



Glimpse

international centre for
diarrhoeal disease research, bangladesh

NEWSLETTER

ISSN 0253—7508

Volume 6

Number 5

September—October 1984

CONSULTATIVE GROUP MEETING HELD

THE FIFTH MEETING of the ICDDR,B's Consultative Group, held in Geneva, was attended by 21 countries and donor agencies, with Norway and Italy attending for the first time. The meeting, on June 5, 1984, was led by William T. Mashler, Senior Director, Global & Interregional Projects Division, UNDP, New York. ICDDR,B plans and programmes were discussed, and several donors announced financial support. Photographed at the session were (from left): Dr. F. Assad, WHO; Mr. M. R. Bashir, ICDDR,B; Dr. W.B. Greenough, III, ICDDR,B; Mr. Mashler; Dr. J. Kos-trzewski, ICDDR,B Board of Trustees Chairman; and representatives from Sweden and the Aga Khan Foundation.



ICDDR,B DURING 1983 (Part-II)

In the last "Glimpse" our account of 1983 ICDDR,B activities ended with a short description of the Matlab field trial area, and a still briefer mention of the Centre's other, smaller field area, at Teknaf. These areas support much of the Centre's scientific activities, carried out under the auspices of five basic divisions called "working groups." One of these, "Community Services Research" (CSR), oversees the Matlab field research area, its critical Demographic Surveillance System, and its very successful Maternal-Child Health/Family Planning (MCH/FP) project. The CSR group also oversees research in two Upazilas (counties), Abhoynagar and Sirajgonj, where CSR staff are collaborating with government officials to improve health and family planning services.

Moreover, the CSR group intimately works with the other research groups, because it provides the basic field study facilities for much of the Centre's research.

Finally, the CSR group is in charge of an Urban Volunteers training program. Begun in 1981, the project aims to prevent and treat diarrhoea within Dhaka area communities, thereby reducing the numbers of patients coming to the IC-

DDR,B's main treatment centre. The programme teaches illiterate and semi-literate slum women to work as diarrhoeal disease volunteers in their own communities.

Training for two weeks in batches of 15, the women learn about general hygiene and nutrition, about how to treat most diarrhoeal dehydration with ORT, about how to spot dehydration severe enough to require hospitalization and about diarrhoea prevention, including intensive training in good nutrition and hygiene practices. The programme includes considerable practical experience at the ICDDR,B's Dhaka Treatment Centre.

The volunteers take this extended treatment back to their own communities. There, in addition to dispensing a total of about 4,000 ready-made ORS packets a week, they also provide soap and vitamin A, as well as give mini-lectures they practiced at the Centre, on hygiene and nutrition.

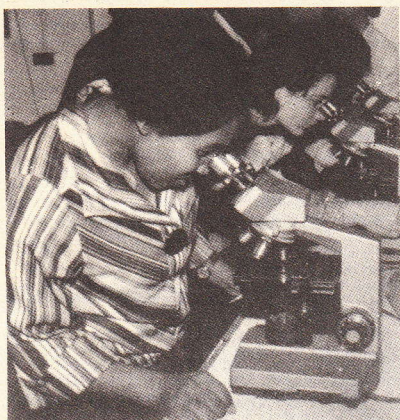
Finally, in 1983, the project's activities were expanded. Aided by Volunteers and project staff, the urban slum communities were encouraged to assess their own water and sanitation sources and needs, and to take action for improvement.

In 1983, there were a total of 600 active Urban Volunteers, working in 15 of Dhaka's 18 districts.

The second working group is "Pathogenesis and Therapy," which attempts to understand the diarrhoeal disease mechanism and to use such knowledge to improve diarrhoeal disease treatment and prevention. Next comes "Disease Transmission," which seeks to learn more about diarrhoea's spread, as well as how the disease-causing agents survive in the environment, how they interact with their human and environmental hosts, what causes them to re-emerge at certain times of the year, etc. Such knowledge can help intercept and contain the diseases' spread.

The goal of the fourth group, "Host Defense," is to understand the immune response to diarrhoeal diseases, and to devise diarrhoeal disease preventives, by bolstering the body's defenses, using vaccines and other means. Finally, the aim of the "Nutrition" group is to study the relationship between nutrition and diarrhoea, to unravel the vicious cycle of diarrhoea/malnutrition, and to devise ways of improving nutrition in diarrhoea patients. This group runs the Teknaf field facility.

Training, Extension & Communications



TRAINEES from all over the world come to the ICDDR, B.

The Centre also maintains a large Training, Extension and Communications branch, whose aim is to meet one of the ICDDR,B's major objectives: to

transfer the knowledge and experience gained here to countries with similar problems.

Training & Extension

Vigorously pursuing one of its major goals, the Centre in 1983 provided a diverse range of training courses, lectures, seminars, conferences and workshops—taught by experts of international stature from around the world.

Benefitting from this ever-expanding Centre effort were 1,856 (up from about 1,000 in 1982) researchers, doctors, nurses and health personnel from Ban-

gladesh and 48 other countries, mostly developing ones.

The "students" were trained in many technical and research aspects of diarrhoeal disease prevention, diagnosis, treatment and cure, so they could return home able to train others—thereby multiplying the ICDDR,B's outreach endeavours, resulting in widespread effective services.

International Training

*Two courses and two workshops, attended by 45 persons from 45 countries.

*Two inter-regional courses, run in collaboration with WHO and attended by 23 "students" from 21 nations. The aim: to increase clinicians' treatment and management abilities, so they could aid their own countries' diarrhoea control programmes.

*Two major workshops. The first, in cooperation with UNICEF and attended by 25 researchers from 20 countries, sought to measure the health impacts of water/sanitation projects, and to

make recommendations. The second, on the effects of a large water project in rural Bangladesh, was run in concert with UNDP, and attracted 53 researchers from 19 countries. Its aim: to plan a long-term multi-discipline research undertaking.

*A workshop for clinicians, organized in cooperation with WHO; and a conference, where research findings and experiences were discussed, co-sponsored by the National Institute of Cholera and Enteric Diseases (NICED), Calcutta, India.

In other activities:

*The Centre continued to aid Bangladesh's National Oral Rehydration Programme (NORP), by supporting training courses for Village Volunteer Health Workers; and having NORP personnel both teach at some ICDDR,B training sessions, and arrange field visits for Centre students.

*Various aspects of diarrhoeal diseases, including management, pathology, and epidemic control, were covered by 15 training courses and two workshops, attended by 367 persons from Government and national health-related organizations. Another 1,322 Bangladeshis benefitted from short-courses and individual study.

*A total of 22 fellowships were provided—6 to Bangladeshis and 16 to research trainees from 10 other countries: China, Egypt, France, India, New Zealand, Nigeria, Sri Lanka, Sweden, USA and Yemen.

National Training

In a major endeavour to help the Bangladesh Government establish a National Diarrhoeal Diseases Control Programme, the ICDDR,B initiated a broad-ranging effort.

Thus, with some support from the Ford Foundation, the Centre ran eight short-courses attended by 125 Government medical officers and paramedics from 19 districts. Taught were such epidemic control measures as disease identification, prevention, treatment and reporting procedures.

Returning to their districts in time for the annual diarrhoea epidemic period, the trainees both used what they had learned and taught other medical officers. These latter officers, in turn, organized for village leaders training sessions aimed at educating the masses about ORS use and epidemic-related measures.

In another part of the effort, the Centre sent medical supplies and 20 medical teams, consisting of a physician, epidemiologist and microbiologist, to affected areas, to help Government personnel combat the outbreaks. Moreover, two Centre physicians were deputed to the Government's epidemic emergency control post, to help gather correct information about on-going epidemic eruptions.

Furthermore, 23 Government physicians and three senior health officials received intensive two-day training. And, finally, the Centre began one-year training courses for 18 Government clinicians and pathologists.



HEALTH PERSONNEL from all levels of the Bangladesh health care system are trained every year, in the management, diagnosis and prevention of diarrhoeal diseases, during epidemic and non-epidemic situations.

Scientific Conferences & Workshops

Periodically, the Centre has convened a conference or workshop to explore, several years in advance, research areas which may need emphasis or a new direction. For such events, leading scientists in the pertinent fields have met in Dhaka, usually for a week or more, to review the state of the art, and to discuss new directions. The highlights:

- 1981—Conference on Experimental Cholera Vaccines
- 1981—International Conference on Shigellosis
- 1983—International Workshop on Measuring Health Impacts of Water and Sanitation Programmes
- 1983—Workshop on the Effects of a Large-Scale Water Control Project in Rural Bangladesh

In 1983, the Centre published the results (250 pages) of the *Shigella* Conference, the first of its kind. Already, some of the research ideas and directions suggested have been imple-

mented—both by the ICDDR,B, which has begun giving increased attention to *Shigellae*-caused diseases called "shigellosis," and by researchers in other places.

Thus, nearing completion are studies, in animals and humans, that will better define the extent and mechanism of shigellosis. Moreover, epidemiological and intervention studies are underway; new anti-shigellosis vaccines are nearing the stage for field testing; and dysenteric illnesses usually caused by *Shigellae* have been shown to be related to a prior measles attack. Also, malnutrition and failure to grow in children have been correlated with shigellosis.

Still, given the extent and severity of the disease and the many related problems, much research remains to be done. An important example: since *Shigellae* are becoming increasingly antibiotic-resistant, and the disease is an intestinally "invasive" one of prolonged nature whose debilitating and deadly dehydration currently only can be treated with ORS, other therapeutic measures must be found.

Training Materials

In an important innovation, Dr. W.A. M. Cutting, an ICDDR,B consultant from the University of Edinburgh, Scotland, partially edited the overall curriculum materials used to teach students at Bangladesh's medical colleges; and compiled these materials into learning modules on diarrhoea.

Each module is expected to be incorporated into the normal medical school curriculum, rather than presented as a separate unit on diarrhoea. Hence, the modules have been divided into subject chapters: physiology, microbiology, pathology, etc.

The new modules will be evaluated in a medical faculty workshop, scheduled for August 1984, with final revision slated for year's end.

Staff Development

In an effort to upgrade their competence, 130 ICDDR,B staff members from diverse disciplines were trained, 14 of them overseas, 15 at Bangladeshi institutions, and the rest in in-house programmes.

Communications

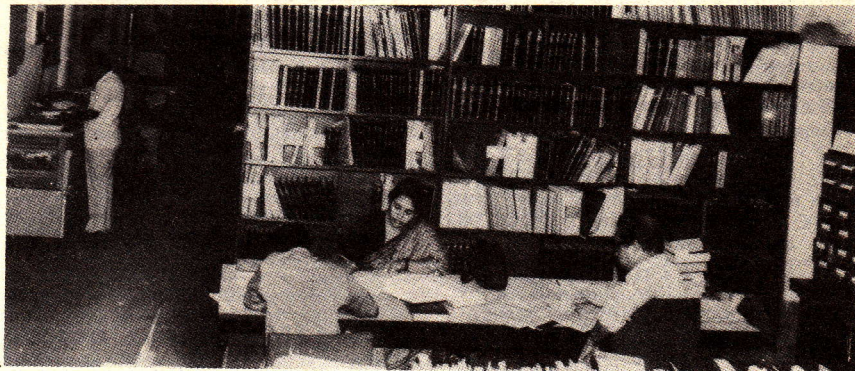
Enhancing its efforts to share its expertise as widely as possible, the ICDDR,B in 1983 broadened the activities of DISC—the International Diarrhoeal Disease Information Service and Documentation Centre—the world's first clearing house solely devoted to disseminating information on diarrhoeal diseases.

As a major part of this effort, the Centre published the first two issues of a new quarterly "Journal of Diarrhoeal Diseases Research"—the first international endeavour of its kind. Edited and contributed to by research experts from around the world, the JDDR contains original scientific papers; and an annotated bibliography of published and unpublished diarrhoeal disease-related research papers from Asia.

The JDDR is off to an excellent start. It enjoys an early subscription total of about 160 individuals and institutions in 40 countries, and unanimous praise from readers whose opinions were solicited. Moreover, it already is being indexed and abstracted by *Excerpta Medica*. Finally, in a promotional effort, about 3,700 complimentary copies of the JDDR have been distributed.

The JDDR is part of DISC, which began in 1982, and has been financed for three years by IDRC (International Development Research Centre), Canada. DISC collects, organizes, analyzes and disseminates pertinent literature, to help speed up use of new practices, so that researchers and health practitioners can help achieve the ultimate goal: diarrhoeal disease prevention and control.

Included in DISC are a question-and-answer service; publication of speciali-



THE ICDDR,B library, every year is used by more than 3,000 researchers, teachers and students from outside, as well as by ICDDR,B personnel.

zed annotated bibliographies, as well as a Directory of Asian Scientists; and provision of reprints and microfiches. By the end of the year, DISC had enrolled 41 individuals and organizations from 20 countries as members.

Finally, in 1983, at the advice of the Centre's Board of Trustees, DISC began an inventory of diarrhoeal disease-related research, completed or in progress in Bangladesh, for use by the Standing Committee of the ICDDR,B's Programme Coordination Committee.

In other communications efforts, more than 33,000 copies of "Glimpse," the ICDDR,B's bi-monthly research newsletter, were distributed free to scientists and scientific organizations in 144 countries. Contained in "Glimpse" are descriptions of diarrhoea-related research at the ICDDR,B and at other developing world institutions; summaries of other major ICDDR,B acti-

vities, papers and publications; and notices about forthcoming conferences, meetings, etc.

Moreover, the Centre produced two important publications: the proceedings (250 pages) of the world's first (and important) conference on shigellosis, a major dysenteric-type diarrhoeal disease; and Volume 11 (60 pages) in a series of reports on the Matlab DSS.

As in the past, most of these ICDDR,B publications were distributed free to most Bangladeshi health-related institutions and libraries, either as donations, or under exchange programmes.

As for the ICDDR,B's library, 3,418 outside researchers, teachers and students used the facility. Besides access to 478 current journals, 15,471 books and bound journals, and 7,835 reprints and other documents, the library provided a national and international inter-library cooperation and loan service.

BOARD OF TRUSTEES

At both its June and November meetings, the Board of Trustees once again focused on the Centre's diverse, complex financial affairs, after considering in-depth reports from its own Fi-

nance Committee and the ICDDR,B's Associate Directors for Resources Development and for Finance and Administration.

Finances

The Budget—Noting a "very uncertain financial climate," in which some donors' priorities are moving away from international health and related research, the Board approved a conservative, belt-tightening fiscal 1984 Centre budget of US\$ 6.2 million. However, there was an important qualification, which might lead the Board, in June 1984, to increase available spending money by \$ 300,000.

This depended on two things: whether the Bangladesh Government will agree to convert, from a one-year interest-free loan to a grant, \$ 1.1 million accruing from residual funds in the defunct U.N. Relief Operations in Bangladesh (UNROB); and whether, with this, the Centre will achieve its fiscal 1984 income forecast of \$ 7.4 million.

In May 1983, as agreed to by the Government, the Centre received the loan, to be used exclusively for health services in Bangladesh. The Board accepted the money with "deep appreciation," and asked the Government to make it a grant—as it is being used only for Bangladesh's benefit, and as the Centre will face "serious financial difficulties" if it must repay it. The Board said that, should the Government agree, and should the Centre reach its \$ 7.4 million income forecast, the \$300,000 expected from other sources would become available for equipment purchase and additional staff.

Overdrafts—The director was authorized to accept an overdraft limit from American Express/Dhaka of \$1 million; and to use this as he sees fit, up to a \$400,000 limit. Over that, the Board Chairman must approve.

Other Issues

Staffing—Extensively considering staff recruitment, promotion and related issues, the Board agreed to follow WHO policies. It decided that, to demonstrate the Centre's international character, a geographical distribution system for recruiting international staff, like that of WHO, will be established. Guidance will come from the way the Board itself is chosen.

1. International positions will be filled by contracts of up to three years, with tenure ordinarily not to exceed six years. The Board must approve all such appointments.

2. For all such posts without exception, country of citizenship will be the basis of contracts. In dual nationality cases, country of citizenship plus domicile will be used.

3. Any position to be upgraded must be advertised, international ones in international media. This will prevent "creeping promotion" or elevation beyond a person's capabilities.

4. A staffer whose post thus is upgraded must compete with other applicants. If successful, he or she will be promoted; otherwise, the choice will be to resign or to be reassigned.

5. The Director was asked to rank, by priority, all new and vacant positions. Twenty-one international posts were listed.

6. The Board agreed to the hiring, within budget limitations, of 15 candidates for international positions; 14 researchers and a personnel administrator.

PCC—Considering at length the important Programme Coordination Committee (PCC) established in 1982, the Board said the PCC can play a key role in "linking an outstanding international effort with national ones." It said the PCC's goal is to pioneer in helping build,

strengthen and coordinate Bangladeshi research capabilities by example and supportive action; and that this may provide a useful model for other developing countries.

External Reviews—Considering the Centre's recent external review history, and seeking to implement in 1984 the two-year mandatory review, the Board decided that a detailed review shall be done of two Centre programmes which enjoy "sufficient staffing continuity to utilize, implement and benefit from recommendations of an in-depth review." The programmes are Nutrition, and Pathogenesis and Therapy.

As to the External Review Committee, the Board named six reviewers for 1984, said the ERC should have "great freedom to describe and analyze Centre programmes;" and defined the ERC's goals: critical analysis of research, and "guidance of the research effort toward realistic, pressing public health questions in developing nations."

Vaccine Trial—The Director was told to initiate steps leading to a field

Tighter Controls—To improve internal controls, it was resolved that only the Director, Associate Director for Administration and Finance and the Comptroller may handle bank matters.

Retirement Plan—Considering diverse, complex options for a Staff Retirement Plan, to replace the Provident Fund which was closed Dec. 31, 1983, the Board instructed the Director to implement on Jan 1, 1984 a Fixed Income Plan, offered by AIRCO (American International Group). Eligible are all full-time staff with a minimum one-year contract. PF participants were able to withdraw or transfer their savings into a credit union.

WHO Pay Scales—The Board noted that complete compliance with WHO pay scales has been achieved, except for some project staff. It was estimated that such conversions for existing project staff would lead to cost overruns of about \$70,000. The Board said that;

a. All future projects should be budgeted according to WHO scales with contingency for increases;

b. As soon as financially feasible, all project staff should go on WHO scales.

trial for an oral cholera vaccine—steps which include study of the financial aspects and ERC processing. It was emphasized that Government and WHO concurrence is indispensable, and that close Government liaison must be maintained.

Board Membership Changes—The Board welcomed four new members, re-elected another, changed its Chairman, and expressed gratitude to out-going members. Those leaving were: Dr. C.W. Jones, Mr. M.K. Anwar, Dr. H.S. Al-Dabbagh and Prof. J. Holmgren. Reappointed was Dr. J. Sulianti of Indonesia. Prof. J. Kostrzewski of Poland replaced Dr. David J. Bradley as Chairman.

New members were: Dr. Immita Cornaz of Swiss Development Cooperation and Humanitarian Aid; Dr. Abdul Rahman Al-Swailem, Deputy Minister of Health, Saudi Arabia; Prof. Derrick Rowley, Dept. of Microbiology and Immunology, University of Adelaide, Australia; and Mr. A.B.M. Ghulam Mostafa, Secretary, Bangladesh Ministry of Health and Population Control.

MANDATORY COMMITTEES

To coordinate research to prevent actions prejudicial to Bangladesh's research interests in similar fields; and to ensure an ethical review process, the

ICDDR,B Board of Trustees has established several ordinance-mandated committees.

Programme Coordination Committee (PCC)

To coordinate, strengthen and facilitate research efforts by Bangladeshi organizations, a major ICDDR,B endeavour, the Board of Trustees in December 1982 established a Programme Coordination Committee (PCC). The PCC has 30 members: four from the ICDDR,B and the rest from leading Government and private science, health, rural development, education, nutrition and popu-

lation-related Bangladeshi institutions. The ICDDR,B has long-standing programmes with most of these organizations, cooperating with them in research and training.

To facilitate and make more efficient the parent committee's work, the PCC also has a 13-member Standing Committee, whose members come from the PCC itself.

In 1983, the PCC met twice, and did the following:

- *Considered collaborative programmes in both training and research; and suggested that more effort should be made to strengthen such programmes;

- *Suggested ways of strengthening national research institutes' potentials in diarrhoeal disease research and related subjects;

- *Suggested that the services of ICDDR,B Visiting Scientists should be utilized to the utmost, to share knowledge with other research organizations;

- *Decided that the ICDDR,B should help Government efforts to manage and control diarrhoeal diseases during epidemics, and to educate rural people about diarrhoea preventive care. (This already has been implemented).

As to the PCC itself, it is designed to advise the ICDDR,B's management and Board of Trustees, regarding research on diarrhoeal diseases and the related subjects of nutrition and fertility, and to:

- Establish links between international and national efforts;

- Recommend means of assisting in building national research capacities;

- Constantly endeavour to strengthen and coordinate research in the areas of ICDDR,B expertise;

- Identify any undesirable research overlaps between the Centre and national institutions;

- Mediate any inter-institutional controversies over undesirable research overlaps and competition;

- Maintain a running inventory of diarrhoea-related research and scientific personnel, for both the ICDDR,B and pertinent national institutions;

- Train qualified staff of national institutions to prepare research protocols; and, where appropriate, help them obtain funds for approved research protocols for collaborative projects; provide Centre facilities, where appropriate, for doing such research.

Ethical Review Committee (ERC)

Meeting monthly, the ERC examines and monitors the ethical aspects of research involving human subjects. It has 13 members: three from the ICDDR,B; one from the PCC's Standing Committee; and nine outsiders representing different professions, including one member from the Bangladesh Medical Research Council.

The ERC has a four-member sub-committee. It checks the implementation of ethical principles; audits informed consent procedures that make certain patients know that the quality of medical care would be unaffected if they do not agree to participate in a study; and makes sure protocol procedures are followed.

Research Review Committee (RRC)

The RRC is made up of ICDDR,B researchers, except for one representative from the PCC's Standing Committee. The RRC reviews research protocols—examining their scientific value, significance, feasibility and researchers' capabilities, as well as their relationship to the Centre's objectives and financial means.

RESOURCES DEVELOPMENT

Fulfilling its goal of garnering financial and technical support for the Centre, the Resources Development office

received in 1983 contributions or commitments for a total of US \$6.5 million, from 24 donors.

New Donors

- *The Canadian International Development Agency (CIDA) committed itself to becoming in 1984 one of the Centre's most important donors—by supporting the Demographic Surveillance System, including purchase of a new, powerful computer.

- *UNICEF began long-term collaboration with the Centre—by supporting the training of key health personnel; activities in water and sanitation, health impacts, and development of cereal-based ORS.

- *The Aga Khan Foundation provided seed money for study of cereals other than rice in ORS.

- *The Arab Gulf Fund began supporting the Urban Volunteers Project, training and international fellowships, and basic equipment.

- *The Federal Republic of Germany (FRG) agreed to help support, via a tri-partite arrangement, technical assistance to diarrhoea management programmes in six Southeast Asian nations.

- *Belgium agreed to fund the Urban Volunteers project; and to support traineeships in Belgium, in addition to deputing three scientist/technicians, under its technical assistance programme.

- *France loaned a scientist and support for his work at the Centre, and residual funds from the defunct U. N. Relief Operations in Bangladesh were given the Centre, for its training and free diarrhoeal treatment programme.

- *The Ford Foundation began supporting an epidemic control preparedness project in Bangladesh, that will teach doctors and health officials how to prevent diarrhoeal disease outbreaks.

Continuing Donors

Commitments were renewed by several important donors:

- *Switzerland at an enhanced level; Japan, a new donor in 1982, renewed its support; SAREC of Sweden for another two years of core and project support, including for an oral cholera vaccine trial. Long-time donors Australia and Great Britain renewed their core support.

- UNDP renewed, for a second four years, funding of the Centre's critical basic clinical and immunological research. USAID/Dhaka renewed support for a cooperative project to examine the replicability, within Bangladesh Government health programmes, of the Centre's integrated MCH-FP Matlab effort.

- *Funding was extended for both the Population Council's Operations Research grant, and Canada's International Development Research Centre (IDRC)-supported DISC project.

Collaborative Activities

- *Via the Programme Coordination Committee, collaborative efforts were initiated between the Centre and such national institutions as the Bangladesh National Research Council, the Institute for Post-Graduate Medicine and Research, and the Bangladesh Agricultural Research Council.

- *Similar cooperative efforts were established with three overseas institutions. Collaboration in demography with Australian National University and the French Office de la Recherche Scientifique et Technique Outer-Mer (ORSTOM) will be sim-

ilar to long-standing cooperation between the ICDDR,B and Johns Hopkins University. ORSTOM also has deputed a scientist to the Centre. Also, with the Free University of Belgium, the ICDDR,B will conduct technical, training and scientific exchange.

- *The ICDDR,B Diarrhoeal Control Centre, in Dammam, Saudi Arabia was formally inaugurated. This clinic-cum-laboratory is pivotal to the Centre's technical assistance to Saudi Arabia's Eastern Province. Also, a wide-ranging technical assistance programme to Indonesia was begun, funded by USAID/Jakarta.

- *The Southeast Asian Health Ministers, through the Bangladesh Government, asked the ICDDR,B to establish two-year diarrhoea management programmes. These programmes will be implemented under Technical Cooperation Among Developing Countries. Partial funding will be provided in 1984 by The Federal Republic of Germany.

Consultative Group

The fourth ICDDR,B Consultative Group meeting was held in June in New York, during the UNDP Governing Council. Chaired by the UNDP and attended by 25 delegations, the meeting addressed the Centre's programme and requirements. Proceedings are available.

Capital Development

The new Dhaka Treatment Centre was inaugurated formally in March, by OPEC Fund Director-General Ibrahim Shihata. The Fund has been the biggest contributor to the Centre's Capital Development Programme. Support is being sought for construction of phase two of the new building, and for urgently needed construction at the Centre's two field stations.

MANAGEMENT & ADMINISTRATION

The major issues faced by Management and Administration in 1983 were:

- Implementation of a WHO salary scale and benefits scheme for all staff;

- Establishment of a Staff Retirement Fund;

- Mobilization of cash deposits to the Reserve Fund;

- Setting up a mechanism to replace old and obsolete equipment and appliances.

A review of the Management and Administrative performance during the year showed that:

- The Centre converted all staff members to WHO pay scales and benefits, at a cost of more than US \$1 million;

- A Staff Retirement Plan to be implemented in 1984 was approved by the Board of Trustees;

- By the end of 1983, the Reserve Fund, begun in 1982 had cash deposits of \$400,000;

- \$277,000 was set aside as depreciation. The money will be used to replace old and obsolete equipment, so that the Centre's research activities are not unduly hampered.

With savings generated from cost-cutting measures implemented in 1982 and overall improvements in cost-effectiveness, it was possible for the Centre in 1983 to finance, from its own resources, expansion of various physical facilities in Dhaka and its field stations. As a result:

- The ground floor of the old hospital building was renovated, to provide additional offices for Centre staff;

- Kitchen facilities at the Matlab field station were expanded, to meet increased hospital and field staff requirements;

- A one-story hospital was built on the Centre's land in Teknaf, to provide hospital, laboratory and office facilities for the field station;

- At the Kalir Bazar community treatment centre, work undertaken for extension of the verandah and construction of a septic tank was financed jointly by Australia and the Centre.

Financial Report

The Board of Trustees approved a 1983 operating budget of US \$6.6 million. Total operating expenditures for the year were US \$5,941,392. Com-

pared with Financial Year 1982, operating expenditures in 1983 increased by US \$1,592,610, as a result of:

- *Conversion of all Centre staff to WHO pay scales and benefits from January 1, 1983. This cost more than US \$1 million;

- *Provision of US \$ 277,000 for depreciation, an amount not provided in previous years;

- *US \$ 150,000 spent on the Saudi Arabian project;

- *US \$ 127,000 provided for retro-active salary increase adjustments during 1983 for local general services and scientific-technical-management staff, announced by the UN in January, 1984.

In Financial Year 1983, total donor contributions to the Operating Fund were US \$ 5,276,216. After taking into account other receipts and after writing off exchange losses, net receipts for the year totalled US \$ 5,375,321. This provided an income increase of US \$ 800,895, compared to Financial Year 1982. With Financial Year 1983 expenditures at US \$ 5,941,392, the year ended with an operating deficit of US \$ 566,073. This deficit was funded by US \$ 1,186,080, released by the Bangladesh Government to the Centre as an interest-free loan, from money remaining in the defunct United Nations Relief Operations in Bangladesh.

A COMMUNITY'S EFFORT TO HELP ITSELF (Part I)

When the watery diarrhoea epidemic struck Bhola, a coastal district in Southern Bangladesh, the timing could not have been worse. It was March 24th, the beginning of a three-day holiday commemorating the nation's independence. Rajapur and Ilisha, the two affected unions,* had no local health personnel, and the 10-mile distant district hospital was too far.

As soon as the holiday ended, Abdul Jalil, a 50-year-old Rajapur community leader, sought help from the head of the District Health Services. Three health workers and supplies were dispatched immediately.

The problem, however, was far from solved. For, given the local topography and travel realities, it was virtually impossible for three health workers, no matter how dedicated, to reach in time everyone needing treatment. The reason: the 30-square-mile area is criss-crossed by canals and is bisected by the Ganeshpur River about three miles wide at high tide. The fastest transport is bicycle. Other alternatives are a slow, hand-paddled country boat or walking.

The best solution, the community decided, was to have the sick come to the health workers.

Accordingly, that very afternoon, the "maktab" or religious school next to the Rajapur Mosque was turned into a makeshift hospital. And, to inform area residents, an ingenious plan was devised. Men, beating empty kerosene tins, tramped through the area's villages. They urged people to come for treatment at the first sign of diarrhoea, bringing along two grass mats (widely used

for sleeping), a water jug, a drinking glass, a clay pot for vomitus, and a kerosene lamp.

The next day, four days after the epidemic's onset, another makeshift hospital was opened by community leaders in Majirhat, four miles away and across the Ganeshpur River. Within days, two more hospitals, one on each side of the river, were set up.

During those days, the three district health workers formed the nucleus of a training advisory group, as they took turns visiting the hospitals. At each, they relied on a local leader—usually a well-to-do farmer aged 30-45 with 6-10 years' schooling—who volunteered to take charge. To run the hospitals, the health workers taught a number of volunteers, generally from the same village, to mix and feed oral rehydration solution (ORS), to keep the hospital clean, and to dig waste disposal pits.

However, on April 3rd, when the epidemic had not subsided, the National Health Services Directorate in Dhaka, the nation's capital, became concerned, and asked the ICDDR,B for help. The following day, a 6-physician ICDDR,B medical team arrived in Rajapur. They were the first doctors to arrive on the epidemic scene. Carrying diarrhoea management and diagnosis supplies they visited the four existing hospitals, where they treated patients and helped train volunteers. They also helped open two more makeshift hospitals in the area, and worked in those. The team remained in the area until April 18, when the epidemic subsided and the makeshift hospitals were closed down.

In retrospect, the communities' decisions to open the hospitals—in schools,

any available premises—proved to be the most effective possible action, given available resources. The number of lives thereby saved speaks eloquently of the success. Thus, in the first three days when nothing was done, 25 percent of disease victims died: 29 out of 118. In contrast, though the epidemic gained momentum and more people became ill, from March 28th when the first hospital opened to April 18th when the epidemic subsided, 897 patients were treated and only 8 died, less than one percent. No death occurred at the Rajapur Hospital or at one other. Moreover, on April 12th, when the highest number of daily cases (54) was reported, there were no deaths. Of the 243 patients for whom case histories were recorded, 170 (70%) were treated with ORS alone, and the rest with I.V. followed by ORS.

Finally, a glance at the distances patients travelled to reach the makeshift hospitals is instructive. For the pattern shows that patient attendance dropped with distance. Thus, 89 percent of patients came from within two miles. This finding reconfirms previous ICDDR,B study results: that it is far more effective to have small, simple treatment facilities scattered over an area, than one large, sophisticated hospital.

As to the six hospitals' overall success, it's succinctly summed up by Dr. A.S.G. Faruque, the ICDDR,B training physician who led the 6-member team.

"What those communities did is an incredible testament to what resourceful, dedicated people can do in an emergency situation, with limited trained manpower," he recalls.

*Union: a few villages with about 20,000 people, run by elected officials.

"When we arrived at Rajapur, we were not ready for what we found. The concept of establishing a field hospital had been part of my medical training. However, at Rajapur and neighbouring Ilisha, the communities had not needed medical personnel to tell them what had to be done. They used common sense, and made the most of the available resources.

"The district health workers knew how to use intravenous fluids for the critically dehydrated, and had enough ORS packets from NORP (the Bangladesh Government's National Oral Re-

hydration Programme, financed by UNICEF). However, they achieved much beyond their own power, because they trained local volunteers, enlisted the aid of patients' family members, and won the confidence of local leaders."

The volunteers, he adds, were of diverse backgrounds. Thus, one was the 60-year-old "Imam" (or religious leader) of the Rajapur Mosque. Having performed the last rites for the epidemic's victims during the first three days, he was thereafter ready to do anything else to help. Once the hospitals had

opened, he undertook responsibility for replenishing ORS stocks from the district office 10 miles away, a trip he had to make on foot. In between, he prepared 10-litre batches of ORS in large clay pots, and kept patients supplied.

An interesting sidelight, Dr. Faruque says, was a "personal revelation." "Thus," he recalls, "I long had believed that because rural Bangladeshi Muslim women observe 'purdah' (segregation from males), they would not attend such public health facilities. I couldn't have been more mistaken."

The experience was not only an eye-opener for Dr. Faruque, an ICDDR,B physician since 1976. It also was invaluable for the 4 Government doctors on his team. These doctors are among 14 Government Health Ministry physicians whom the ICDDR,B is training for a year in diverse aspects of managing, controlling and preventing diarrhoeal diseases, in epidemic and non-epidemic situations. Such training is part of the Bangladesh Government's plan to build up manpower for a National Communicable Disease Control Programme. One of the 14 doctors was Sheikh M. Fazle Akbar, 29, whom we will meet in Part II.

a steady stream. By nightfall, the hospital was running well; and the ICDDR,B team and local officials returned to Boalmari to review, the situation with local authorities and to inform Dhaka.

The following morning (May 4th), the team split in half, and, with local cooperation, opened three more hospitals, in communities 5, 7 and 9 miles from Boalmari. By May 11th, 9 makeshift hospitals were operating in the area, and no community was further than two-and-a-half miles from a hospital.

As Dr. Akbar recalls, "Concerted community participation was the most important link. However, to achieve this the people first had to be convinced. They needed to learn how and why a makeshift hospital bettered their chances of survival. We had to explain carefully that health workers can supervise and monitor more patients for a longer time in a central place, making treatment easier, more efficient and reaching more people. Most important of all, they needed to understand that makeshift hospitals help contain the spread of epidemics, almost an impossible task when patients are at home."

To gain local confidence and commitment, Dr. Akbar and his team met first with district officers and then with the chairmen of all 19 Boalmari unions. "As a result," Dr. Akbar says, "the entire atmosphere changed. Community participation became wholehearted and spontaneous, and diarrhoea management activities became easier to organize."

Of interest, was that community leaders not only cooperated, but even took initiatives to solve problems. Moreover, the people too were won over. For example, well-off farmers provided accommodations and food for those working in the hospitals.

The gravest problem was supplies. Stocks were available only at a Govern-



A VILLAGE WOMAN arrives at a makeshift hospital, on a makeshift stretcher made from a door taken off at the hinges and slung from a bamboo pole.

The Bhola Experience (Part II)

As the ICDDR,B medical team returned from Bhola April 18th, another diarrhoea epidemic was gathering strength about 100 miles to the northwest, in the Boalmari Upazila. For two weeks, sporadic diarrhoea cases and deaths had been reported from the 75-square-mile area, but since April 16 the situation had deteriorated into a widespread epidemic.

The local health officer immediately mobilized local resources. He alerted the 5 physicians and 10 health auxiliaries working in the upazila's health complex treatment centre, to accommodate an expected surge of diarrhoea patients. For the outlying areas, he rallied all local field health workers, and formed medical teams (one for each of the 19 local unions), and dispatched them to designated areas with enough supplies. These medical teams visited diarrhoea victims in their homes; and distributed ORS packets, demonstrating its preparation and use. They coordinated with local leaders, who also stocked ORS packets.

Despite these measures, the epidemic raged on, and 7% of the 1,935 diarrhoea victims died between April 16 and May 2, when the national health authority sought the ICDDR,B's help.

The ICDDR,B immediately despatched a 4-member medical team with supplies. The four were among the 14 Government physicians mentioned in Part I, and had been on the Bhola team. Its leader was Dr. Sheikh M. Fazle Akbar.

By 9 a.m. the following morning, the team was reviewing the Boalmari epi-

demio situation with local government health officials. Worst hit was Ghosepur Union, about 6 miles from Boalmari.

The ICDDR,B team proposed to open a makeshift hospital there immediately. The local health officer was pessimistic. He reasoned that, "People will never come to such a hospital, because when they're sick, they want treatment at home."

Having learned otherwise, Dr. Akbar and his colleagues recounted their Bhola experience, and managed to win the confidence of the Upazila Administration Chief, whose broad responsibilities include health matters.

This official found the makeshift hospital concept worth trying, and decided to support the team's plan wholeheartedly. Such local support was a vital first stride forward. Needed next was the equally critical community support, which was partially achieved later that day when the team reached Ghosepur.

There the ICDDR,B team and the accompanying area health officials met local leaders and explained the Bhola-type plan. In the meantime, the area's local medical teams, having been recalled to Ghosepur, learned from Dr. Akbar's team how to run a hospital, and of the need to recruit and train volunteers. Also, local leaders were advised of their roles, and undertook responsibility for both informing residents and providing volunteer aid.

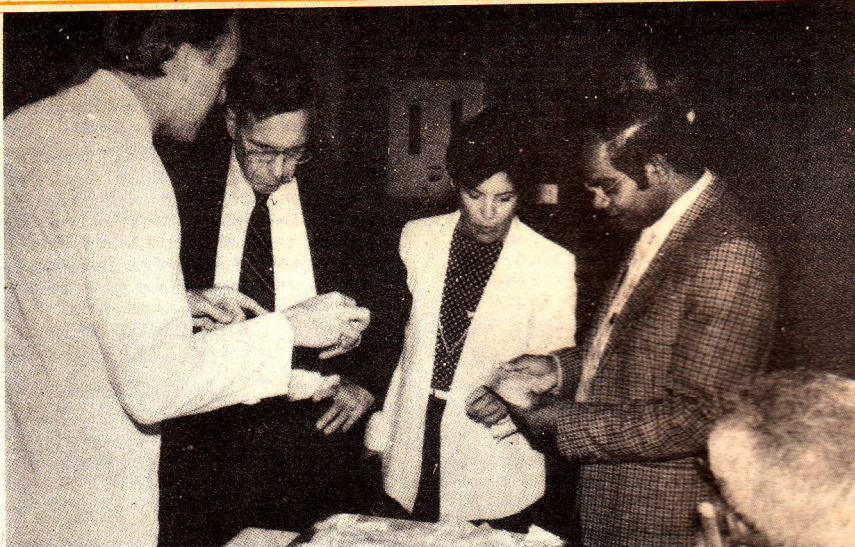
The first of nine hospitals opened that day in the local primary school. Within an hour, five patients came, followed by

ment facility 22 miles away. While a 12-mile stretch had a relatively good road with bus service, the remaining 10 miles had to be covered on foot or by cycle-rickshaw. Moreover, the journey took 8 hours and was very difficult in the incessant monsoon downpour.

To solve this crisis, one Union Chairman started an ORS mixing and packaging unit, and produced enough to ease the situation. Later, chemical analysis of these packets proved them to be of acceptable quality.

As in the Bhola experience, patient attendance in Boalmari showed that 91% came from within three miles of a hospital—thus reemphasising the importance of having treatment facilities, no matter how crude, at regular intervals.

Finally, the Boalmari fatality rates were remarkable. Of the 830 patients who attended 8 hospitals (figures for the 9th were unavailable) only one died—a remarkable 0.014% death rate.



VISITING THE HOSPITAL and laboratory facilities of the ICDDR,B's Dhaka headquarters earlier this year was Howard B. Schaffer, then US Deputy Assistant Secretary of State for Near Eastern Affairs, now U.S. Ambassador to Bangladesh. The U.S. has been a principal donor to both the Centre and its predecessor, the Cholera Research Laboratory, since the latter's inception in 1962.

NOTES FROM ALL OVER.....

ICDDR,B PERSONNEL

Dr. A. K. M. Alauddin Chowdhury, an ICDDR,B demographer, recently was elected president for 1984-86 of the Bangladesh Population Association, at its second National Conference.

Addressing the conference—attended by Bangladesh Government's Prime Minister and Minister for Planning and Commerce—Dr. Chowdhury noted that current population control efforts have failed to reduce the nation's birth rate to an acceptable level. A more drastic population control programme is necessary, he maintained.

"Even if the present population programme recommending a two-child family were to succeed," he said, "by the year 2,000 there would be 135 million people, and by 2,030, 250 million. To curtail such continuous population growth, the two-child family concept seems inadequate. Family size will have to be smaller.

"As a result of 20 years of intensive campaigning for population control," he continued, "one thing can be said with emphasis: everyone in the country now knows at least something about fertility control. However, this knowledge has not been translated into practice widely enough. The biggest block seems to be religious sentiments: God determines family size.

"The best way to overcome this, and to inform people of the existence of religious rules in favor of population control, is to involve, directly in the population control programme, the

ORS MIRACLE SHOWN ON AMERICAN TV

Not long ago, television viewers all over the USA, tuned in to the American Broadcasting Corporation's "20/20" show, viewed a 15-minute segment named the "Next Thing to a Miracle"—the story of Oral Rehydration Solution (ORS). The programme's host, Hugh Downs, told viewers about "an astonishing medical breakthrough that brings children—they could be your children—back from the very edge of death."

Hugh Downs, "20/20" producer Judith Moses and a 5-member crew were in Bangladesh in February. They visited the ICDDR,B's Dhaka and Matlab operations, as well as a place

called Kalirbazar, where the local community and the ICDDR,B collaborated to set up a diarrhoea treatment centre. Over two weeks, the ABC team saw for themselves, and filmed for their viewers, the ORS miracle at work—at the ICDDR,B's Dhaka and Matlab hospitals, at the Kalirbazar community treatment centre and among the urban slum-dwellers of Dhaka.

Hugh Downs had a particular interest in the show, since he is Chairman of the U.S. National Committee on UNICEF'S Board of Directors; and UNICEF is heavily involved in promoting use of ORS worldwide.

Ministry of Religious Affairs and persons who have had a religious education. This may bring about the necessary breakthrough."

At the conference, attended by population researchers from throughout Bangladesh, 50 papers were presented, 9 from the ICDDR,B.

* * *
Mr. Abul Kalam Azad, the ICDDR,B's Public Relations Officer, recently was elected General Secretary of the Bangladesh Public Relations Association, at its 4th National Conference. The inaugural session was addressed by Bangladesh President and Chief Martial Law Administrator Lt. General H.M. Ershad.

Bengali Supplement

Included in this issue is a Bengali supplement, consisting of two parts: a translation of "How a community helped itself," and a step-by-step description of how to establish a makeshift community hospital. This supplement is being mailed throughout Bangladesh. An English translation of "How to Open a Makeshift Hospital" or the Bengali supplement is available on request.

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Published by Dr. K M S Aziz, for and on behalf of the International Centre for Diarrhoeal Disease Research, Bangladesh
G P O Box 128, Dhaka-2, Bangladesh. Telex no. 65612 ICDD BJ, and Printed at Eden Press, 42/A Hatkhola Road, Dhaka-3, Bangladesh.