



UNDP/WORLD BANK/WHO SPECIAL PROGRAMME FOR  
 RESEARCH AND TRAINING IN TROPICAL DISEASES

Geneva, 10-18 July 1987

REPORT OF THE TWELFTH MEETING  
 OF THE RESEARCH STRENGTHENING GROUP (RSG-12)



CONTENTS

	<u>Page</u>
1. INTRODUCTION . . . . .	2
2. SECRETARY'S REPORT . . . . .	4
2.1 Matters Arising from Meetings of STAC-9 and JCB-10 . . . . .	5
2.2 Report of the Meeting of Directors of RSG-Supported Institutions . . . . .	5
3. FUTURE STRATEGIES FOR STRENGTHENING NATIONAL RESEARCH CAPABILITIES RELATED TO THE TDR TARGET DISEASES . . . . .	6
3.1 Institution Strengthening . . . . .	6
3.2 Research Training . . . . .	10
3.3 Workplan for 1988-89 . . . . .	12
3.4 Collaboration with the Rockefeller Foundation, USA . . . . .	12
4. ETHICAL CLEARANCE OF PROPOSALS SUBMITTED TO THE RESEARCH STRENGTHENING GROUP . . . . .	14
5. INSTITUTION STRENGTHENING IN SOCIAL AND ECONOMIC RESEARCH ON TROPICAL DISEASES IN ENDEMIC COUNTRIES . . . . .	15
5.1 Need for Strengthening . . . . .	15
5.2 Objectives of Strengthening . . . . .	15
5.3 Process of Strengthening . . . . .	15
5.4 Long-Term Plan . . . . .	16
5.5 Action for 1988-89 . . . . .	16
6. BUDGETARY MATTERS . . . . .	16
7. CONSIDERATION OF PROPOSALS FOR RENEWAL . . . . .	17
7.1 Renewal of Long-Term Support Grants . . . . .	17
7.2 Renewal of Degree Courses . . . . .	23
7.3 Institute of Pathobiology - 810009 . . . . .	26
7.4 Kuala Lumpur - 770410 . . . . .	27

This report contains the collective views of an international group of experts convened by the UNDP/WORLD BANK/WHO SPECIAL PROGRAMME FOR RESEARCH AND TRAINING IN TROPICAL DISEASES (TDR). It does not necessarily reflect the views of TDR/WHO. In the interests of rapid communication it has been submitted to only minimal editorial revision. Moreover, any geographical designations used in the report do not imply the expression of any opinion whatsoever on the part of TDR or WHO concerning the legal status of any country, territory, city or area or of its authorities concerning the delimitation of its frontiers or boundaries.

Ce rapport exprime les vues collectives d'un groupe international d'experts réuni par le PROGRAMME SPECIAL PNUD/BANQUE MONDIALE/OMS DE RECHERCHE ET DE FORMATION CONCERNANT LES MALADIES TROPICALES (TDR). Il ne représente pas nécessairement les vues du TDR/OMS et, en vue d'une diffusion accélérée, il n'a pas été l'objet d'une mise en forme particulièrement soignée. En outre, les noms géographiques utilisés dans le présent rapport n'impliquent, de la part du TDR ou de l'OMS, aucune prise de position quant au statut juridique de tel ou tel pays, territoire, ville ou zone, ou de ses autorités, ni quant au tracé de ses frontières.

8.	CONSIDERATION OF NEW PROPOSALS . . . . .	27
8.1	New Long-Term Support Grants Recommended for Approval . . . . .	27
8.2	New Capital Grants Recommended for Approval . . . . .	28
8.3	New Short-Term Support Grants Recommended for Approval . . . . .	30
8.4	New Re-entry Grants Recommended for Approval . . . . .	32
8.5	Special Cases . . . . .	32
9.	REVIEW OF FINAL REPORTS FROM INSTITUTIONS WHICH HAD COMPLETED LONG-TERM SUPPORT GRANTS . . . . .	33
9.1	Centre universitaire de Formation en Entomologie Médicale et Vétérinaire (CEMV) - 780609 . . . . .	33
9.2	Instituto Latinoamericano de Investigaciones Médicas - 790122 . . . . .	34
9.3	Instituto Nacional da Saúde - 790425 . . . . .	35
9.4	Timing of the Submission of Final Reports in Relation to Site Visits for Evaluation . . . . .	35
10.	OTHER MATTERS . . . . .	36
11.	SUMMARY AND RECOMMENDATIONS . . . . .	37
12.	PARTICIPANTS . . . . .	39
	ANNEX I: Mechanisms for Enhancing Operational Linkages Between Research and Development and Research Capability Strengthening .	41

1. INTRODUCTION

Dr T. Godal, Director, UNDP/WORLD BANK/WHO Special Programme for Research and Training in Tropical Diseases (TDR), opened the twelfth meeting of TDR's Research Strengthening Group (RSG), held in Geneva, Switzerland, from 10 to 18 July 1987. Dr Godal welcomed the participants, particularly the new and co-opted ones and the two members of the External Review Committee who were attending the RSG meeting. The External Review Committee had been set up by the Joint Coordinating Board (JCB) to review the activities of the Programme as a whole in the last five years and provide guidance on its future orientation. He introduced Dr C. Morel, the new Chairman of the RSG, and proposed Dr M. Alpers as Vice-Chairman and Professor M. Mugambi as Rapporteur.

Dr Godal reviewed the activities of TDR, especially those related to research and development and highlighted the following aspects.

- The six diseases of concern to TDR still presented very serious public health problems afflicting more than half of the world population. Moreover, the disease picture was constantly changing as regards incidence and prevalence, parasitic behaviour, and our understanding and perception of the diseases and their control.
- AIDS represented a potential threat to the clinical and epidemiological aspects of tropical diseases. It had become necessary to study the relationship between AIDS and the six diseases and this necessitated close collaboration between TDR and the Special Programme on AIDS in research and technological developments. He stressed that the concern that the AIDS epidemic might switch manpower away from tropical diseases was not justified as long as resource allocation to tropical diseases was maintained. This was very important in the developing countries. It was gratifying to note that some institutions that had been supported through TDR research capability strengthening grants had become national centres for AIDS research.

- There was increasing realization that social sciences could contribute considerably to research in tropical diseases in areas such as health perception, health education, community participation and cost-effective analysis of the new tools developed with support from TDR.
- TDR was intimately involved in the areas of drug development, vaccine development, diagnostic tests and vector control methods and it was expected that a large number of new products would be generated. More than sixty of these products had been developed and many of them were at present in different stages of clinical or field trials, or already in use in disease control. One of these products, a microfilaricide effective against *Onchocerca volvulus*, ivermectin, had just been approved for large-scale field-testing, and funding was available for trials, initially in two countries in West Africa, of its potential for the control of onchocerciasis. Of the 17 products already in use for disease control, eight were produced exclusively in developing countries.
- The evolution of TDR's activities could be considered in five-year developmental phases. During the first five years, emphasis had been on laying down the structures of the Programme, developing scientific plans and generating projects. During the second five years, emphasis was on training and scientific productivity (in the form of publications).

During the next five years, emphasis would be on the products of research, their adequate field-testing and their use. The challenge facing the Programme now was to ensure adequate testing of the products in relation to disease control, a challenge that opened opportunities in the area of research capability strengthening.

- The report of the Scientific and Technical Review Committee (STRC) on the activities funded through the Research Capability Strengthening (RCS) Programme Area of TDR during the period 1982-86 had been discussed by the Scientific and Technical Advisory Committee (STAC) and the views expressed were reflected in the ninth report of STAC (document TDR/STAC-9/87.3 [Rev.1]), which was endorsed by the tenth session of the Joint Coordinating Board (JCB) in June 1987. STAC had recommended that 25% of the TDR budget should be allocated to research capability strengthening. STAC also acknowledged that success in research capability strengthening depended on a number of factors, including:
  - the choice of the right institution at the outset;
  - strong governmental support;
  - high morale of the scientists and their understanding of the usefulness of the research results;
  - linkages with strong institutions to ensure peer support.

The STRC had also recognized that five years was not a long enough period to judge successful outcomes of research capability strengthening and it was, therefore, recommended to review institutions again five years after the completion of support. However, in this highly competitive world where research funds were scarce, scientific accountability and productivity had become increasingly important. Therefore, focused strengthening of narrow research projects at selected institutions that had received five years of support was considered useful, to enable them to develop into fully functioning research institutions in selected fields.

Dr Godal briefly described the reorganization that was taking place in TDR, which was aimed at bringing the Research and Development (R&D) and the Research Capability Strengthening (RCS) arms of the Programme closer together

in accordance with the STRC and STAC recommendations. He stressed that in the past these two arms of the Programme worked in parallel; while this had been useful, it was clear that it could not continue in that way. The proposed changes aimed at getting increasing Steering Committee (SC) involvement in research capability strengthening, particularly in using large field research projects for research training and research capability strengthening in the country where the project was being executed. It was also considered that the SC could play a valuable part in focused strengthening. The RSG was called upon to make suggestions about this reorganization, which was described fully in the STAC-9 report.

As a part of this reorganization, the Epidemiology Component had been relocated so that it would operate from the RCS Programme Area. This should give a positive bias in RCS-supported field research and further facilitate collaboration between R&D and RCS. This reorganization had been possible because there was already reasonable epidemiological competence in the different Steering Committees. The Social and Economic Research Component (SER) could not be similarly relocated at this stage because this aspect of the Programme was still at a relatively early stage of development; SER expertise in various SCs would be strengthened, however.

## 2. SECRETARY'S REPORT

The Agenda for the meeting was adopted and Dr J. Hashmi, Responsible Officer for Research Capability Strengthening, presented the Secretary's Report.

A major highlight of the previous year's activities had been the completion of the second STRC review of RSG/RCS activities during the period 1982-86. The report of the STRC was presented at the ninth meeting of STAC (STAC-9) in March 1987.

In March 1987, a meeting was held in Geneva of the directors of RSG-supported institutions that had completed their long-term support grants, and several themes relevant to future RCS activities were discussed, including the future role of already strengthened institutions.

Some improvement in the resources available to the Programme had made it possible to pursue promotional activities actively during the previous year, and 22 proposals were to be considered by the RSG at this meeting. Close collaboration had continued with the various WHO Regional Offices in both the identification of institutes for strengthening and the development of proposals.

Dr Hashmi drew the attention of the RSG members to the growing volume of documentation prepared for the attention of RSG members before each meeting. An attempt had been made to reduce the documentation this year by providing the members with summaries of the progress reports and proposals for renewals. In addition, using the criteria approved by RSG-10 for assessing new proposals for institution strengthening, summaries of three new proposals had been prepared by the Secretariat for members to comment upon. It was proposed that a small group might be set up to suggest ways of reducing this load of documentation.

During the year, no requests had been received from RSG-supported institutions for major budget modifications which would have required the approval of the Group. The previous Chairman of the RSG, Professor J. Kostrzewski, and Director, TDR, had authorized the Institute of Primate Research (Kenya) to transfer US \$10 000 from the amount awarded for Animals to the Equipment budget line. Another request had recently arrived, and would be considered during this meeting. The Leprosy unit in WHO was organizing an International Workshop on Experimental Chemotherapy in Addis Ababa, Ethiopia, from 30 November to

16 December 1987. This activity was strongly endorsed by the Steering Committee on Chemotherapy of Leprosy, and Dr Morel's approval was obtained to allocate US \$63 000 from RCS funds for its support.

Regarding research training, up to 30 June 1987 the Programme had awarded 544 research training grants, including 114 for Ph.D. training (52 had already graduated), 133 for M.Sc. training (99 had already graduated) and 297 for research training not leading to a degree. Since the RSG-11 meeting, 47 research training grants (AFRO 24, AMRO 12, SEARO 8, WPRO 3), five visiting scientist grants (AFRO 1, AMRO 1, SEARO 1, WPRO 2) and six re-entry grants (AFRO 2, AMRO 2, SEARO 2) had been awarded.

#### 2.1 Matters Arising from Meetings of STAC-9 and JCB-10

The ninth meeting of STAC strongly endorsed the implementation of the recommendations of the STRC on RCS, including the allocation of 25% of the Programme's budget in the coming biennium for RCS activities.

STAC also endorsed the integrated management of the R&D and RCS Programme Areas, and recommended that the RSG, in addition to its policy-making functions, should continue to exercise a Steering Committee function. The Steering Committee on Epidemiology, in collaboration with the RSG, would be identifying institutions capable of carrying out epidemiological field research, including field-testing of TDR-generated products, and these institutions should receive appropriate strengthening grants.

The External Review Committee had been asked to look into the respective responsibilities of WHO, TDR and public health services of tropical countries in connection with the utilization of disease control products produced with support from TDR.

In view of the closer involvement that was envisaged of various Steering Committees in institution-strengthening activities in endemic countries, RSG members were requested to suggest names of suitable scientists from endemic countries to serve on these Steering Committees.

Matters relevant to the RSG that emanated from JCB-10 included the endorsement of the restructuring within TDR and the relocation of the Epidemiology Component in the RCS Programme Area. The JCB felt that suitable "twinning" arrangements could accelerate the process of institutional development in endemic, developing countries and facilitate the transfer of technologies. The JCB also considered it desirable that institution strengthening be focused in order to achieve results earlier and to make the maximum use of resources.

#### 2.2 Report of the Meeting of Directors of RSG-Supported Institutions

The RSG noted from the report of the above-mentioned meeting that several suggestions made by the participants had been further extended and approved by the RSG during its current meeting. The difficulty being encountered by research workers in developing countries in having the results of their research published in established international journals was appreciated and it was proposed that TDR should explore the possibilities of supporting and strengthening some of the prominent regional journals in which research on the TDR diseases could be published. It was also recommended that TDR should assist in the exchange of information on ongoing research activities and training opportunities between the RSG-supported institutions.

The directors of all the TDR collaborating institutions would, in due course, be informed of the policy changes and decisions taken at RSG-12.

### 3. FUTURE STRATEGIES FOR STRENGTHENING NATIONAL RESEARCH CAPABILITIES RELATED TO THE TDR TARGET DISEASES

The RSG had before it a discussion paper prepared by the Secretariat outlining the guiding principles on institution strengthening and manpower development agreed in 1976. The paper also summarized the achievements of TDR's Research Capability Strengthening Programme Area and compared them with the targets and the workplan for 1986-87, set out in the comprehensive plan for research capability strengthening approved by the RSG in 1983.

After extensive discussions on the various options and the new initiatives mentioned in the discussion paper, the RSG established two ad hoc committees to study the paper in greater depth and make recommendations for future research training and institution strengthening. The reports of these two committees were then discussed by the RSG, and the following recommendations emerged from the discussions.

#### 3.1 Institution Strengthening

It was considered that the criteria for selection of new institutions for strengthening, adopted by RSG-10, were still valid. Special attention should continue to be given to the following:

- national commitment to take over the activities initiated under the TDR-supported grant;
- clarity of the institutional development plan and its scientific content;
- feasibility of the proposed plan in the prevailing national and cultural context.

The RSG welcomed the active involvement of various TDR Steering Committees in the identification, initial assessment, monitoring and final evaluation of institutions to be supported by the RSG.

Strengthening of national institutions, in countries where field trials of TDR-generated products were being contemplated, was considered a high priority.

It was appreciated that it was not possible to establish a definite number of new institutions to be strengthened by 1995, for each of the WHO Regions. However, future promotional activities should attempt to rectify geographic imbalances.

In countries where adequate human resources were available and the Government was interested, an attempt would be made, through various mechanisms, specifically to strengthen the research capabilities of the control programmes dealing with the TDR target diseases.

The mechanisms currently being used for strengthening institutions were considered to be still valid. However, the RSG recommended the institution of a new category of grant, the programme-based grant.

##### 3.1.1 Programme-based grant

The aims of this form of grant were:

- to provide support to institutions that had achieved an adequate physical capacity to carry out high-quality research and that had a critical level of scientific personnel exhibiting promise;

- to enhance the possibility of a group of investigators making a significant contribution to scientific problems related to one or more of the six TDR diseases that were of national and regional importance.

#### Instrument of support

Applications would be considered from an institution-based group of scientists with a coherent, integrated and focused approach to one or a small number of scientific problems relevant to disease control activities of the country and/or region. In general, multidisciplinary approaches would be encouraged: for example, immunological, pharmacological, molecular biological and epidemiological or socioeconomic approaches to a disease problem. However, approaches to several disease problems using a single discipline, e.g., epidemiology or biotechnology, would also be considered.

The emphasis would continue to be on furthering the strengths of the institutions selected for this type of grant by supporting several worthy projects that had a coherent thrust, rather than a single research project that would be more appropriate for traditional SC support. Emphasis would be placed on providing an environment that would permit high-quality scientific productivity on problems of national and regional importance. Assessment of such programmes would be based upon scientific productivity and accountability.

#### Duration of support

A grant would be awarded initially for a period of three years and, subject to satisfactory progress, would be renewable for another period of two years. Like all other TDR grants, financial support would be provided on an annual basis, and would be renewable subject to the submission of a satisfactory progress report.

#### Special uses of programme-based support

##### Developmental support

If a critical mass existed to address an important problem, but there was a felt need that another discipline was required or that another approach needed to be developed within a particular institution, support could be provided to develop that capability, e.g., to add a molecular biology or epidemiology component. This type of support was not being provided by the existing RCS or SC funding mechanisms.

##### Support for visiting scientists and visiting experts

Funds would be provided within the institutional budget of the programme for a limited number of scientific visits to improve skills and encourage scientific collaboration with other laboratories, without the need for separate applications for research training grants. Funds would also be provided to enable outside experts to be invited to the institution and to permit the research programme to advance as rapidly and flexibly as possible. As in the past, travel to scientific meetings would not be acceptable for funding under this item. Travel reports would be evaluated in the usual manner in the context of the general scientific accountability of the programme.

##### Limited managerial assistance

Since the aim of programme-based support was to enhance the productivity of the scientific group, it was recognized that removing some secretarial and administrative responsibilities from the Principal Investigators could be of significant benefit to the scientific programmes, and support for such activities could be requested with appropriate justification.

#### Core facilities and shared services

In multidisciplinary approaches to problems, it might be helpful if support were provided for a centralized facility or service that contributed to several research projects within the programme (e.g., computer and statistical analysis, a monoclonal antibody production facility, an epidemiological, social and economic research capability, or equipment maintenance) that would be difficult to obtain through individual grant mechanisms. Such support could be provided, but would obviously have to be justified within the context of the programme.

#### Pre-career positions

There would be opportunities to develop new positions related to research activities, even when government-guaranteed positions were not available. It was hoped that this would provide opportunities for young investigators to prove themselves and ultimately stimulate the creation of new research positions. It would also provide opportunities for the very best and most productive workers to be considered for career positions. It was essential that the possibilities and limitations of such positions were made clear to all involved.

#### Requirements for acceptance of programme-based support

- Each research group seeking support should offer training opportunities and/or courses in an effort to make a larger contribution in the national context.
- Whenever possible the research should be related to the national control programmes for the diseases involved in programme project grants, so that closer interaction would develop between the research and control functions within countries and regions.
- Each group receiving programme-based support, should develop a plan, if it did not already have one, for field research or for field application of the research being supported. It was not necessary that the field research be carried out by the institutional group receiving the programme-based support. This could be achieved by the establishment of linkages with appropriate investigators or authorities and the incorporation of field applications in their scientific programmes by the end of the five-year period.

#### Criteria of eligibility

- Past scientific performance and future potential. (The institution need not have received TDR's institution-strengthening support previously.)
- Government commitment to support the research programme on the target diseases at the institutional level.
- The existence of key, qualified personnel to achieve the proposed objectives.
- The potential of the research programme to contribute to training, within the context of national control programmes.
- The existence of an institution-based group of scientists with a coherent, integrated and focused approach to one, or a small number of, scientific problems relevant to disease control activities in the country and region.

Two-tiered application procedure - letter of intent

In anticipation of a large number of applications from institutions that had previously received RSG support, as well as applications from new institutions, and to avoid the discouragement associated with large and complex grant applications that could not all be funded, it was suggested that an initial letter of intent be submitted to the RSG outlining the objectives, personnel, research programmes and budgetary needs. This would be reviewed on technical grounds by the TDR Secretariat, and those institutions that most adequately fulfilled the above criteria would be invited to submit detailed applications.

Review of applications

Because of the novel nature of programme-based support, it would be essential to call upon the expertise of both the RSG and the SC's. It was proposed that the review procedure should include the following steps.

- a) Upon receipt of a detailed application, the critical scientific review of any research project related to the expertise of a particular SC should be assigned to that SC. That need not require a meeting of the SC; the projects could be assigned to designated reviewers by the SC Chairman, who would be responsible for ensuring appropriate scientific review.
- b) On the basis of the conclusions of the scientific reviews, and taking into account the regional and national research needs, the RSG would recommend funding for all, none or a limited number of the projects included in an application for programme-based support. Support would be for an initial period of three years, renewable annually after appropriate review.
- c) Efforts would be made to have each institutional programme reviewed by one member of an SC each year as part of the commitment to scientific accountability. This would ensure that the investigators in the supported programme were provided with the latest information available to the SC. In the third year, one member of the RSG and one member of the SC would review the programme and recommend support, if necessary or desirable, for an additional two years. While concise progress reports would be required annually, scientific productivity, rather than detailed progress reports, would be the major criterion for continued support.
- d) When the RSG identified a component of a programme that was scientifically weak, but nevertheless necessary to meet the objectives of the research project, it would call upon the SC to provide expertise to help upgrade that component. Such assistance would include providing protocols, upgrading methodology, providing critical feedback and encouraging scientific communication. That would require greater involvement of the SC in the development of this new type of institutional support. In addition to the "approve/disapprove/priority" system of evaluating individual grants, in terms of institution strengthening, the SC would be charged with additional obligations to advise and revise programmes identified by the RSG for support.

It was further noted that the institutions deemed worthy of programme-based support would be in a good position to benefit from linkages with other institutions, but that the existence of such linkages would in no way be a requirement for obtaining programme-based support from TDR.

Institutions that had completed long-term support grants, and were not able to obtain the above-mentioned type of additional support for research strengthening, could continue to avail themselves of the TDR research training

grants. The returning trainees would also continue to be eligible to apply for re-entry grants to enable them to establish and pursue their own research. TDR would also make a major effort to assist those institutions to secure other sources of support, e.g., from bilateral or voluntary organizations.

The RSC took note of the recommendations of an ad hoc committee, established by Director, TDR, to promote further linkages between two major Programme Areas -- Programme Area II, Research and Development, and Programme Area III, Research Capability Strengthening -- and agreed to endorse them, with the modifications noted in Annex I.

### 3.2 Research Training

The Special Programme, through the RSG, should continue to support the full range of scientific, technical, maintenance and administrative personnel necessary for the development of research in the countries affected by the six diseases.

#### 3.2.1 Individual research training grants

In the last five years, all long-term training had been restricted to the institutions being strengthened. The rationale for this was a sound one, since the purpose had been to build up a critical mass of investigators who would be capable of mounting an effective research programme focused on one or more of the six diseases covered by TDR. The training of persons committed to the institutions being strengthened should be continued. At the same time, the restriction should be lifted so that applicants from other institutions could apply. The following would be eligible: applicants for training for a doctoral degree and for postgraduate training in field research (a new category supported by TDR). They must be committed to work on one or more of the six diseases. The institution endorsing the applicant must guarantee to support the applicant for a minimum of three years after he/she had returned to the institution. The evaluation of the applicant would take into account the facilities of the home institution and its commitment and research programme in one or more of the six diseases.

Whenever possible, it was desirable that candidates should do their thesis work in the country in which they would eventually be working. However, in certain disciplines for which this might not be possible, the candidate should be able to do the laboratory work for the thesis, or the complete thesis, in another country.

#### 3.2.2 Visiting scientist grants

Established scientists, not necessarily from a strengthened institution, could apply for this type of grant for specific training or research in one of the six TDR diseases for a duration of up to 12 months, so that a sabbatical year could be included in this type of application. In general, the investigator should have had at least seven years' experience after obtaining his doctoral degree to be eligible.

#### 3.2.3 Re-entry grants

Re-entry grants should not be restricted only to scientists previously supported by TDR; investigators whose training had been supported by other sources should also be eligible.

All re-entry grant applications must have the support of the receiving institution, which, if not one of those strengthened, must demonstrate commitment to research on one or more of the six diseases and, in general, have the facilities to carry out the work. Applicants not previously funded

by TDR should be encouraged to go to institutions being strengthened, but should not be limited to these. The institutions should guarantee the applicant a post for at least three years and the applicants should accept to continue research activities at the institution during this period.

Occasionally, an investigator trained in a new discipline not already covered in the institution to which he/she would return or go to would require expensive new equipment. In that sense, it appeared that that would be an ideal time to make the re-entry grant available. The amount permitted under the re-entry grant should be increased to US \$30 000 to take account of those circumstances. In exceptional circumstances, a re-entry grant in excess of this amount could be awarded by the RSG after appropriate review and recommendation by the relevant SC.

#### 3.2.4 Career development awards

The concept of a career development award (CDA) should be introduced by the RSG for outstanding investigators in developing countries. These career awards were special and should be given to investigators who were at least three years beyond the postdoctoral fellowship period and who had demonstrated that they were independent, original and productive in tropical disease research in their country. The applicant should also be working on one of the six target diseases of TDR. The CDA, administered by the applicant's institution, should be an award of US \$30 000 a year for five years, subject to satisfactory yearly progress reports. Those funds could be used for technical or fellowship support, supplies or equipment, or for travelling to a training institution. The use of this award to supplement salary would not be allowed. The CDA should be advertised and awarded on a competitive basis.

#### Selection of candidates for training

- At present, the candidates were selected by the Secretariat and Director, TDR, and with critical reviews of individual applications by the appropriate SWG/SC secretariat. This procedure should continue with the following modifications: all applications for doctoral and postdoctoral training should also be reviewed by a member of the RSG or relevant SC. The Secretary of the appropriate Steering Committee should where possible be present when decisions are made on doctoral and postdoctoral training grants from that Component.
- Applications for re-entry grants should be reviewed by the SC Chairman and one member of the relevant SC, and their recommendations should be submitted to Director, TDR. The Steering Committees would appear to be the best qualified bodies to offer constructive advice to the returning investigator. However, re-entry grants remained part of the institution-strengthening programme and members of the RSG were especially concerned with that aspect and would like to participate. For the first year, it was proposed that the Steering Committees should review the re-entry grants, and that the RSG should be given a report of all the applications considered during the year. The RSG would then look carefully at those that had not been approved to make sure that the Steering Committee had understood the nature and purpose of the applications.
- Selection for career awards would be made by the RSG.

#### 3.2.5 M.Sc. courses

Emphasis should be placed on promoting research, and the M.Sc. courses should be supported with this in mind. Thus, they should be part of a

strengthening programme. Funds for these courses should be for staff and curriculum development, and for the materials and supplies necessary for the course. Although funding for M.Sc. courses should be mainly for institutions receiving strengthening support, it should not be restricted only to them. The courses should be given within the context of TDR.

### 3.2.6 Short, group-learning activities

Short courses related to TDR should be continued. In all such courses, it was important that stipends should be provided for students. The Secretariat should be allowed to allocate up to US \$60 000 for any such course without prior consultation with the RSG.

### 3.3 Workplan for 1988-89

The RSG approved the following activities for 1988-89:

- a) Continue to assess the potential of institutions identified for research strengthening in consultation with WHO Regional Offices, and help them to formulate proposals for submission to the RSG.
- b) Encourage institutions that had successfully completed long-term support grants, and other suitable institutions, to apply for programme-based grants.
- c) Carry out final evaluations of institutions that had completed their long-term support grants.
- d) Encourage Steering Committees to identify research skills relevant to their respective workplans that should be developed among scientists in tropical endemic countries and to organize short-term learning activities related to those skills. About two to three such activities were envisaged for the biennium.
- e) Provide opportunities for research strengthening of local institutions and personnel in countries where large SC-funded projects dealing with field trials of "TDR products" had been carried out.
- f) Review the M.Sc. courses in entomology and epidemiology sponsored by TDR with a view to ascertaining the extent to which the need for research manpower in those fields in tropical endemic countries had been met and to charting future TDR support for research training in those fields.
- g) Evaluate, preferably through site visits, the research performance of Ph.D. graduates whose training had been sponsored by TDR and who had been back in their home institution for two to three years.

The RSG also reviewed a list of possible institutions that could be considered for strengthening. It was felt that, henceforth, selection of institutions would have to be done even more carefully, keeping in mind factors such as geographic balance at global and regional levels, the concerned government's full commitment and the possibilities for links with national disease control programmes. The RSG expressed its interest in being involved in the selection of institutions and advised that a "letter of intent" mechanism, as suggested for programme-based grants, could also be used in that instance to elicit information on all institutions and government interest in research strengthening.

### 3.4 Collaboration with the Rockefeller Foundation, USA

Dr K. Warren, Director, Health Sciences, the Rockefeller Foundation (RF), USA, joined the RSG meeting for discussion of the above item. He

briefly described the RF-funded programme on the "Great Neglected Diseases of Mankind", which had been in operation for eight years and had helped in the upgrading of scientific research in countries in which tropical diseases were endemic. Recently, the Rockefeller Foundation had considered other means of funding basic research on the diseases of the developing world and had proposed a new programme to be called "Health Science for the People: An International Partnership".

Some specific features of that programme would be:

- a focus on the outcome of research;
- an international competition for positions in the network, to be decided by an external committee;
- the strengthening of present capability in the developing countries through an institutional partnership;
- the diversification of support for the programme through collaboration with WHO/TDR;
- networking not only within the programme but also by involving Task Forces in which groups of top-grade scientists would focus on specific problems, such as the development of new antimalarial drugs, the application of molecular biology to the crucial area of disease development (pathogenesis), the use of both molecular biology and structural chemistry to develop new vaccines, and application of modern biological methods to the control of insect vectors of disease.

During the preceding year, preliminary discussions had been held between TDR and RF on the mutual benefits of working together in this new initiative of the RF. From TDR's point of view, collaboration with RF in this venture would appear to be attractive for several reasons, including the following:

- strengthening in biomedical sciences as well as other areas of TDR-related research;
- through exchange of visits, a reduction in the isolation often experienced by recently returned TDR trainees and other young research workers;
- easier and continuous exchange of information on recent developments in the fields of interest of research workers.

The objective of this partnership would be the advancement of the science of tropical diseases through "North-South or South-South" networking, the transfer of technology and the scientific development of endemic countries. Thus, the research lines to be pursued should be clearly outlined. Institutions could select one or more partners, on the basis of needs, complementarity, previous collaboration or previous contacts. The institution(s) in the developing country should provide evidence of a sufficient level of government support and stage of development to make the effort likely to achieve long-term benefits.

TDR would support the institution(s) in the disease-endemic countries and RF the other institution(s) in the partnership. Selection would be based on partnership, and proposals from partner institutions would be received by both RF and TDR.

Members of the RSG welcomed this new initiative, which came at an appropriate moment and was intended to develop links between research workers and institutions in disease-endemic and nonendemic countries in order to

upgrade the quality of research. This arrangement also offered substantial opportunities for training. It was clarified that the research area covered under this arrangement would include social and economic research and epidemiology. The RSG stressed the need for careful attention to a capability strengthening component and that in order to achieve that objective, it was essential that the institution in the disease-endemic country had reached a satisfactory level of scientific maturity.

The institutions qualifying for programme-based support from TDR would appear to be eminently eligible for this collaboration. However, it was felt that this venture should be open to all institutions in disease-endemic countries, and this programme should therefore be advertised widely.

It was decided that the RSG as a whole would regularly review the progress of both the research and the development components of activities under this collaboration. However, as the RF was keen to start funding the institutions in developed countries from the beginning of 1988, the RSG appointed a sub-committee consisting of Dr C. Morel, Dr V. I. Mathan and Dr P. Wasi to work out the mechanisms for TDR collaboration and to liaise on behalf of the RSG with RF. It was agreed to set aside US \$400 000 in 1988 and US \$600 000 in 1989 from the budget line for institution strengthening to support the selected institutions in this partnership that were located in disease-endemic countries.

#### 4. ETHICAL CLEARANCE OF PROPOSALS SUBMITTED TO THE RESEARCH STRENGTHENING GROUP

Background information on this subject was provided in a document prepared by the Secretariat. This document summarized two earlier documents produced in 1982 and 1985, both of which detailed the procedures adopted for ethical clearance that had been followed so far and which had worked satisfactorily. Dr J. Dunne, Responsible Officer of the WHO Secretariat Committee on Research Involving Human Subjects (SCRIHS), participated in the discussions and stressed that WHO must protect its reputation and must not be seen to be supporting projects that were not completely satisfactory from the ethical point of view.

It was agreed that SCRIHS should be given the opportunity of commenting upon all progress reports and renewal requests before they were submitted to the RSG to ensure that the same ethical standards were observed in all WHO-related research projects. This should be done when such reports and requests were sent for technical appraisal.

In reviewing new proposals, the RSG should pay special attention to the ethical aspects of all research projects involving human subjects. After the RSG meeting, those proposals recommended to Director, TDR, for funding should be further examined by the Secretariat, which should ensure that appropriate ethical clearance was obtained from SCRIHS for all proposals involving human subjects. Although ethical clearance might be considered unnecessary in surveys where blood samples were taken on a routine basis, this had become important in the light of the AIDS problem. In all cases, informed consent must be sought.

It was important to continue to promote the creation of ethical committees in the institutions that showed willingness to do so.

The need to protect not only the investigators and the institutions but also the fundamental rights of the individuals and their communities was emphasized. It was agreed also to make a joint effort with SCRIHS to produce a permanent flow of information to RSG-supported institutions, particularly on new developments and changes in policies regarding ethical matters. The RSG should continue to monitor progress in this matter.

5. INSTITUTION STRENGTHENING IN SOCIAL AND ECONOMIC RESEARCH ON TROPICAL DISEASES IN ENDEMIC COUNTRIES

5.1 Need for Strengthening

Social behaviour and economic conditions were known to affect exposure and susceptibility to tropical diseases. Research was therefore needed to analyse why people do what they do, to understand how control efforts are influenced by social behaviour and to ensure that control strategies are socially acceptable and economical.

There was a lack of social and economic research on which to base any improvement in the effectiveness and efficiency of control programmes in endemic countries. In order to increase the quantity, quality and impact of such research, there was a need to identify and strengthen selected institutions.

5.2 Objectives of Strengthening

The objectives of institution strengthening should be to:

- increase the number of sociologists, anthropologists and economists trained to undertake research on the social and economic aspects of tropical diseases and able to contribute their expertise to tropical disease control;
- increase the quality and relevance of social and economic research on tropical disease control;
- stimulate cooperation among members of social and economic research institutions and national tropical disease control programmes, as well as with university departments conducting research on the epidemiology and control of the six target diseases.

5.3 Process of Strengthening

The process of institution strengthening should include the following measures:

- support and assistance in the formulation of a staff development plan;
- provision of research training grants for long and short periods of training;
- research grants for agreed research activities (as part of a long-term institutional support grant or funded through the Steering Committee on Social and Economic Research);
- support and assistance where appropriate in designing, executing and evaluating training activities:
  - in-service training for social scientists;
  - in-service training for health care personnel in the ministries of health and disease control institutions;
  - M.Sc. courses in medical sociology, medical anthropology and health economics, with theses based on field work related to the target diseases;
- support for strengthening field work, computing and library facilities.

#### 5.4 Long-Term Plan

Subject to the availability of funds, the long-term plan should aim to:

- identify, in cooperation with the SER Steering Committee, and start the strengthening of, at least six institutions in the next three years;
- ensure a suitable distribution of these institutions among the WHO Regions and the principal social science disciplines (sociology, anthropology and economics);
- provide fellowships to allow foreign students to attend training programmes provided by the institutions

#### 5.5 Action for 1988-89

Action for the forthcoming biennium should include:

- making joint RSG/SER exploratory visits to at least three of those institutions already identified by SER for institution strengthening. These visits would assess leadership, local conditions and potential for development, and assist in preparing research activities. These institutions should already have social scientists engaged in research on one or more of the TDR target diseases.
- in institutions where leadership, local conditions, training potential and research plans or activities are satisfactory, assisting in the development of an institutional and staff development plan and providing appropriate training programmes;
- assisting institutions currently providing training in medical sociology, medical anthropology and health economics to improve the quality of their training by using case studies derived from research related to the target diseases.

#### 6. BUDGETARY MATTERS

Dr P. Ladouceur, Responsible Officer for Programme Management, TDR, introduced this item. In June 1987 the Joint Coordinating Board (JCB) had approved the TDR Programme Budget for the 1988-89 biennium. The total budget approved was US \$59.35 million, which represented an increase of US \$7.03 million, or 13.4%, over the Revised Budget of US \$52.32 million for the current biennium. The JCB had also approved the allocation of 25% of the total budget for Programme Area III, Research Capability Strengthening. As a result, there would be an increase in the operations budget for Area III (institution strengthening and training), from US \$10.40 million in the current biennium to US \$12.55 million in 1988-89, an increase of US \$2.15 million, or 20.7%. As part of the restructuring of TDR, the budget amounts for personnel services and operational support for the Epidemiology Component were included under Programme Area III for the 1988-89 biennium.

With respect to the current biennium, as of 1 July 1987, there remained a balance available of US \$2.48 million for institution strengthening and of US \$2.95 million for training.

In conclusion, Dr Ladouceur stated that TDR's overall financial situation had improved in the past year, as a result of both increased contributions and the depreciation of the US dollar against the currencies of major contributors to TDR. However, TDR remained very susceptible to currency fluctuations,

which could have major effects on the actual amount of money available to the Programme in the 1988-89 biennium. Table 1 summarizes the financial situation of RCS operations.

Table 1. Programme Area III - Financial Overview (Operations) (US\$ 000)

	Actual obligations 1984-85	Revised budget 1986-87	Actual obligations 1986	Allotments to 1 July 1987	Balance available 1986-87	Approved budget 1988-89
Institution						
Strengthening	4 757.8	4 600.0	1 908.1	2 117.3	2 482.7	5 850.0
Training	5 170.7	5 800.0	1 902.3	2 849.3	2 950.7	6 700.0
Total	9 928.5	10 400.0	3 810.4	4 966.6	5 433.4	12 550.0

7. CONSIDERATION OF PROPOSALS FOR RENEWAL

7.1 Renewal of Long-Term Support Grants

7.1.1 800558 Ndola/Core Support

Tropical Diseases Research Centre (TDRC)  
Ndola, Zambia

Epidemiology and Clinical Tropical Medicine

Recommended: US \$84 000 for the eighth year of work as a Zambian institution.

The RSG noted with satisfaction that administrative changes had improved the operational aspects of the TDRC. The institution had established itself as a national reference centre in health research and was spearheading national research on AIDS. Staff development was progressing well and four of their scientists had begun training for the Ph.D. degree. There had been a marked increase in the number of scientific publications concerning the work carried out by the scientists. The RSG recommended continued funding for this institution at the level recommended by the RSG visiting team in 1986.

7.1.2 820077 Primates/Kenya

Institute of Primate Research  
National Museums of Kenya  
Karen, Kenya

Studies on Tropical Diseases Using Primate Models

Recommended: US \$60 000 for the fifth and final year of support.

The scientific progress in this institution continued to be satisfactory. It had continued research to investigate the potential of East African nonhuman primates as laboratory hosts of filariasis and leishmaniasis. More recently, research workers there had carried out a joint research project with a European group to evaluate a synthetic vaccine against Schistosoma mansoni. Their staff

development was progressing well, with the award of two Ph.D. training grants. A Kenyan had become Director of the centre from 1 July 1987, but the former Director, who would remain in Nairobi, had given assurance of a slow handover. The RSG recommended support for the last year.

7.1.3 810168 OCCGE/Pierre Richet

Organisation de Coordination et de Coopération pour la Lutte  
Contre les Grandes Endémies (OCCGE)  
Institut de Recherches sur la Trypanosomiase et l'Onchocercose  
Pierre Richet (ex IRTO)  
Bouaké, Côte d'Ivoire

Trypanosomiasis

Recommended: US \$31 500 for the fourth year of the grant.

The RSG expressed satisfaction at the takeover, by OCCGE, of the salaries of the three scientists whose salaries were previously paid from the grant. The work of two of these scientists was highly appreciated. The third, who was at present being trained as an epidemiologist, would soon return. The output of the isoenzyme laboratory remained unsatisfactory. That laboratory had been identified by the SC on African Trypanosomiasis to participate in the network on the characterization of African trypanosomes. That Steering Committee wished to standardize procedures and results from all the centres in the network in order to improve comparability of the results. After a site visit, the RSG recommended (a) purchasing the appropriate equipment and (b) retraining the scientist using the budget for equipment.

7.1.4 840402 OCCGE/Marchoux

Organisation de Coordination et de Coopération pour la Lutte  
Contre les Grandes Endémies (OCCGE)  
Institut Marchoux  
Bamako, Mali

Leprosy

Recommended: US \$30 400 for the fourth year of this grant.

The RSG noted with satisfaction the progress made by the experimental laboratory in monitoring resistance to dapsone and other antileprosy drugs. Patients had been kept under surveillance for two years after the discontinuation of treatment. The research activities in that institute were still handicapped by the absence of a field component. It was hoped that this would be corrected when the research worker supported by a TDR grant for epidemiology returned from training.

7.1.5 840351 Trypanosomiasis/Bouaké

Centre universitaire de Formation en Entomologie médicale et  
vétérinaire (CEMV)  
Faculté de Sciences, Université d'Abidjan  
Bouaké, Côte d'Ivoire

Human trypanosomiasis in Côte d'Ivoire

Recommended: Balance of 1987 funds approved for use in 1988.

The RSG noted with much regret the death of Professor Tiemoko Diomande, the first African Director of this institution, in October 1986 and observed a minute of silence in his memory and requested a message of condolence to be

sent to the CEMV and the Ministry of Higher Education. The institution continued to make good progress, particularly in identifying the different species of Glossina within the different ecological zones of the country and in investigating their role in the transmission of disease. These activities had received a severe setback following the death of Professor Diomande. The new Director had requested permission to use the balance of their unused funds for 1987 through 1988 and intimated that the institution would submit a more comprehensive proposal for renewal of the grant for 1989 to RSG-13. This request was approved.

7.1.6 840333 Malaria/Amani

Amani Research Centre  
National Institute for Medical Research  
Amani, United Republic of Tanzania

Research and Training in Tropical Diseases

Recommended: US \$88 450 for the third year of this grant.

The RSG was pleased with the progress in this up-and-coming research institution, whose research activities were mostly field-oriented. Their staff development was progressing well, at both the M.Sc. and the Ph.D. levels. Their research project on the use of bednets impregnated with permethrin for malaria control was progressing well, with valuable support through a twinning arrangement with the Entomology Department of the London School of Hygiene and Tropical Medicine. Their research on malaria drug combinations and on sporozoites should receive valuable guidance from the SC on Applied Field Research in Malaria (FIELDMAL). There was also a need for assistance with the epidemiological aspects of their research activities. The RSG was pleased to know that this centre would be used for field research by the M.Sc. students attending the supported course in Muhimbili Medical Centre in Dar es Salaam.

7.1.7 840354 Leishmaniasis/Sudan

Tropical Medicine Research Institute and Immunology Training and  
Research Centre  
Medical Research Council  
Khartoum, Sudan

Multidisciplinary Research on Leishmaniasis

Recommended: US \$25 000, which should be deferred pending receipt of a satisfactory and focused research proposal.

The RSG noted with concern the slow progress in the work of this centre, in spite of the current epidemic of cutaneous leishmaniasis in Sudan which offered an ideal opportunity for research towards developing a control strategy. The progress report appeared to have been put together by a group of scientists who were probably unfamiliar with the work of the institution, and no proposal for renewal had been submitted. The RSG expressed its concern about the absence of effective leadership for this group, which appeared to be working in an uncoordinated manner. In fact, the exact composition of the group of investigating scientists needed clear definition. The RSG recommended the formulation of a proposal for renewal with more focused research with the assistance of a member of the SC on Leishmaniasis. During this process the institution being supported should be clearly identified and their staff development plans clearly described. The RSG recommended the award of a grant up to a maximum of US \$25 000, but payment of the grant should be deferred until a satisfactory and focused research proposal had been received.

7.1.8 840336 CIDEIM/Colombia

Centro Internacional de Investigaciones  
Médicas (CIDEIM)  
Cali, Colombia

Multidisciplinary Research on Leishmaniasis in Colombia

Recommended: US \$88 350 for the second year of the grant.

The report submitted showed clear progress in the different research projects being conducted under the long-term grant. The RSG expressed satisfaction with the quality of research carried out by the group on tegumentary leishmaniasis. Considering the good performance of the institution, the RSG recommended US \$88 350 for the second year of the grant. The amount allocated by RSG-11 was considered as support for the first year of the grant since the small 1985 grant was for completion of their work under the SC on Biomedical Sciences (BIOS). The RCS secretariat was requested to inform the institution that in the light of this recommendation it was expected that the proposed budget for the third year of support would be reduced accordingly.

7.1.9 840331 CAICET/Venezuela

Centro Amazónico para Investigación y Control  
de Enfermedades Tropicales "Simón Bolívar" (CAICET)  
Caracas, Venezuela

Research on Malaria and Onchocerciasis

Recommended: US \$70 000 for the second year of the grant.

Although the institution had undergone important staff changes at the beginning of its long-term grant, the progress report showed clear progress in its research activities, particularly those related to onchocerciasis. It was noted that three young scientists would return to CAICET this year after their training abroad. The RSG recommended a budget ceiling of US \$70 000 for the second year of support to carry out research on onchocerciasis. A site visit should be organized, with the participation of one or two experts on the subject, to help the institution in the reformulation of the research proposal for the second year, concentrating the research activities on onchocerciasis.

7.1.10 840332 Honduras

Universidad Nacional Autónoma de Honduras (UNAH)  
Department of Microbiology  
Tegucigalpa, Honduras

Epidemiology and Immunoparasitology of Malaria and Chagas' Disease

Recommended: US \$64 500 for the fourth year of the grant.

The RSG was pleased with the steady progress made by this institution, although the number of scientists was still quite small. The staff development plan for the Microbiology Department should be accelerated. The institution should be informed of the new policies of TDR. The budget was recommended for approval at the level proposed by the institution for the fourth year of the grant.

7.1.11 820599 Chagas/Chile

Chagas Research Group  
Faculty of Medicine  
Universidad de Chile  
Santiago, Chile

Clinical and Basic Biology of Chagas' Disease

Recommended: US \$39 500 for the fifth and last year of the grant.

Progress made by the Chagas Research Group was considered satisfactory. Nevertheless, the clear imbalance between basic research and clinical epidemiological research was still apparent. As three of the research projects mentioned in the request for renewal had recently been approved by the SC on Chagas' Disease, it was recommended that the RCS secretariat should review the request for equipment with the Secretary of that Steering Committee in order to avoid duplication. The Secretariat should inform the institution that special efforts should be made in future to strengthen the clinical and epidemiological research activities. The RSG recommended a budget ceiling of US \$39 500.

7.1.12 840362 INDIECH/Argentina

Instituto Nacional de Diagnóstico e Investigación de la Enfermedad  
de Chagas "Dr Mario Fatala Chaben" (INDIECH)  
Buenos Aires, Argentina

Integrated Control of Chagas' Disease and Diagnosis of Malaria  
and Leishmaniasis

Recommended: US \$64 000 for the fourth year of the grant.

Advances had been made in both immunological research at the laboratory in Buenos Aires and field research in the endemic area at Santiago del Estero in northern Argentina. This collaborative programme with the Government control services of primary health care activities was highly commended. The RSG also noted the importance of evaluating both the fumigant canister used to control triatomine infestation in houses and the sensor trap to monitor eventual reinfestation. Further data on the incidence of seropositivity in children of the area and on the efficacy of the anti-triatomine action of the canister should be assessed in order to evaluate the effectiveness of this innovative measure to control Chagas' disease. The RSG also recommended that the institution should accelerate the implementation of its staff development plan, particularly postgraduate training in epidemiology. In the light of the good performance of the institution, the RSG recommended the approval of the budget as proposed for the fourth year of the grant.

7.1.13 860219 Malaria/Mexico

Centro de Investigación de Paludismo (CIP)  
Tapachula, México

Dynamics of Malaria Transmission with Emphasis on Vector Biology

Recommended: US \$94 000 for the second and last year of a short-term grant.

The allocation of funds to the institution in 1986 for the first year of a short-term grant had been greatly delayed, and thus the progress report did not include enough information to make an appropriate judgement on progress. Nevertheless, it was clear that the institution had strong backing from the

Government of Mexico. Although the country continued to suffer severe economic difficulties, two new posts had been created in the institution. The plan proposed for the second year of activities focused on investigation of the dynamics of malaria transmission. The RSG recommended that accelerating training activities should be included in the staff development plan. A site visit should be made soon in order to assess progress, as well as to review the first draft of a proposal for a long-term grant to be submitted to RSG-13 in 1988. The budget was recommended for approval without changes.

7.1.14 830071 Malaria/Sri Lanka

Department of Parasitology  
Faculty of Medicine  
University of Colombo  
Colombo, Sri Lanka

Malaria Research Unit

Recommended: US \$53 500 for the fifth and last year of the grant.

The RSG was pleased to learn of the excellent progress in the work being carried out by this institution and commended the Principal Investigator and her colleagues for their good work.

The RSG felt that in the long run it might be in the interests of the institution to recruit and train an epidemiologist who could work full-time in the field in relation to vaccine development.

An amount of US \$53 500 was recommended for the fifth and final year of the grant.

7.1.15 840353 Pharmacology/Penang

National Drug Research Centre  
Universiti Sains Malaysia  
Minden, Penang, Malaysia

Development of Tropical Clinical Pharmacology

Recommended: US \$128 600 for the fourth year of the grant.

This programme had made substantial contributions in the field of tropical clinical pharmacology. Highly relevant studies on the pharmacokinetics of antimalarial drugs had been carried out and the quality of the work of the staff of this institution continued to be extremely high. A number of excellent publications had appeared in international journals. Local support from the university had continued to play an important role in the takeover process. The programme had kept to its original objectives.

The RSC approved a budget of US \$128 600 for the fourth year of the grant.

7.1.16 840422 Chiang Mai/Thailand

Tropical Disease Research Unit  
Research Institute for Health Sciences (RIHES)  
Chiang Mai University  
Chiang Mai, Thailand

Tropical Disease Research Unit

Recommended: US \$71 000 for the third year of the grant.

This energetic group of scientists had carried out extensive research during the year under review. However, the RSG felt their research activities had deviated considerably from their original objective. The purpose of the grant had been to establish a coordinated multidisciplinary team involving field research; in fact, the group had spread themselves too thinly.

The RSG emphasized the need to use local expertise and to establish closer links with the Ministry of Health and its control programmes.

The RSG also emphasized that in future the institution should focus its activities on one or two areas, such as epidemiology and social sciences in relation to malaria. The training of an epidemiologist and a social scientist should be given priority.

The RSG recommended the award of US \$71 000 for the third year of the long-term institutional grant.

7.1.17 840480 Parasitic Diseases/China

Institute of Parasitic Diseases  
Control and Research  
Hubei Academy of Medical Sciences  
Wuhan, Hubei Province, People's Republic of China

Recommendation deferred.

The RSG reviewed the progress of this institution during the first year of the long-term support grant. In view of the lack of trained personnel at the institution, progress had not been satisfactory. The RSG recommended that in the coming years emphasis should be on research training and in view of this did not recommend financial support for continuation of the institutional grant.

7.1.18 860237 Biotechnology/Bangkok

Department of Biochemistry  
Faculty of Science  
Mahidol University  
Bangkok, Thailand

New Biotechnological Methods for Study of Parasites

Recommended: US \$41 600 for the second and last year of the short-term grant.

In reviewing this proposal, members of the RSG were not able to assess the work of the group during the preceeding year (1986-87) because no progress report had been submitted. However, after considerable discussion and in view of the excellent research reputation of this Department, the RSG decided to approve the renewal of this grant for the final year to an amount of US \$41 600, subject to receipt of an acceptable progress report from the group.

7.2 Renewal of Degree Courses

7.2.1 780563 Entomology/Jos

Department of Zoology  
University of Jos  
Jos, Nigeria

M.Sc. Course in Medical Entomology

Recommended: US \$30 000 for the fourth and last year of the course.

Although the need for medical entomologists in Nigeria and the region remained high, the RSG expressed its concern about the slow staff development as well as the small medical entomology content of this M.Sc. course, which trained veterinary and agricultural entomologists as well. Over the last four years, only three staff members had gone on to Ph.D. training and only a small proportion of the students' theses had dealt with medical entomology problems. Although the staff carried out small individual research activities, for which 21 publications were listed, there was no comprehensive research activity involving all the faculty that could provide hands-on research training for the students. This course appeared to be serving a national and, to some extent, a regional need, in that 66 students had graduated by December 1986, out of which 59 were Nigerians. The RSG recommended that increased efforts should be made to get more non-Nigerians into future courses. The RSG recommended an award of US \$30 000 for the fourth and last year of this course, subject to a satisfactory evaluation by a team that would visit Jos. This evaluation would advise on the future orientation of the course and its needs.

#### 7.2.2 840363 Entomology/Panama

Faculty of Medicine  
Universidad de Panamá  
Panamá, Republic of Panama

M.Sc. Course in Medical Entomology

Recommended: US \$24 000 for the fourth and last year of the course.

This programme had begun in 1983 at the Faculty of Medicine, University of Panama, with the enrollment of nine Panamanian students. Institutional support had started in 1984-85. Three students had already obtained the M.Sc. degree and seven students from Guatemala, Honduras, Venezuela and Panama were in the second year of their studies. The enrollment of ten students was expected for the third cycle, which would start in September 1987. The Faculty continued to receive outside support, especially from PAHO/WHO staff. This course was playing a major role in training medical entomologists in the region. The RSG recommended approval of the modest budget as proposed for the fourth and last year of support. The RSG emphasized the need to offer post-graduate training to selected staff members in order to minimize dependence on external support in future. TDR should continue supporting the course through the award of research training grants, mainly to staff of research institutions in the region. In 1988, the Secretariat would conduct an in-depth review of all the M.Sc. entomology courses being supported.

#### 7.2.3 840376 Entomology/Pondicherry

Vector Control Research Centre  
Indian Council of Medical Research  
Pondicherry, India

M.Sc. Course in Medical Entomology

Recommended: US \$51 000 for the third year of the grant.

The RSG was pleased that the course had been running well during the past two years and that the high standard of the course had been maintained. The content of the course was considered to be relevant and meaningful in relation to meeting national and regional needs. The RSG felt, however, that efforts should be made to fill existing vacancies for students from outside India. In this respect, it was possible for the selected overseas students to apply to TDR for consideration for research training grants. The RSG also

reiterated the need for staff development of the Faculty and emphasized that priority should be given to staff training at the Ph.D. level, in disciplines that were not being taught at present. The RSG also emphasized the need for the Faculty to be involved in research of their own as well as in the students' projects.

An amount of US \$51 000 for the renewal of the long-term support grant for the third year of the postgraduate degree course was recommended by the RSG.

#### 7.2.4 820249 Epidemiology/Nairobi

Department of Community Health  
Faculty of Medicine  
University of Nairobi  
Nairobi, Kenya

Course Leading to a Master's Degree in Public Health

Recommended: US \$39 500 for the fourth and last year of the grant.

The RSG expressed considerable concern about this course where the intake was down to five students in 1986, three of whom were dental surgeons. The teaching of epidemiology and of tropical disease research and control, as well as social sciences, was weak, and the recent resignation from the University of Nairobi of a TDR grantee studying for the degree of Ph.D. in epidemiology was a set back in the effort to correct this deficiency. Four young Kenyans, former trainees of the course, had been recruited to the Faculty and would need further postgraduate training.

The RSG recommended funding for the fourth and last year and suggested an in-depth review and evaluation of the course, with recommendations on its future orientation to make it more suitable for national and regional needs.

#### 7.2.5 830334 Epidemiology/Tanzania

Muhimbili Medical Centre  
University of Dar es Salaam  
Dar es Salaam, United Republic of Tanzania

M.Sc. Course in Tropical Disease Research and Control

Recommended: US \$45 000 for the third year of the grant.

This was an up-and-coming course with much potential. The staff development was progressing steadily. There was strong support from the National Institute for Medical Research, whose scientists were participating in the teaching programme and whose centres would be used by the students for their field research. All of the staff had individual research studies, most of which were field-oriented.

One of the staff was carrying out research in collaboration with the Swiss Tropical Hospital Field Laboratory in Ifakara. The RSG nevertheless expressed its disappointment with the unsatisfactory, hastily drawn-up progress report and with the proposal which gave no details on vital aspects of the course.

The RSG deemed the report unacceptable and recommended that it should be rewritten and the grant released only when the report was judged satisfactory. The RSG also recommended that the progress of this course should be carefully monitored and that the M.Sc., D.P.H., and M.Med. courses in the Muhimbili

Medical Centre should be streamlined. TDR should participate in the proposed curriculum review and evaluation after two years of support.

7.2.6 840337 Epidemiology/Rio de Janeiro

Fundação Oswaldo Cruz (FIOCRUZ)  
Escola Nacional de Saúde Pública  
Rio de Janeiro, Brazil

M.Sc. Course in Epidemiology

Recommended: US \$30 000 for the third year of the grant.

This course was progressing very well and was attracting a reasonable number of students. Satisfactory arrangements were made for the students to carry out research for their dissertations under adequate supervision in the endemic areas. Additional TDR support to this course, through the award of research training grants to students from research institutions working in tropical diseases in the region, should continue. The RSG recommended approving the budget, with a ceiling of US \$30 000. An in-depth evaluation of this course should take place in 1988. The institution had suggested that they would welcome a much stronger academic and technical collaboration with the RSG and with the TDR and WHO Regional Office Secretariats, beyond the administrative routine of receiving appraisal comments. This suggestion was welcomed by the RSG and recommended to the Secretariat for action as needed.

7.2.7 840355 Economics/Manila

Philippine Center for Economic Development  
University of the Philippines  
Quezon City, Philippines

Recommended: US \$24 440 for the third year of the grant.

The RSG noted that the course was well organized. In reviewing the proposal, members suggested that: (a) a staff development plan should be prepared as soon as convenient and discussed with TDR; (b) current research should be continued and an effort made to develop case studies from this and other research for teaching purposes; (c) the students' studies should include primary data collection and field work in collaboration with a tropical disease control programme; and (d) the course should be reviewed and advice should be sought on the amendments to improve the practical orientation towards tropical disease control and to give more emphasis to health economics.

An amount of US \$24 400 for the renewal of the long-term support grant for the third year of the postgraduate degree course was recommended by the RSG. The course director's request for reallocation of the funds for 1987 was approved.

7.3 810009 Institute of Pathobiology

University of Addis Ababa  
Addis Ababa, Ethiopia

Supported from 1983-1987.

This institute was established in 1967 as an independent unit within Addis Ababa University to carry out biomedical research on tropical diseases. It received a regular budget from the University of Addis Ababa. The staff, while doing mainly research (75%), also had teaching duties (25%). Each year, ten undergraduate and graduate students used the institution for research in preparation for writing their dissertations.

The main research activities for which RSG support had been given were for work on schistosomiasis (S. mansoni) and involved epidemiological, ecological and water-contact studies in selected endemic areas, representing highland streams, lakes and irrigation schemes. The research was expected to lead to the development of an appropriate research strategy that would be used by the Ministry of Health for disease control. An important aspect of the research had been the use of a local plant endod with molluscicidal properties for snail control.

The absence of the institute's Director for 18 months' training at Tulane University had considerably slowed the work in the institution. He had now returned and had requested a small amount of supplementary funding for 1988 to complete the research started under the earlier grant.

After a long discussion, the RSG concluded that the request was valid and recommended that the Director of the institute should be awarded a re-entry grant to cover these research activities.

7.4 770410 Kuala Lumpur

Institute for Medical Research (IMR)  
Kuala Lumpur, Malaysia

Systems Analyst

Recommended: US \$15 000.

A request for the extension, for a further period of two years, of the employment of the systems analyst at the IMR was considered by the RSG; this post had not been absorbed under the institutional budget owing to national financial constraints.

Exceptionally, the RSG agreed to provide a sum of US \$15 000 for this purpose, with the firm understanding that no further request for extensions would be considered. The RSG also urged the Director of the institute to make sure that the individual was absorbed into a permanent position as soon as possible.

8. CONSIDERATION OF NEW PROPOSALS

8.1 New Long-term Support Grants Recommended for Approval

8.1.1 870319 Kumba

Medical Research Station  
Institut de Recherches Médicales et  
des Etudes de Plantes Médicinales  
Kumba, Cameroon

Malaria and Onchocerciasis Field Research

Recommended: US \$90 000 for the first year of a long-term support grant.

This research station, part of the Institute for Medical Research, applied for institution strengthening for research on malaria and onchocerciasis. With strong support from the Ministry of Health, this research station planned to study the extent of antimalarial drug resistance, the effect of drug pressure, and vector biology to identify the species involved and their vectorial role in areas of drug resistance. It also hoped to carry out community trials of ivermectin for the control of onchocerciasis in the

forest area. At present, the research station had five Ph.D. scientists and one M.Sc. scientist, but few trained technicians. The RSG welcomed the strong links between the scientists in this research station and the ORSTOM scientists in Yaoundé who would execute the TDR-funded ivermectin trials, as well as the links with the TDR-supported institution, Centre universitaire des Sciences de la Santé, in Yaoundé. The RSG recommended strong involvement of the FIELDMAL SC early in the execution of activities under this grant. The research station was urged to take rapid steps to recruit and train technicians and to take immediate steps to further its staff development programme as regards epidemiology, medical parasitology, entomology, social sciences and statistics.

8.1.2 870334 Vectors/Kisumu

Vector Biology and Control Research Centre  
Kenya Medical Research Institute  
Kisumu, Kenya

Field Research in Malaria

Recommended: US \$86 000 for the first year of a long-term support grant.

This centre had requested support to strengthen its research on the vectors of tropical diseases, in particular malaria. The four scientists who had been trained to the M.Sc. level planned to study sporozoite rates, ecological factors, feeding habits and flight range, as well as the susceptibility patterns of malaria parasites to chloroquine. The RSG found the proposed studies to be consistent and sound. The small number of scientists was compensated for by the slightly larger number of well trained technicians. The RSG emphasized the need for an epidemiologist and welcomed the proposed recruitment of three new scientists. This centre would need an experienced entomologist to focus the research activities and to provide leadership to the relatively inexperienced scientists. The centre had just moved into beautiful premises built by the Government of Kenya.

8.1.3 870284 Belém

Instituto Evandro Chagas (IEC)  
Ministry of Health  
Belém, Pará, Brazil

Chemotherapy of Malaria

Recommended: US \$140 000 for the first year of the grant.

The proposal was well written, scientifically sound and addressed research issues of national importance and was approved by the WHO Regional Office. However, the RSG considered the staff available to do the malaria work to be rather limited; it therefore recommended that the proposed staff development plan be started and accelerated. The RSG recommended a budget ceiling of US \$140 000 for the first year of the grant.

8.2 New Capital Grants Recommended for Approval

8.2.1 870250 Leishmaniasis/Sao Paulo

Laboratorio de Seroepidemiologia  
Instituto de Medicina Tropical de Sao Paulo  
Sao Paulo, Brazil

Leishmaniasis (Laboratory Research)

Recommended: US \$80 000 for a capital grant.

This fairly well developed institution, which played an important role in the regional standardization of serological tests with support from the SC on Chagas' Disease, had submitted an ambitious request for a capital grant to conduct research on the immunology and molecular biology of Leishmania braziliensis, with emphasis on antigen characterization. However, the RSG considered that the institution did not have the necessary expertise to pursue all of the proposed research. The institution had the capability to undertake the first stage of their proposal, concerned mainly with the isolation and characterization of the antigens of L. braziliensis, the development of an immunoassay and serological studies. The proposed budget was considered to be too high.

It was recommended that this institute be visited by two members of the Leishmaniasis and Chagas' Disease Steering Committees who lived in Brazil in order to offer advice on the development of the new proposal. Subject to the formulation of a satisfactory proposal, a capital grant with a ceiling of US \$80 000 was recommended for award, mainly to purchase scientific equipment that would be indispensable for the research activities included in the reformulated research plan.

8.2.2 870239 Guizhou

Guizhou Provincial Institute of Parasitic Diseases  
Guizhou, People's Republic of China

Malaria and Filariasis

Recommended: US \$88 000 for a capital grant.

The RSG reviewed this proposal from Guizhou, where malaria and filariasis were endemic. Training was considered to be the most important need for this institute in the initial phase. The RSG recommended a capital grant in order to help the institute purchase basic instruments.

8.2.3 870338 Short Course/Chulalongkorn

Faculty of Economics  
Chulalongkorn University  
Bangkok, Thailand

International Workshop on Economic  
Evaluation of Malaria Control

Recommended: US \$60 000 for a short training course.

The RSG reviewed this proposal for the running of a regional workshop for training in health economics to be conducted at the Faculty of Economics at Chulalongkorn University under the supervision of Professor Somkid Kaewsonthi. The RSG felt the workshop would play a useful role in stimulating studies in health economics and help in the training of young people. The RSG approved a grant to a maximum of US \$60 000.

8.2.4 870339 Economics/Chulalongkorn

Faculty of Economics  
Chulalongkorn University  
Bangkok, Thailand

M.Sc. in Health Economics

Recommended: US \$49 500 for a capital grant.

The RSG reviewed this application for a capital grant to contribute towards the establishment of an M.Sc. course in health economics to strengthen the Faculty of Economics of this University. The RSG felt that this Faculty, under the leadership of Professor Somkid Kaewsonthi, had carried out pioneering and excellent research in the field of health economics. The establishment of an M.Sc. course in health economics in this Faculty would help to overcome the great need for trained health economists in the region. A grant of US \$49 500 was recommended.

### 8.3 New Short-Term Support Grants Recommended for Approval

#### 8.3.1 870333 Mogadishu

Faculty of Medicine  
National University of Somalia  
Mogadishu, Somalia

Malaria, Schistosomiasis and Leishmaniasis

Recommended: US \$75 000 for the first year of a short-term support grant.

Following the capital grant awarded in 1982 to update the institution's equipment, and the training grants awarded to four young Somali scientists, who were now back in the country, this institution had requested a grant to enable the returned trainees to initiate research on tropical diseases, particularly malaria, schistosomiasis and leishmaniasis. The RSG reiterated the need to train scientific and technical staff, particularly the latter who were certainly in short supply. The need for an epidemiologist was crucial and recruitment and training should be undertaken urgently. The Swedish Agency for Research Cooperation (SAREC), which was also committed to institutional support to this institution on a bilateral basis, had agreed to collaborate with TDR in order to ensure that their support was complementary. SAREC had participated with TDR in the site visit that had helped to develop this proposal. The RSG recommended that a short-term grant be awarded to this institution. The investigators should be encouraged to apply for a long-term support grant in the future, subject to satisfactory progress in their research activities and in staff development under the short-term grant.

#### 8.3.2 870321 Malaria/Medellín

Corporación Para Investigaciones Biológicas (CIB)  
Medellín, Antioquia, Colombia

Malaria (Biological Control of Vectors)

Recommended: US \$80 000 for the first year of a short-term grant.

This private institution had a long tradition of research in Colombia, having attracted resources in the past and currently from at least two TDR Steering Committees (i.e., the SCs on Biological Control of Vectors [BCV] and on the Chemotherapy of Malaria [CHEMAL]) and from the National Council of Science and Technology (COLCIENCIAS) in Colombia. The proposal was considered very ambitious for the limited resources available. It was recommended that a short-term grant with a ceiling of US \$80 000 be awarded to develop a focused proposal with the assistance of a member of the BCV SC and of staff of the WHO Division of Vector Biology and Control. The new proposal should concentrate within the areas of vector biology and the integrated control of malaria vectors.

### 8.3.3 870322 Malaria/Nicaragua

Centro Nacional de Higiene y Epidemiología  
Ministerio de Salud  
Managua, Nicaragua

Vector Biology and Control of Malaria

Recommended: US \$81 000 for the first year of a short-term grant.

The proposal was judged important because of the epidemiological situation of the country in relation to the six target diseases.

The RSG considered that both aspects of the proposal -- entomological research on Anopheles albimanus and the epidemiology of leishmaniasis -- were soundly based, correctly designed and used appropriate methods. However, taking into account the lack of trained personnel in the institution, the RSG recommended that the activities should be concentrated on the vector biology of A. albimanus. At the same time, the staff development plan should be accelerated. Special attention should be given to the training of personnel who would subsequently implement the planned research on leishmaniasis. The RSG recommended support for the first year of the short-term grant with a ceiling of US \$81 000. The budget for the second year might be increased depending on the quality of the first progress report and the proposal for subsequent years.

### 8.3.4 870291 Shandong

Shandong Institute of Parasitic Diseases  
Shandong, People's Republic of China

Field studies on Malaria and Filariasis

Recommended: US \$22 000 for the first year of a short-term grant.

The RSG, after reviewing this proposal, felt that the scientific capability of the institute was still low. In view of this, it did not recommend supporting it at this stage with a long-term grant. However, it emphasized that further staff training was most important and a grant of US \$22 000 was recommended for the first year of a short-term grant for the purchase of some essential equipment.

### 8.3.5 870289 Vectors/Ungaran

Vector Control Research Unit  
Ungaran, Indonesia

Vector Control Research Unit

Recommended: US \$76 000 for the first year of a short-term grant.

The RSG expressed its concern at the lack of research and development activities related to tropical diseases in Indonesia. In this context, the establishment of a Vector Control Research Unit to serve the needs of the country was recognized as most important. The proposal, which was to re-establish this Unit, which operated previously under the aegis of WHO, was considered in detail. At the moment, the Unit was staffed by a senior scientist and five junior scientists. The RSG felt that a two-year short-term grant to the Unit would help to establish its research and development plans and enable the Unit to pursue research in two areas of vector biology and

control. At the end of the first year, the RSG would review progress and an RSG member would visit the Unit. A grant of US \$76 000 was recommended.

#### 8.4 New Re-entry Grants Recommended for Approval

##### 8.4.1 870335 Pharmacology/Mahidol

Faculty of Tropical Medicine  
Mahidol University  
Bangkok, Thailand

Pharmacology

Recommended: US \$40 000 for a re-entry grant.

The RSG reviewed this proposal for a two-year short-term grant to strengthen the capability of the Faculty of Tropical Medicine in the area of clinical pharmacology. The Faculty, which had received and completed a long-term grant from the RSG to develop its capability in the area of epidemiology and social and economic research, had also carried out extensive studies in the area of antimalarial drug trials under hospital and field conditions, for example with mefloquine.

The Faculty, with the help of the Thai Government, was further expanding its facilities in the area of clinical pharmacology and the request to the RSG was to assist with that expansion.

The RSG reviewed the proposal and felt that the needs of the Faculty could be met through the award of a re-entry grant to a staff member returning from the Liverpool School of Tropical Medicine with a Ph.D. in clinical pharmacology. The Faculty could apply for programme-based support in this field at a later date, should they wish, for which the RSG would need a fully justified application.

The RSG recommended that it would be willing to consider an application for a re-entry grant for Dr Juntra Karbwang for a sum of US \$40 000.

#### 8.5 Special Cases

##### 8.5.1 Biotechnology Programme

Submitted by: Institute of Medical Research  
Kuala Lumpur, Malaysia

##### 8.5.2 The production and evaluation of immunoprophylactic and immunodiagnostic antigens and reagents using molecular biology techniques

Submitted by: Centre universitaire des Sciences de la Santé,  
University of Yaoundé, Cameroon.

##### 8.5.3 Studies on reasons for the persistence of malaria among the tribal population of Koraput District, Orissa, India, and to devise appropriate strategies for control

Submitted by: Vector Control Research Centre, Indian Council of Medical Research, Pondicherry, India, as a continuation of the long-term support grant awarded to this institution in 1983 and which is due to end in December 1987.

The RSG considered these three proposals together, noting that the Principal Investigators of the three proposals were among the participants in the meeting of Directors of RSG-supported institutions held in Geneva in March

1987 (referred to under item 2.2). These applications were the direct outcome of discussions at that meeting, when it was recommended that institutions that had completed long-term support grants could apply to the RSG for a second round of strengthening focused on one or two major research projects.

The first and the third applications had been received immediately before the RSG, without clearance from the respective Governments.

The RSG recommended that, as it has been decided to institute a category of programme-based grants, the above-mentioned three institutions, as well as others that had completed or were about to complete their grants, should be informed of the new category of grant designed to strengthen their research capabilities further. Recommendations on the three proposals were deferred, so that they could be reformulated and submitted with relevant government clearance where required. The RCS secretariat was requested to draw up appropriate application forms for the programme-based grant.

8.5.4 The RSG also considered a proposal submitted by the Instituto "Alexander von Humboldt", Universidad Peruana Cayetano Heredia (UPCH), Lima, Peru, dealing with the multinational development of a standard Leishmania antigen and the validation of the skin test for the diagnosis of leishmaniasis in Latin America.

This research activity was originally contemplated in the light of networking activities being proposed by the directors of several Latin American institutions during the meeting held at WHO headquarters in Geneva in March 1987. The basic idea was to develop a plan to produce relatively large quantities of standardized leishmanin to be used to perform the Montenegro intradermal test in the endemic areas of tegumentary leishmaniasis in different Latin American countries. The main objective of this request was to increase the scientific capabilities of an institution that had completed five years of continuous support by the RSG, by making use of additional skills and competencies in other well developed institutions in the area. The planning group had agreed that the proposal should be formulated by the Institute of Tropical Medicine "Alexander von Humboldt", UPCH, in Lima, Peru, and that the leishmanin should be produced by the Venezuelan Institute of Scientific Research (IVIC) in Caracas.

Unfortunately, the proposal did not conform to the agreed plan and was limited to the production of leishmanin and its concurrent evaluation in Peru without the participation of other institutions in the area. The RSG recommended a reformulation of the proposal, with advice from the Secretariat, and its resubmission to RSG-13 in 1988. Salaries should not be included in the budget.

9. REVIEW OF FINAL REPORTS FROM INSTITUTIONS WHICH HAD COMPLETED LONG-TERM SUPPORT GRANTS

9.1 780609 Centre universitaire de Formation en Entomologie médicale et vétérinaire (CEMV)

Faculté des Sciences  
Université d'Abidjan  
Bouaké, Côte d'Ivoire

(M.Sc. Course in Medical Entomology supported from 1980 to 1985)

This course was set up in Bouaké, as part of the Department of Biology and Animal Physiology of the University of Abidjan, to train medical entomologists for the French-speaking countries of Africa. It was not part of an

already existing course, but was created at a time when two similar courses were to be supported in Jos (Nigeria) and Nairobi (Kenya) for English-speaking candidates. Bouaké is located in an area heavily endemic for trypanosomiasis, onchocerciasis, schistosomiasis and malaria and is within the area covered by the Onchocerciasis Control Programme in West Africa (OCP). Also located in Bouaké is the Institut Pierre Richet, one of the institutes of OCCGE where a strong team of eight French (ORSTOM) scientists was involved in research on trypanosomiasis and onchocerciasis. These scientists had participated actively in the teaching programme of the course at Bouaké and in the supervision of the students' field research. The students had also been attached for practical assignments to the OCP operational areas in Côte d'Ivoire, Burkina Faso and Niger where they were supervised by OCP field staff. The participation of these students in the work of the large multinationally funded OCP had been of great benefit in improving their field research training, especially as onchocerciasis control in this programme had, until very recently, focused on vector control.

Up until 1984, there had been only two nationals on the teaching staff. There were now five nationals, three of whom were former course participants who, while pursuing their research and training duties at the institution, had also registered for higher degrees at the University of Abidjan. The death of the first national Director (Professor Diomande) in October 1986 had created a vacancy that had been difficult to fill. One of the national staff had just been awarded a research training grant for training abroad. In spite of national financial constraints, the institution hoped to increase the national staff gradually by recruiting former trainees of the course who were nationals. By 1987, 27 students from French-speaking countries of Africa had graduated from the course and all of them were back in their countries doing research or working in disease control services.

An important facilitating factor built into the support of this course was a sum of money that had been placed at the disposal of the course director for use in providing fellowships to non-Ivoirean course participants of the first three years of the course (13 fellowships in all). While this ensured regular student participation in the course, the participants did not necessarily all come from TDR-supported institutions.

The RSG discussed the report about this course extensively and expressed satisfaction with the progress made. It had been a valuable course that had adequately met a regional need. The institutional support for research would strengthen further the research component of the course and also accelerate the training of national scientists and staff development. The RSG accepted the report.

#### 9.2 790122 Instituto Latinoamericano de Investigaciones Médicas

Universidad del Salvador (ILAIMUS)  
Buenos Aires, Argentina

##### Cebus apella and Chronic Chagas' Disease

The final report on the research supported under this long-term support grant covers the period 1980-85. The original aim of this proposal was the establishment of a colony of primates (C. apella) to support the development of an animal model for chronic Chagas' disease. In this regard an agreement was reached with CEMIC (ID 790367) to use the Cebus monkeys as a suitable animal for the experimental studies. The indoor colony was established and the rearing and breeding of C. apella ensured the supply of monkeys to the investigators who assumed the responsibility of developing the animal model. The RSG considered that this objective was attained.

However, in the light of the information provided in the report on the experience of the institution in developing its own model for chronic Chagas' disease, it was clear that the conclusions they reached were not in conformity with the "Standard protocol for the development of animal models for chronic Chagas' disease" established by the Chagas' Disease SC (CHEM/IMMCHA) in 1982.

In summary, the RSG accepted the report, considering that the facilities for the primate colony had been set up, but doubted whether ILAIMUS had succeeded in strengthening its research capabilities. In the light of these comments, it was also accepted that the development of an outdoor colony of C. apella under the responsibility of CRIMOP/FIDNEU (ID 830298 Primates/Baires), supported by the RSG in 1984-85, had also been accomplished.

### 9.3 790425 Instituto Nacional da Saude

Ministerio da Saude  
Maputo, Mozambique

This institute, the research arm of the Disease Control Division of the Ministry of Health, received a TDR institutional grant from 1981 to 1986 for research to support malaria and schistosomiasis control programmes. Starting with a national Director and a WHO Technical Coordinator, the grant enabled the institution to recruit visiting experts, mainly from Brazil and Cuba, who helped it carry out the research activities and train staff on the spot. The subjects for research were simple and practical and were designed to meet the needs of disease control in the country, such as monitoring chloroquine resistance and evaluating the use of cashew nut shells as a molluscicide for schistosomiasis control. No research training grants were requested because of a national shortage of trained manpower.

The RSG discussed the report and regretted the political problems and adverse socioeconomic conditions. These problems had been aggravated by drought and had retarded full development of research activities. The RSG recommended that the institution should be visited to assess the impact of the grant. This would help to evaluate the impact of their policy of using visiting experts to carry out on-the-spot training and to make recommendations on the need to train research leaders, and would provide an opportunity to assess the request for continued low-level funding for three years. The language link with Brazil would be exploited and priority would be given to recruiting a scientist from that country for the site visit. The RSG noted and accepted the final report.

### 9.4 Timing of the Submission of Final Reports in Relation to Site Visits for Evaluation

After reviewing the above final reports, the RSG considered the timing of submission of these reports to the RSG in relation to site visits to institutions for final evaluation. It was recalled that according to the current practice, an institution completing a long-term support grant was given a full year to prepare its final report, e.g., an institution completing its grant in December 1987 would be expected to submit its final report by the end of 1988 or early 1989 for consideration by the RSG at its fourteenth meeting in June 1989.

It was felt that six-to-eight months should be adequate for institutions to compile their final report; the site visit for evaluation could then be arranged during the three-to-four months following receipt of the report. In this way the RSG would have the benefit of reviewing the report of the site visit together with the final report submitted by the institution.

The RSG emphasized that the preparation of final reports should continue to be wholly a national function. However, discretion could be exercised

about the need for an evaluative site visit. In other words, in cases where recent information was available on an institution's performance, through reports of visiting experts and/or TDR staff, a site visit might be considered unnecessary, especially when an institution had a good record and the final report was considered satisfactory by the RCS secretariat.

The RSG also considered its policy as regards the extension of long-term support grants beyond five years. So far the RSG had approved extensions for three years only for three institutions, following a formal evaluation in each case.

It was pointed out that in view of the possibility of initiating staff development at an early stage, coupled with the possibility of a capital and/or short-term grant preceding the formulation of a proposal for a long-term support grant, an institution could receive support from TDR for almost nine years. Therefore, it was agreed that requests for extension should continue to be considered only exceptionally.

#### 10. OTHER MATTERS

Responding to the suggestion made by Dr Hashmi in the Secretary's report to the RSG, the Chairman, Dr Morel, had asked four members of the RSG (Dr M.P. Alpers, Dr V.I. Mathan, Dr L.A. Salako and Dr J.R. David) to meet with the RCS secretariat to draft recommendations for reducing the volume of documentation for the RSG. The group met once and made the following suggestions, which were later endorsed by the RSG:

- The existing forms requesting an institutional profile and application form for a strengthening grant should be revised and made more succinct. For the institutional profile, the information required could be listed as guidelines and the director of the institution could be requested to provide this information in not more than three-to-four pages. Quite often the institutions, especially university-based institutions, were not in a position to provide valid and up-to-date epidemiological information, which in any case was readily available in WHO Regional Offices and in WHO Headquarters. Therefore, it was suggested that the institution should only be asked to provide epidemiological information relating strictly to the proposed research, and in the case of field research, it should be limited to area(s) of the country where this would be carried out.
- The item dealing with "terms of reference" in the institutional profile should be clarified, as this had different meanings for people whose first language was not English.
- As the same institution often applied successively for capital, short-term and long-term support grants, it was not necessary to have a new institutional profile on each occasion. The institution could be asked to update the one prepared earlier. In addition, as this served as an important bench-mark, the institutional profile should certainly be updated during the fifth year of support.
- The institutional development plan should list clearly the objectives and targets to be achieved, preferably by the end of each year, certainly by the end of the second, fourth and fifth years, and the overall strategy.

It should NOT cover details of each research project; these should be submitted as an Annex, following the headings used in the application forms for SWG/SC projects.

- The initial proposal, along with the institutional profile, should not under any circumstance exceed 25-30 pages.
- Instead of the form currently being used for staff development plans, it was proposed that the institution should list in order of priority the fields in which expertise was lacking and in which staff could be trained with TDR support. The needed expertise should be related to the research activities proposed.
- The forms for the progress report and for the request for renewal should be amalgamated. Here, too, the part of the amalgamated form dealing with the progress report should not exceed five-to-six pages. References should be properly cited and include only those that had already been published or accepted for publication in peer review journals.
- In the case of a proposal for renewal, any deviation from the original institutional development plan should be carefully justified.
- The present practice of retaining all the proposals in Geneva for members of the RSG to read during the weekend prior to the meeting should continue. However, if time and logistics permitted, consideration might be given to sending a copy of relevant proposals to the first reviewers.

The RSG noted with interest that the RCS secretariat was planning to computerize the available information on institution-strengthening grants. This would materially assist in monitoring the progress of each grant.

#### 11. SUMMARY AND RECOMMENDATIONS

The twelfth meeting of the Research Strengthening Group (RSG) of the UNDP/WORLD BANK/WHO Special Programme for Research and Training in Tropical Diseases (TDR) was held in WHO Headquarters, Geneva, from 10 to 18 July 1987. The meeting was opened by Dr T. Godal, Director, TDR, who gave an overview of TDR-sponsored research and development activities and described the restructuring within TDR that was aimed at bringing two Programme Areas -- Programme Area II, Research and Development, and Programme Area III, Research Capability Strengthening -- closer together.

The RSG discussed future strategies for strengthening national research capabilities related to the TDR target diseases, in the light of the review by a Scientific and Technical Review Committee (STRC) of the Scientific and Technical Advisory Committee (STAC) of the research capability strengthening (RCS) activities sponsored by TDR from 1982 to 1986, and of the restructuring within TDR. The RSG welcomed the increased involvement of the TDR Steering Committees in RCS activities in developing countries and made the following major recommendations in this connection:

- In addition to the existing mechanism for institution strengthening, a new category of programme-based grants should be established for institutions which might have received RCS grants in the past and now needed additional support to carry out advanced research on scientific problems related to one or more of the TDR target diseases.
- Research training grants should not be limited only to staff members of institutions receiving RCS grants, but should also be made available to staff from other institutions to undergo training for doctoral degrees and/or postgraduate training in field research, provided they and their institutions had a commitment to do research on one or more of the TDR target diseases and that the institutions guaranteed support of the applicants for at least three years.

- Scientists trained with non-TDR support should also be eligible for re-entry grants, subject to an assurance from the applicant's home institution that it would provide her/him with a post for three years. Selection for re-entry grants would be made after review by the relevant TDR Steering Committee (SC).
- Career development awards should be instituted for outstanding, independent and productive investigators in developing countries working on one of the TDR target diseases.
- The TDR Secretariat Research Strengthening Team (RST) should continue to screen and approve applications for research training grants. However, applications for doctoral and postdoctoral training should also be reviewed by a member of the RSG and/or the relevant SC.
- The RST was authorized to approve expenditure on short group-learning activities up to a maximum of US \$60 000 per activity.
- The RSG endorsed a proposal to collaborate with the Rockefeller Foundation in supporting twinning arrangements between institutions in disease-endemic and nonendemic countries.

RSG-12 also reviewed the existing practice of scrutinizing new applications for institution strengthening, for renewal and for ethical clearance, and decided that the RSG itself, the WHO Secretariat Committee on Research Involving Human Subjects (SCRHS) and the RCS secretariat should continue to screen applications carefully to ensure that the same ethical standards were being applied in all cases where the proposals involved studies on human subjects.

The need for institution strengthening in social and economic research was re-emphasized at this meeting and the RSG approved a workplan in this connection for the coming two-to-three years.

The Joint Coordinating Board of TDR had approved the allocation of 25% of the total TDR budget for RCS activities during 1988-89, thereby increasing the budget from US \$10.4 million in the current biennium to US \$12.55 million in 1988-89.

Of the 25 requests for renewals of institution-strengthening grants or for M.Sc. courses, the RSG recommended support for 21; a recommendation was deferred in one case, and support was recommended in three cases, subject to the submission of a satisfactory progress report in one case and to formulation of scientifically sound and feasible proposals for renewal in the other two.

Three final reports that had been submitted on the completion of long-term support grants were also reviewed by the RSG, and it was recommended that henceforth, wherever possible, final reports should be submitted to the RSG together with reports of site visits for evaluation. The latter should not be considered essential in every case.

Fifteen new proposals were examined, and long-term support grants were recommended for three institutions and capital grants for another three institutions. Short-term grants for two years were recommended for five new institutions. One international short-term course in health economics was also recommended for support.

The RSG made some recommendations to the RCS secretariat on ways of making the various application forms in use for RCS activities more succinct and to the point.

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ANNEX I

MECHANISMS FOR ENHANCING OPERATIONAL LINKAGES BETWEEN  
RESEARCH AND DEVELOPMENT AND RESEARCH CAPABILITY STRENGTHENING

In view of a restructuring within TDR, Dr Tore Godal, Director of TDR, established an ad hoc committee in February 1987 to suggest mechanisms for further enhancing collaboration between two major Programme Areas: Programme Area II, Research and Development, and Programme Area III, Research Capability Strengthening. Based on discussions held during its own meetings and those with other TDR staff members, the ad hoc committee made the following recommendations.

Institution Strengthening

1. Area III should continue to be responsible for the processing of applications, follow-up and periodic evaluation of new and current long-term institutional grants.
2. The WHO Regional Offices and the Steering Committee (SC) Secretaries should be closely involved with Area III staff in identifying and assessing the potential of new institutions for strengthening.
3. The team members for initial site visits to institutions being considered for strengthening, as well as for final evaluations of institutions on completion of long-term support grants, should include experts drawn from the current or past membership of Steering Committees, as well as other distinguished scientists in TDR-related disciplines.
4. An attempt should be made during the final evaluation of an institution, at the end of a long-term support grant, to identify the principal disease component(s) on which research could be pursued further and to develop outline(s) of research projects, which could serve as the basis of a proposal for programme-based grants.
5. The RSG would be responsible for TDR's collaboration with institutions receiving programme-based grants, with technical input provided by the relevant Steering Committee(s).
6. SC Secretaries should continue to comment, as at present, on new proposals submitted for institution-strengthening grants, as well as on progress reports.
7. The SCs should each have more members from developing countries and, where possible, drawn from TDR-supported institutions.
8. Owing to the time constraints imposed by a heavy agenda, it is possible that some SCs may not be able to devote the necessary time to the discussion of proposals for programme-based grants. In such cases, an option would be for a small ad hoc group of three-to-four members to meet one day before the SC meeting to review the proposals from the institutions and make recommendations to the full SC. The TDR/RCS staff should be associated with this review process.
9. The SCs themselves should be asked to review their workplans with a view to including relevant institution-strengthening (including research training) activities in developing countries and to advising on how the RCS-supported institutions could be involved in the R&D efforts. The workplans should also include provision for assisting research workers

from developing countries in the development of scientifically sound proposals that would stand up to peer review.

10. The role of the TDR focal points in WHO Regional Offices should be further strengthened. On an experimental basis, Director, TDR, may wish to assign responsibility for future collaboration with the Programme as a whole to the TDR focal point(s) in one or two Regional Offices. In order to help the responsible officer in the TDR focal point in his/her broader role, it may be necessary to bring him/her to Geneva more often for briefing and to attend selected SC/SWG meetings. The committee felt that this would have to be approached with caution, in view of the staffing situation in some of the Regional Offices, e.g., AFRO.

#### Research Training

Possible mechanisms for enhancing collaboration between Areas II and III in research training are:

1. From the time a scientist is awarded a research training grant for Ph.D. training, his/her progress during the period of training should be closely monitored by the relevant SC Secretary in conjunction with Area III staff and, where possible, the selection of the topic for the thesis should be related to the SC workplan and the disease situation in the trainee's country.
2. RCS-funded Ph.D. students should be invited to attend any appropriate SWG meeting as observers during the latter part of their period of training or during the year following its completion. This would provide an opportunity for trainees to meet leading experts in their field of interest and to be aware of the current status of research, future trends and requirements, and the process of peer review of scientific proposals.
3. Steering Committees should be asked to identify training opportunities in TDR-funded projects. If required, Principal Investigators could be requested to accept a trainee from a developing country on their projects, with the necessary budget supplement to be met from RCS funds. A computerized list of such training opportunities could be compiled.
4. Applications received for re-entry grants should be handled by the relevant SC Secretary who would send them out to be reviewed by a minimum of two (outside WHO) referees. On receiving their comments, he would make an appropriate recommendation to Director, TDR.

When an application is approved, the SC Secretary would be responsible for drawing up the Technical Services Agreement (TSA) and informing the applicant.

Periodically, the SC should be kept informed of the progress of research conducted under re-entry grants.

The group recommended that the present practice of making re-entry grants available to all returning research trainees (TDR-sponsored or otherwise) should continue. However, only those trainees who have spent a minimum of one year in a training position or who have at least acquired an M.Sc. degree should be considered eligible.

5. Postdoctoral fellowships for on-site field training in epidemiological research projects:

Research training grants should be made available to doctoral or postgraduate fellows, for a period of two-to-three years to provide for their participation in important field research in order to obtain direct practical experience in the limited number of high-quality epidemiological field projects connected with tropical disease research.

Suitable candidates for such long-term, non-degree training would include those who have had adequate theoretical training in a postgraduate course but did not return to a situation in which they could get practical field training; those who received epidemiological training from sources other than TDR; and TDR doctoral trainees who did their work in their home country but did not participate in first-rate field projects of this type.

6. The composition and procedures of the Research Strengthening Team (RST) should be reviewed with the object of facilitating the desired enhancement of collaboration between the two Programme Areas.

The ad hoc committee stressed the following points:

- None of these mechanisms should be seen as replacing the day-to-day informal contacts between TDR staff members, for the purposes of exchange of information, planning joint missions, trouble-shooting, etc. In fact, with increased emphasis on horizontal management within the Programme, it is anticipated that these informal contacts will grow further.
- It was realized that the improved linkages referred to above would need to be refined and adjusted with experience.
- Research capability strengthening should now be clearly seen as an integral function of all TDR operational activities and no longer limited to Programme Area III.

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