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WHO SPECIAL PROGRAMME FOR RESEARCH AND
TRAINING IN TROPICAL DISEASES

Report of the Technical Review Group

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SPECIAL PROGRAMME FOR RESEARCH AND
TRAINING IN TROPICAL DISEASES

OBSERVATIONS BY THE DIRECTOR-GENERAL ON THE REPORT OF THE SECOND
TECHNICAL REVIEW GROUP OF THE SPECIAL PROGRAMME

The second Technical Review Group meeting (TRG-II) considered the progress made in the Special Programme since the meeting of TRG-I in September 1976. In December 1976, the Meeting of Participants had endorsed the Programme and contributed funds and other resources for Programme operations. Thus, major Programme activities in the year under review included the initiation of activities of many of the Scientific Working Groups and further detailed planning in accordance with the first year of the Programme's five-year plan.

As previously, WHO as executing agency of the Programme, uses the evaluation of TRG-II to direct the Special Programme towards its objectives.

The Director-General welcomes the TRG-II report and, in accepting its recommendations, wishes to draw particular attention to the following:

1. PROGRAMME BUDGET

The Programme Budget proposed for 1978 and estimates up to 1981 have been prepared using the guidelines suggested by TRG-II. Total expenditures for 1978 are estimated at US\$ 19.8 million. The budget reflects the balance and growth recommended by the TRG and does not exceed the absorptive capacity of the Special Programme and the WHO.

As noted under 5 the management of the Programme is being strengthened to continue the incorporation of efficient and effective scientific and financial control systems. These systems are an integral part of each programme area and component and are difficult to separate from other activities. The secretariat will, however, present estimates of total management costs in conjunction with the 1979 Programme Budget proposal.

2. PROGRAMME COORDINATION

The Programme is conceived as a global Programme with activities determined by needs and resources in many regions and countries of the world. In this respect, the Special Programme activities are being developed in active consultation with the newly established Regional ACMRs and the global ACMR with WHO Regional Offices and national and other bodies planning and funding research on the six diseases. A management structure for the Special Programme Headquarters has been instituted which is based on the need for rigorous and coherent Programme planning and implementation in this global framework.

3. INSTITUTION STRENGTHENING AND TRAINING

The reiteration by TRG-II of the importance of this aspect of Programme activities is entirely in accordance with WHO policy. It is clear that, if training and institution strengthening is to be effective, support is required over a 5-15 year period. TRG-II

recommended that 20% of Programme funds be allocated to this activity in 1978. The attention of Programme participants is drawn to the implications of this recommendation with respect to long-term Programme funding.

4. STEERING COMMITTEES

The recommendations of the TRG-II concerning the structure and operation of Steering Committees of the SWGs are noted and being acted upon. The composition of the Steering Committees will be increased to include eight to ten members, including those members from the WHO secretariat, instead of the six to eight persons formerly specified. The SCs will meet at least twice a year, to assure that research proposals are acted upon as expeditiously as possible.

The entire Steering Committee will be jointly responsible for all the approvals of research projects.

5. INFORMATION AND COMMUNICATION ON THE SPECIAL PROGRAMME

TRG-II noted the increasing need for distribution of information on Special Programme activities so as to recruit additional scientists to the Programme through information on Programme plans and priorities. WHO will develop and extend the Programme's information services by expanded distribution of relevant and appropriate Programme documentation, including Scientific Working Group reports and summaries and the Programme's Newsletter.



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

TECHNICAL REVIEW GROUP II

Geneva, 12-16 September 1977

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1. SUMMARY AND MAJOR CONCLUSIONS

The second Technical Review Group met for periodic critical review of the Special Programme and to make recommendations on the proposed programme and programme budget for 1978 and for future projections. The Group:

1.1 Commended the scientific and technical progress made since the first TRG meeting and noted the very positive response of the scientific community.

1.2 Endorsed the overall plans for the development of the Programme and for the balance between the disease and trans-disease components in the research and development area.

1.3 Recommended increased emphasis on the research capability strengthening area of the Programme to a total level of 20% of the available funds.

1.4 Emphasized the importance of the development within the Special Programme of innovative approaches to research on disease control.

1.5 Endorsed the operating mechanisms proposed for the scientific working groups and their steering committees, emphasized the importance of the evaluation procedures embodied in these mechanisms and recommended that steering committees be increased in size.

1.6 Stressed the importance of the development of sound and efficient management systems for the Programme, including strategic planning and network analysis.

1.7 Emphasized the need to continue to coordinate Special Programme activities with national plans and activities and other relevant international initiatives.

1.8 Recommended a review and analysis of the methods and mechanisms for the establishment of the safety to man and the environment of new therapeutic agents and biological vector control agents.

1.9 Recommended the establishment of a director's initiative fund to operate as described in this report.

1.10 Recommended that the programme budget for 1978 be between US\$ 18 and 20 million and that this budget be developed according to guidelines expressed in this report; and

1.11 Recommended that in future, the programme budget proposals for the research and development area include a number of alternative levels of activity and funding.

2. INTRODUCTION

The second meeting of the Technical Review Group (TRG II) of the WHO/UNDP Special Programme for Research and Training in Tropical Diseases was convened at WHO headquarters in Geneva from 12 to 16 September 1977.

Dr T. A. Lambo, Deputy Director-General of WHO opened the meeting and emphasized the high priority accorded to the Programme by the World Health Organization. The six diseases included in the Programme represent major causes of morbidity and mortality and thus, in addition to the human misery they cause, retard development in many countries of the world.

2.1 Purpose of the meeting

The Technical Review Group was asked to provide an independent and critical review of the development and progress of the activities of the Programme as outlined in the 1977 annual report, documents TDR/AR(1)/77.1-77.16. This report should be read in conjunction with these documents. In particular, the group was asked to:

- (a) provide the Joint Coordinating Board and the World Health Organization with an independent evaluation of the scientific and technical aspects of the Special Programme;
- (b) review the content, scope and dimensions of the Special Programme, including the technical approaches adopted;
- (c) recommend priorities within the Special Programme and propose the most effective ways for the operation of these scientific working groups; and
- (d) make recommendations on the 1978 programme budget and on future budgetary policy.

3. PROGRESS MADE IN 1977

3.1 Introduction

The first Technical Review Group (TRG I), meeting in Geneva in September 1976, reviewed the plans and pilot operations of the Special Programme, endorsed its objectives and proposed lines of development and made recommendations for implementation (TDR/TRG/WP/76.3). Major funds to support the Programme became available in 1977, and significant progress has already been made in moving the Programme into the phase of implementation. This report highlights progress to 30 June 1977. Additional information is available in the Director's annual report (TDR/AR(1)/77.1).

3.2 Planning activities

Activities included the meetings of various scientific working groups (SWGs) and their steering committees, the consolidation of plans for the first meeting of the Research Capability Strengthening Working Group (RCSWG), the preparation of a handbook outlining the organization and operation of the SWGs, the preparation for TRG II, and the establishment of liaison mechanisms to ensure collaboration and coordination of activities with WHO regional offices and research advisory committees, and with non-WHO regional and national bodies.

Discussions were held with the pharmaceutical industry, which, whilst recognizing the many constraints which exist to full cooperation between WHO and industry, sought ways to achieve collaboration in research and development of new drugs and vaccines.

3.3 Research and development

The SWG for the immunology of leprosy, which began work in 1974, reported that targets had been met on schedule in their research plans to develop an improved skin test and a vaccine. The SWGs on the chemotherapy and immunology of malaria, and on the chemotherapy of African trypanosomiasis began the funding of research projects according to plans which they had previously established.

The SWGs on filariasis, schistosomiasis, epidemiology and biological control of vectors held their first meetings and defined their objectives and plans of action. Research projects of these SWGs have been funded or approved for funding and, in filariasis, joint projects on drug development are being negotiated with the pharmaceutical industry. The SWGs on African trypanosomiasis, Chagas' disease, leishmaniasis, and trans-disease biomedical research will be convened within the next few months. A group to consider operational research on malaria, and the Research Capability Strengthening Working Group will also be convened shortly.

A preliminary consultation on the socioeconomic aspects of the Programme has been held at the World Bank headquarters.

In noting that better understanding of the epidemiology of the diseases was fundamental to the Programme, the Group approved the comprehensive approach of the SWG on epidemiology, and in particular commended:

- (i) the broad approach which included not only the traditional study of distribution and determination of diseases, but also their effects and results;
- (ii) the plans to develop research approaches, methods of assessment and standard procedures under field conditions, using the facilities which are being developed at Ndola in Zambia (see 3.4 below);
- (iii) the integration of various approaches such as surveillance, training, laboratory techniques, socioeconomic studies and the statistical sciences; and
- (iv) the strong emphasis on training in epidemiology at all levels.

The Group also commended plans to support and develop socioeconomic research. Emphasis should continue to be placed on practical rather than theoretical approaches, research within a developmental socioeconomic framework, close association with epidemiological expertise, and training in endemic countries.

The Group concluded that good progress had been made in conceptual planning and in setting the framework for future development and expansion of the operational aspects of the research and development programme area.

3.4 The strengthening of research capabilities

The Group noted that the first meeting of the Research Capability Strengthening Working Group (RCSWG) would be held in October 1977. The RCSWG should define the overall strategy for this programme area and consider a number of specific proposals leading to a major expansion of activities.

Activities over the past year involved primarily the gathering of information by consultants and WHO staff to identify institutions for possible designation as centres for research and training in the Special Programme network.

The emphasis in the research capability strengthening area was initially on the African continent. In view of the needs and opportunities in other affected countries, this programme area is now being extended to cover all endemic areas.

The Group noted that pilot activities have already begun or will soon be initiated based on four centres:

- (i) WHO Tropical Diseases Research Centre, Ndola, Zambia;¹
- (ii) WHO Immunology Research and Training Centre, Nairobi, Kenya;
- (iii) Institute of Medical Research, Kuala Lumpur, Malaysia;
- (iv) Department of Scientific and Technical Studies, National University of Benin, Cotonou, People's Republic of Benin.

In addition, six workshops, symposia or seminars were planned for training scientists and four research training grants were awarded.

¹ The Group heard a report on a recent site visit to the Centre at Ndola. Plans are under way to establish the necessary facilities for research and training in epidemiology at the base laboratory in Ndola and to develop a field laboratory in Kashikishi. Initially the emphasis will be on basic diagnostic tools, simplified surveillance systems, clinical field surveys and simple data processing.

4. RECOMMENDATIONS

The Group made the following recommendations relating to the policy, structure and operation of the Special Programme.

4.1 Policy

4.1.1 Programme balance

The Group noted two aspects of programme balance which required examination: (a) the balance between research and development (R&D) and the strengthening of research capability in endemic countries; and (b) the balance of priorities between the various R&D activities, i.e. the six diseases and the trans-disease components.

(a) The balance between research and development and research capability strengthening

The Group noted the inadequate facilities and the great shortage of trained personnel in many endemic countries. The few available scientists frequently carry many concurrent responsibilities including services with respect to disease control and teaching and administration, in addition to research. Career structures in research are not always attractive and conditions of work are sometimes unsatisfactory. The Group considered it imperative that national governments define essential research activities and make commitments to the strengthening of relevant scientific institutions.

It has already become apparent that the lack of research capability in some endemic countries can be a significant constraint on the Programme's research and development activities. For example, field trials with new chemotherapeutic agents cannot take place unless experienced clinicians and clinical pharmacologists are available in countries where the diseases are endemic. The Group noted the strong recommendation of TRG I that emphasis be placed on the development of research capability in the endemic countries. In keeping with that recommendation and the policy that when possible, research should be conducted in endemic areas, the Group recommended that the balance of the Programme be shifted in 1978 to provide a higher proportion of available funds for research capability strengthening. It was noted that 15% of the total budget for 1977 was allocated to research capability strengthening; this should be increased to approximately 20% in 1978 and continue to be held at least at that level in subsequent years.

In making this re-apportionment, the Group was aware that it might cause some delay in the achievement of short-term goals in research and development. Nonetheless, the new apportionment was justified, since the development of capability in endemic countries is a sine qua non for improvement of disease control and will facilitate the transfer and application of relevant technology.

(b) The balance between the six disease and three trans-disease components

The Group noted the attention paid to this subject by TRG I and reiterated the difficulties involved in setting precise priorities within the disease and trans-disease areas.

The Group reaffirmed the broad priorities accorded to the various disease and trans-disease components of the Programme by TRG I. Malaria remains a disease of immense importance on a global scale and must therefore continue to be given a high priority. Acquisition of sufficient, accurate information on the epidemiology of the six diseases and their relationship to the overall development process is crucial to the success of the Programme; therefore, epidemiology and socioeconomic research should receive high priority.

4.1.2 Innovation in research and development

The Group recognized a danger that the resources available to the Programme could be used merely to increase the funds available to existing research workers active in established programmes. The research and development objectives of the Programme were not likely to be

achieved in this way; it was essential to develop new scientific approaches to the problems of control, based on recent fundamental advances in biomedical sciences, and the involvement of new scientists.

4.1.3 Coordination

The Group noted that the work of the Programme represents only a portion of total global research on tropical diseases; to avoid unnecessary duplication of activities, close coordination must be established and maintained with other programmes. The Group urged the continuation and expansion of links established with relevant United Nations agencies (e.g. FAO, UNEP) and other international and national bodies, including foundations and major laboratories involved in research on parasitic diseases (e.g. the International Laboratory for Research on Animal Diseases at Nairobi).

The scientific and technical operations of the Special Programme should continue to be decentralized to national, sub-regional and regional levels to the greatest extent commensurate with programme efficiency. Establishment of liaison mechanisms between the Special Programme and national programmes, as has already occurred in several countries, should be actively pursued.

In order to ensure effectiveness and coherence, rigorous central planning, management and direction was required and this should be the responsibility of the Director of the Programme.

4.1.4 Director's initiative fund

The Group noted the recommendation of TRG I that the Director be given freedom, within certain constraints, to initiate or expand projects relevant to the Programme's objectives for which rapid action is required. TRG II recommended that a fund for this purpose be established in 1978 with an operating budget of up to US\$ 120 000, and that the following conditions be considered in operating it:

- (i) the projects which it funded be limited to US\$ 7500 each;
- (ii) there be a time limit of one year for support of a project from this fund (further support, if required, should come through the SWG mechanism);
- (iii) there be appropriate WHO scientific and ethical review of each project; and
- (iv) a report be presented on the activities and operation of the fund to TRG III or the STAC (see also item 4.4.4).

4.1.5 Safety testing

The Group noted the difficulties in assessment of the potential hazards of new therapeutic agents, especially with respect to mutagenicity and carcinogenicity. It recommended that WHO convene a study group to examine this question in order to attempt to define more precisely the value of in vitro tests in predicting these hazards in human subjects, and to specify in vivo studies which should be undertaken when such in vitro tests are positive. Such a group should include scientists capable of assessing both risks and benefits of treatment with the proposed new agents.

The problems of safety testing of biological agents for the control of vectors were discussed, and an in-depth review of the short- and long-term hazards which such agents present to man and the environment was recommended. The review should include an analysis of existing knowledge and current methodology for the determination of such hazards.

The Group recommended the development of plans for possible involvement of industry in research, development and application activities in biological control of vectors. The WHO Five-Stage scheme for development and assessment of biological control agents should be extended into a full critical path analysis.

4.2 Structure

TRG II reviewed the operation of scientific working groups and their steering committees. The Group re-emphasized the key role of SWGs in the development and operation of the Programme, and endorsed the operational guidelines presented in the annual report, TDR/AR(1)/77.16. Some observations and recommendations were made on the operation of SWGs:

- (a) SWGs and their steering committees should include both experts in relevant scientific disciplines and those experienced in the practical aspects of disease control in different geographical regions.
- (b) Steering committees should prepare a clear strategic plan for the research to be conducted, including objectives, work plans and assessment procedures. This plan must relate in a direct way to improvement in the control of the disease(s) involved. Implementation of the strategic plan should involve critical path analysis to aid steering committees in monitoring the progress of the work.
- (c) It was essential to recruit the most appropriate scientists for carrying out the work. This should be done through widespread distribution of SWG plans leading to submission of research proposals, and through an active search by SWGs for workers and institutions from whom research proposals could be solicited.
- (d) The reports, research protocols and other documents of SWGs are of value in showing the current state of knowledge and in pointing out priority needs. Within legal and ethical constraints, they should be widely distributed. The Programme Newsletter and the booklet "Tropical Diseases" were commended as additional means of disseminating information.
- (e) In view of the nature of their responsibilities, steering committees should meet two or three times annually. In order to ensure the necessary breadth of experience, steering committees should consist of eight to 10 members, including two members of the WHO Secretariat.
- (f) The Group commended the efforts of the Programme Secretariat in developing standardized procedures to ensure objectivity in project evaluation and funding in cases where there might be conflict of interest, and urged the immediate implementation of these procedures. They emphasized the importance of voting by secret ballot and the ranking of proposals according to the criteria listed in document TDR/AR(1)/77.16.
- (g) SWGs and steering committees should recognize that one of their important duties is to attract and guide young scientists. Whenever possible, a training element should be included in research projects.
- (h) SWGs should encourage the publication in the scientific literature of the results of research which they have sponsored. In special circumstances, funds could be provided for this purpose.
- (i) The Group re-emphasized the importance of rotation of scientists attending SWG meetings, and of membership of steering committees. However, it would be unwise to establish rigid procedural rules which might, on occasion, limit the effectiveness of these groups.
- (j) The importance of carrying out research and training in endemic areas whenever possible was emphasized. It could also be of benefit to hold meetings of some SWGs or steering committees in endemic areas.
- (k) SWG and steering committee members should observe the highest ethical standards concerning the confidentiality of information received in the course of their work.

(l) The Group re-emphasized the need for formal in-depth review of the activities of each SWG at periodic intervals as indicated in the document TDR/AR(1)/77.16.

(m) The WHO research advisory committees (the Advisory Committee for Medical Research and the Regional Advisory Committees for Medical Research) and national governments should continue to be informed of the Programme's plans and activities.

4.3 Operational recommendations by disease and trans-disease components

4.3.1 Malaria

(a) The overall balance within this disease was appropriate; this balance should be regularly reviewed.

(b) Following consideration of the likely effective growth rate of the malaria research programme, the Group recommended an increment of 50% for 1978 over funds expended and obligated in 1977.

4.3.2 Schistosomiasis

The priorities for research and development and the level of expenditure proposed were considered to be well balanced and realistic.

The Group recognized the contribution which the study of immunology had already made to the understanding of the pathology of the disease. In the longer term, there was hope for developing methods for immunoprophylaxis and means to ameliorate the effects of the disease. In the short-term, priority should be given to the development of serodiagnostic tests, including methods to evaluate the worm burden.

It was noted that several pharmaceutical companies remain active in screening chemical compounds and undertake selective synthesis of potential schistosomicidal agents. The Group therefore endorsed the recommendation of the SWG that the Special Programme should not, at this stage, undertake an extensive drug screening programme.

Medical malacology and the study of intra-specific differences in snail susceptibility to infection should receive higher priority. Studies to define more clearly the natural history of the disease in different ecological situations should be carried out. In particular, the morbidity associated with infection with S. haematobium should be studied in more detail.

A view was expressed that in South America, adequate drug therapy appears to be available and the major effort there should go into epidemiology and operational research.

4.3.3 Filariasis

The Group approved the SWG's plans for research and development.

Coordination between the onchocerciasis (OCP) and the filariasis programmes should be maintained and strengthened. Full use should be made of several OCP-supported centres in West Africa in carrying out field trials on anti-filarial drugs. It is recommended that funds allocated to the filariasis programme for 1978 should be approximately 50% greater than those expended and obligated in 1977.

4.3.4 African trypanosomiasis

The Group noted that laboratories and institutions in East and West Africa had been grouped into operational "clusters" for the development of Special Programme research and training activities. They approved the development of activities in this way, and recommended that a third cluster be developed in the forest area of Central Africa.

Currently available drugs are either toxic to man or not sufficiently effective against trypanosomes. In view of the limited market for trypanosomicidal drugs, the Special Programme should support research and development of new chemotherapeutic agents. The Programme should also pay close attention to the veterinary aspects of the disease and collaborate with veterinary researchers as appropriate. Implementation of expanded research activities on African trypanosomiasis should take place mainly in the last half of 1978 when the SWG has become fully operational and the capacity to effectively utilize additional funds has been developed. Budget estimates for 1978 and activities for 1979 should reflect this time phasing.

4.3.5 Chagas' disease

Clinical trials on new drugs should be conducted only if the drug involved is effective in curing chronic infections in animals, rather than merely suppressing acute infections.

Planning should proceed with the aim of implementing the research on Chagas' disease during the last three to six months of 1978, in accordance with the priorities repeatedly emphasized by experts and which will form the basis for forthcoming considerations by the SWG.¹

The budget for research on Chagas' disease should reflect this phasing-in period in 1978 and be expanded in 1979.

4.3.6 Leishmaniasis

This disease is now resurgent in a number of areas and current drugs are not sufficiently effective. High priority should therefore be given to the search for new therapeutic agents along with greater emphasis on epidemiological and control studies. Further metabolic studies of the parasite are desirable to define points of attack which could be used as a basis for drug development. There is a need for better serodiagnostic tests to detect infections at an early stage. Clinical manifestations observed in leishmaniasis should be correlated with immunological status and with increasingly precise parasitological definition of species and strain. The possibility of developing improved vaccines should be explored. Studies of the ecology of the vectors and the implications for control are also required.

Planning is sufficiently advanced to permit major funding of research during the last half of 1978. The proposed budget should reflect this and expenditures may need to be re-examined in 1979 to ensure their adequacy.

4.3.7 Leprosy

Leprosy research remains the "flagship" of Special Programme research. Work on the immunology and chemotherapy of the disease should be continued as outlined by the SWG. The Group encouraged the SWG to investigate the requirement for research on the in vitro culture of M. leprae. The SWG should also consider the development of epidemiological studies. Activities in these fields should be reflected in future budget requests.

¹ These priorities may be found in the following documents:

- (i) CDVRU Planning Meeting, document VBC/73.4 (1973).
- (ii) Bull. Wld Hlth Org., 50, 459-472 (1974).
- (iii) PAHO Scientific Publication No. 318 (1975).
- (iv) Background document: Preparation of First Scientific Working Group on Chagas' Disease (Meeting to be held in Buenos Aires in November 1977), TDR/MPD/SWG-CHA(1)/77.4.

4.3.8 Trans-disease biomedical research

(a) The disease specific SWGs are goal-oriented and should take responsibility for research of high priority in their fields. The biomedical SWG should:

- (i) identify problem areas common to the control of a number of diseases of the Programme, and devise new approaches to their solution;
- (ii) plan strategies for research related to these approaches, obtain and review research proposals and recommend funding (the support for such research would usually be of short duration; after three to five years, results should have been obtained which could be developed further through one or more disease-specific SWGs, or the activity should be supported by funds from outside the Programme); and
- (iii) promote the broad application of biomedical sciences to research on control of the diseases of the Programme by developing various forms of communication between scientists working directly on the diseases and on other relevant disciplines.

(b) Other areas of research such as genetics, immunostimulants, technology in biological sciences and alternate forms of drug targeting should be considered, in addition to those mentioned in the annual report.

This Programme component should continue its planning, with the budget for 1978 reflecting expenditure mainly in the last half of the year. An increased budget may be required in 1979. The Group noted that certain research activities had already begun as pilot activities in the field of biomedical science; these pilot activities should be reviewed by the SWG.

4.3.9 Vector control

Recommendations regarding safety testing of agents for vector control are listed in section 4.1.5. Expenditures for 1978 in this programme component should reflect the advanced stage of planning and readiness for implementation of research projects.

4.3.10 Epidemiology

(a) The Group recommended that the SWG:

- (i) develop a work plan to determine the current state of the art, and collect and analyse on an ongoing basis the global experience in pertinent epidemiology;
- (ii) participate with the RCSWG in developing a work plan for training in epidemiology in endemic countries; and
- (iii) review the definition of "surveillance" with a view to expanding it to include "the continuing scrutiny of all aspects of occurrence and spread of a disease that are relevant to effective control".

(b) The Group recommended the inclusion of studies on nutrition in the epidemiological research activities. Initially laboratory work on nutrition should be restricted to simple analyses.

(c) The epidemiological research component should be expanded as soon as possible. Allocation of funds should reflect this by late 1978 and throughout 1979.

4.3.11 Socioeconomic research

The Group emphasized the need for socioeconomic, sociocultural and sociobehavioural research. It recommended:

- (a) strong links with the disease programmes;
- (b) identification of qualified social scientists;
- (c) identification, by means of sociobehavioural research, of simple delivery and maintenance systems for utilizing scientific breakthroughs;
- (d) study of acceptable social and economic methods of actively promoting disease control systems;
- (e) integration of improved and new disease control systems into development programmes; and
- (f) appropriate regionalization of research activities to permit approaches to local problems, including the role of traditional medicine in promoting Special Programme objectives.

Planning for this programme component should proceed during 1978, with implementation beginning early in 1979. The budget should reflect this timing.

4.4 Operational recommendations on research capability strengthening

4.4.1 The fundamental importance of this programme area is indicated in section 4.1.1 on programme balance. Thus, funding during 1978 for research capability strengthening should be expanded to approximately 20% of the total budget. The Group endorsed action to support the four network centres for research and training and recommended that others be identified and designated as rapidly as possible.

4.4.2 Consideration should be given to the interaction which must occur between the activities of the RCSWG and other Programme components.

4.4.3 Consideration should be given to the interaction which must occur between the activities of the RCSWG and those of national authorities and governments.

4.4.4 The Group commended the system of "re-entry" grants to scientists returning to affected areas following a period of training to assist them in beginning their research activities, and small grants to scientists and laboratories in endemic countries for rapid provision of items essential to their research.

4.4.5 Membership of the RCSWG should include the Chairman and one other member of the TRG or STAC; members of the ACMR and Regional ACMRs should be involved as relevant.

4.4.6 The Secretariat was requested to find a shorter name for the research capability strengthening working group (RCSWG).

5. PROGRAMME BUDGET

The long-range objectives for the Special Programme, as endorsed by TRG I (TDR/TRG/WP/76.3) and in this report, require the infusion of substantial sums of money over a number of years, if targets are to be met. In the present phase of scaling-up the Programme, the Group noted that it was essential to maintain a balance between the need for an aggressive attack on the six diseases and the absorptive capacity of the Programme - i.e. its ability to utilize additional funds efficiently and effectively. Assurance that this need for dynamic balance was appreciated and considered in the Programme's processes of planning and implementation was found in the documentation provided to the Group and in the statements of the Director. However, particularly in the phase of rapid growth, the balance between absorptive capacity and the need to press vigorously towards targets would require constant attention and sometimes adjustment. Phasing-in of the programme components at differing times and rates is one illustration of how such adjustments may be made.

The Group strongly recommended continued implementation of systematic programme planning and budgeting in line with clearly defined objectives. Modern management systems, including critical path analysis and management by results, must be used to control the scientific, administrative and financial components of the Programme if it is to meet its objectives. The Group noted with approval the evolution of such systems under the Director's guidance.

Against this background of phasing-in the Programme's activities and the need for efficient and effective programme management, the 1978 programme budget was examined in detail. The Group recommended that the total budget for 1978 be set at US\$ 18 to 20 million. Detailed recommendations relative to specific programme areas and components are presented in sections 4.3 and 4.4.

Certain programme components will be initiated only in the latter part of 1978, and the rate of expenditure can be expected to accelerate throughout that year as these components move from the planning to operational phase. As noted previously (section 4.1.1) the research capability strengthening area should comprise approximately 20% of the total budget for 1978.

The Group recommended that in subsequent years, the total costs attributed to the management of the several programme areas and components be presented separately in order to assist the TRG or STAC in the evaluation of the efficiency of programme management.

The Group also recommended that subsequent programme and budget presentations to the TRG or STAC be accompanied by alternative proposals for the research and development area of the Programme. Such alternatives should include an analysis by established SWGs of the effects of various levels of funding¹ on their research strategy, i.e. their research approaches and the existing and planned lines of research. Such information will enable an appropriate balance to be struck between the components of this area of the Special Programme.

The Group recommended that the Director of the Programme have authority to transfer funds between and within programme areas II and III. Such transfer should not increase the funding for any programme area, component, or line of research by more than 10%.

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¹ Examples of such levels of funding might be:

- (i) a 25% decrease in available funds over the current year's allocation and commitment;
- (ii) no change in the availability of funds;
- (iii) a 25% increase in available funds over the current year's budget; and
- (iv) a 50% increase over the current year's budget.

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