 2.

ISOLATION OF ROTAVIRUS FROM CHILDREN
OF DIFFERENT RACES.

Race	Number examined	Number positive	Percent positive
Whites	70	18	25.7
Africans	33	9	27.2
Asians	31	10	32.2
Arabs	5	2	40.0
Japanese	3	-	-

Table 3.

ISOLATION OF ROTAVIRUS FROM CHILDREN ADMITTED
WITH DIARRHOEA TO KENYATTA NATIONAL HOSPITAL.

Cases		Controls
No. tested	132	9
No. positive	35	1
Percent positive	27	Not done

Rotaviruses were detected by use of immuno-fluorescent technique (FA), using tissue culture.

The negative samples will be screened again by ELISA which is more sensitive but not very specific as FA.

SUMMARY

CONTRIBUTION TOWARDS DIARRHOEAL DISEASE CONTROL PROGRAMME OF KENYA GOVERNMENT.

- ICDDR,B:
1. Provided 12 cholera beds .
 2. Purchased 12 hard plastic faecal measuring cylinders and 12 funnels.
 3. Purchased clinical and laboratory request forms.
 4. Sponsored Dr. Kinoti's visit to Bangladesh.
 5. Provided full board to Dr. Wassunna during his diarrhoeal Disease study course in Bangladesh.

Ministry of Health:

1. Provided a vehicle to the group.
2. Purchased syringes and needles, stool and blood containers, buckets, brushes, soap and detergents.
3. Recruited two technologists, one subordinate staff and a driver.
4. Deployed 2 doctors, 2 clinical officers and eight nurses.

DR. MUTANDA'S ACCOMPLISHMENTS

1. Setting-up the Immunofluorescent test for rotavirus.
2. Comparison of the sensitivity of Rotazyme and Immunofluorescent tests in detecting rotavirus antigen. Ended.
3. Investigating the aetiological agents of an out-break of diarrhoea in a pre-mature nursery at Kenyatta National Hospital. Ended, but isolates are being typed by Dr. Zissis. Rotavirus caused death in premature babies.
4. Initiating a surveillance study of rotavirus infection in outpatient children from middle and high class families, and establishing the prevalence of rotavirus sub-groups in that community, and the age of attack in different races. Still active.
5. Screening for the presence of rotavirus antigen in children being admitted for the joint research, using both tissue culture technique and ELISA or Rotazyme tests. Still active. Positive samples are to be sent to Dr. Zissis for serotyping of rotaviruses.

14/BT/JUNE 82

ADDITIONAL "HANDOUTS" AT MEETING

2. Some Suggestions for the Future

SOME SUGGESTIONS FOR THE FUTURE

The Annual Report for 1981 portrays an active organization producing important scientific results of great value to the whole of mankind and contributing to the improvement of maternal and child health in Bangladesh and other developing countries.

Unfortunately the report also contains some very disquieting information. The Financial Report on page 61 shows an operating deficit for 1981 of \$436,924. This is not the true excess of expenditure over revenue for the year. The final deficit for 1981 was \$609,000. (\$1,318,623 as shown in the audited annual report minus additional revenue of \$709,000 for 1981 that was received after the year end)

A quick count of the staff listed in the Annual Report shows 251 names. Of these 215 or 85.7% are from Bangladesh, 17 (6.8%) from the U.S. and 19 (7.6%) from other countries. Even with a substantial deficit this part of the staff grew by 27 (10.8%) due to the addition of 48 new recruits and the loss of 21. The net gains consisted of 24 from Bangladesh, none from the US and 3 from elsewhere. These figures indicate that an organization that was already too big for its budget was allowed to grow in the face of a serious deficit and that the process of internationalization is faltering.

In its new international form responsibility for the success of ICDDR,B rests squarely on the Board of Trustees. The results in the Annual Report indicate that the Board is not being entirely successful in carrying out its very difficult responsibilities. A restructuring of the Board's Committee structure and meeting schedule would certainly facilitate more effective action by the Board.

The present Committee structure should be replaced

by two active committees with every Board member serving on one or the other but not both.

A Personnel and Financial Committee, ordinarily chaired by the Chairman of the Board, would deal with all financial and budget matters and personnel policy. It would have a Selection Subcommittee to deal with specific appointments or promotions. This Subcommittee would co-opt appropriate scientists from the Board or elsewhere to deal with the most senior appointments.

The Program and Planning Committee composed mainly of the scientific members of the Board would conduct an annual overview of the Centre's program and would plan and co-ordinate the periodic external reviews. Probably its most critical task would be to scrutinize new projects to see whether they were compatible with the Centre's mission and how they might be fitted in from the point of view of staff and resources. Their views would then be discussed with the Personnel and Financial Committee before inclusion of any new activity in the budget.

Present Board meetings are too short to be effective especially since papers are often not pre-circulated. One main meeting of the Board each year plus one or more meetings of each Committee would be more effective. If the present pattern of June and December meetings is retained the June meeting would be preceded by meetings of both Committees. The Program Committee meeting would probably extend over several days and would include discussions with the scientific staff and site visits. The Personnel and Financial Committee would need two days. The two Committees would then combine for a two day meeting of the full Board.

In December the Personnel and Financial Committee plus the Chairman of the Program and Planning Committee, but not the full

Board, would meet thus saving on travel costs.

At its December 1982 meeting the Personnel and Financial Committee would review the financial outlook for the 1982 year end - would receive from the Associate Director of Resources Development the latest revenue forecasts for 1983 and 1984 - would make final adjustments in the 1983 expenditure budget and would set the general scale of operations for 1984.

At the June 1983 meeting the Personnel and Financial Committee would examine the year end results for 1982, review the outlooks for the remainder of 1983 and approve a preliminary 1984 budget for Board approval. Throughout the budget process the views of the Program and Planning Committee, especially on priorities between programs, would be presented by its Chairman.

Such a budget cycle is essential since severance costs are so high, and rightly so, that staff reductions must be planned at least a year in advance.

The senior levels of staff must also be strengthened. The Associate Director, Administration and Finance requires two more senior (international) positions - one for the Personnel Officer and one for the Administrative Services Officer.

The Director should have an Assistant for Planning who would be Secretary of the Program and Planning Committee. This need not be a very senior position but the grade should be adequate to attract a first class young planner.

All of these changes will merely set the stage for the main actors - the three, four or five world class scientists who will lead their teams to success. Most of them will be relatively young.

will not stay more than a few years and will be recruited from world leaders in their fields regardless of nationality. Finding, recruiting and keeping them is the most important and never ending task for the Director assisted by every member of the staff and of the Board. When money is short less important activities in the Centre must be ruthlessly cut in order to keep funds available to hire these leaders. The world-wide reputation of CRL and of ICDDR,B rests on past successes in attracting outstanding scientific leadership. The future depends upon continuing this record.

The existence of large and costly (to operate) facilities at Dacca, Matlab and Teknaf exerts a strong influence toward continuity of programs. This tendency can be balanced by bringing in new leaders on term appointments and giving them considerable autonomy in developing their own ideas and even in helping to sell them to new donors.

A new system of full costing for projects must be introduced to avoid the erosion of core funds and to provide preliminary funds for the development of new ideas into fully fundable projects. More vigorous efforts must be made to seek specific project funding for existing activities such as training that now make serious demands on core funds.

ICDDR,B is like a small squadron of expensive and complex aircraft. They require a large staff of skilled and dedicated people in a well run organization to keep them ready to fly. But without skilled pilots they are useless. Unskilled pilots can quickly wreck them and even the best squadron leader cannot do all the flying himself.

Dacca

June 13, 1982.

O.M. Solandt.