

Agenda Item no. 7

## Fourth External Review of the



UNICEF/UNDP/WORLD BANK/WHO  
SPECIAL PROGRAMME FOR RESEARCH AND TRAINING IN TROPICAL DISEASES  
(TDR)

---

## Towards Evolution and Growth

May 30, 2006

Period of Review  
February 2005-May 2006



# Table of Contents

<b>External Review Committee .....</b>	<b>5</b>
<b>Executive Summary .....</b>	<b>6</b>
The Past.....	7
TDR in a Radically Changed Landscape .....	7
TDR's Strengths: The Basis for Its Existence .....	8
Proposals for the Future: Evolution and Growth .....	8
Re-orientation and Stakeholder Engagement Exercise.....	14
Governance, Management and Budget .....	15
The Director of TDR.....	16
Overall Conclusions.....	16
<b>Summary of Major Recommendations.....</b>	<b>17</b>
<b>Chapter 1. Introduction.....</b>	<b>21</b>
The Terms of Reference of the 4 <sup>th</sup> External Review.....	21
Methodology .....	22
Some of the Thinking Behind This Report .....	26
<b>Chapter 2. Retrospective Review of TDR Achievements: 2000 - 2005 .....</b>	<b>28</b>
Actual Results in Terms of Meeting the Output and Performance Indicators for 2000-5 .....	29
Major Achievements in the Areas of Specific Diseases, Partnerships, Capacity Building and Technical Information.....	31
Drugs Developed by Industry with Input from TDR.....	34
Cases Illustrating Some of TDR's Strengths and Weaknesses.....	37
Overall Summary and Conclusions for Chapter 2 .....	43
<b>Chapter 3. The Changed and Changing Landscape.....</b>	<b>44</b>
Global Changes .....	44
Changing Relationships with WHO Regarding Research Plans.....	45
Roles of Other Global Health Research Organizations .....	46
Newer and Bigger Sources of Research Funding .....	46
Emergence of Product-Developing PPPs .....	46
Emergence of Other Players in Capacity Strengthening for Research .....	50
<b>Emergence of Other Players in Intervention/Implementation Research .....</b>	<b>51</b>
Conclusion .....	51
<b>Chapter 4. Situation Analysis .....</b>	<b>53</b>
<b>Strengths .....</b>	<b>53</b>
<b>Weaknesses .....</b>	<b>53</b>
<b>General Situation Analysis.....</b>	<b>54</b>
The Double Mandate of TDR .....	54
Global Position and Relationships with Co-Sponsors and Countries .....	62
Conclusion: Implications for the Future .....	66
<b>Chapter 5. Research Advocacy, Coordination and Stewardship .....</b>	<b>69</b>
Needs and expectations .....	69
Implications.....	71

Conclusion .....	74
<b>Chapter 6. Research and Development for Physical Products .....</b>	<b>75</b>
Drug Development Pipeline.....	75
TDR's Role in Drug Development in the Old Landscape .....	76
TDR's Role in R&D for Physical Products in the New Landscape .....	77
TDR's Strengths and Weaknesses in Product Development .....	78
The Place of R&D for Physical Products in the ERC-Proposed Functional Areas .....	79
Conclusions and Recommendations .....	79
<b>Chapter 7. Expanded Intervention Research (E – IR) .....</b>	<b>81</b>
Implementation or Intervention Research? .....	81
Clinical Trials: Also a Changing Scenario.....	82
Research for Action .....	83
Health Research and the Bigger Picture .....	84
Health Services or Health Systems Research?.....	85
Crossing Boundaries .....	85
Implementing E-IR .....	86
<b>Chapter 8. Research Capability Strengthening for the Future (RSC-F).....</b>	<b>88</b>
New Concepts .....	88
New Directions .....	89
Potential New Partnerships .....	91
New Foci for RCS-F .....	93
New Opportunities .....	95
Organizational and Funding Needs for RCS-F .....	96
<b>Chapter 9. Governance, Management and Functioning of TDR .....</b>	<b>97</b>
A. Governance .....	97
Joint Coordinating Board (JCB) .....	98
Standing Committee.....	100
WHO as the Executing Agency .....	101
The Scientific and Technical Advisory Committee (STAC).....	102
Relations with Scientific Working Groups and Steering Committees.....	103
B. Management .....	104
The Management Review of 2003 .....	104
From Matrix to Strategy? .....	105
The (Unclear) Strategic Process.....	106
Human Resources and their Use at TDR .....	111
The Administrative Burden.....	112
<b>Chapter 10. Decentralization: Needs, Opportunities and a Practical Solution.....</b>	<b>115</b>
Characteristics of the Proposed Teams.....	115
<b>Chapter 11. Africa: Needs and Opportunities .....</b>	<b>121</b>
Greater Needs.....	121
Greater Opportunities.....	121
<b>Chapter 12. Financing .....</b>	<b>124</b>
Situation Analysis .....	124
Resource Mobilization for the New TDR.....	126
Notes on Some Potential Donor Sources .....	128
<b>Chapter 13. Next Steps .....</b>	<b>133</b>

1. Re-orientation and Stakeholder Engagement Exercise .....	133
2. Negotiation with WHO of an Omnibus Administrative Structural Agreement.....	134
3. Refining, Validation and Adoption of Main Functional Areas.....	134
4. Establishment of small, regionally-based TDR Teams.....	134
<b>Overall ERC Report Conclusion .....</b>	<b>135</b>

# External Review Committee

The team consisted of:

## **Chair**

Professor Abdallah S Daar<sup>1</sup>

Professor of Public Health Sciences and of Surgery, University of Toronto

Director of Ethics and Policy, McLaughlin Centre for Molecular Medicine

Director of the Canadian Program on Genomics and Global Health,

University of Toronto Joint Centre for Bioethics

## **Members:**

- Professor Mohamed S Abdullah  
Aga Khan University, Nairobi, Kenya
- Professor Hu Ching-li  
Director, Shanghai Research Center on Care for Children, Shanghai Second Medical University (Former Deputy Director-General, WHO), China
- Professor Susan Reynolds Whyte  
Institute of Anthropology, University of Copenhagen, Denmark
- Dr Stephen L. Hoffman  
Chief Executive and Scientific Officer, Sanaria Inc., Rockville, MD USA

## **Executive Secretary**

Dr. Martine Berger

Geneva, Switzerland

---

<sup>1</sup> For biosketch, see <http://www.utoronto.ca/jcb/about/daar.htm>

## Executive Summary

1. This is the 4<sup>th</sup> External Review in the 30 year history of TDR. The External Review Committee (henceforth “the ERC” – for a full list of abbreviations used in this report, see Annex 1) was asked to look back at TDR’s past performance, but to focus much more on helping to develop a vision for TDR’s future. During discussions at the 28<sup>th</sup> session of the Joint Coordinating Board (JCB) in June 2005<sup>2</sup> ERC was encouraged to encompass ‘out of the box’ thinking; to respond to the question “Is TDR still relevant or can others now do better?”; and to do an analysis of TDR’s internal strengths and weaknesses, and its external opportunities and threats.<sup>3</sup>
2. Over the past year the ERC has studied documents, conducted more than 150 personal interviews, conducted other interviews by telephone or email, visited several regions, listened to the voices of disease endemic countries, attended meetings of governing bodies and interviewed their members, held individual and group discussions with TDR scientists and staff, talked to the director of TDR, Dr. Robert Ridley, several times and studied his process of vision development.<sup>4</sup> In addition, our Executive Secretary has observed the workings of TDR in depth. The ERC’s report is based on this evidence analyzed in light of the changed external landscape and the future needs of disease endemic countries (DECs).
3. The realization that TDR was at a critical juncture in its existence permeated most of what we learned from these sources. JCB, and many of the people we interviewed, expected the ERC to respond with recommendations that would shape the future of TDR, not just evaluate how effective it had been in the past. Most were keen to see TDR develop a strong vision for the future, believing it was needed by the world, and needed to be better supported. But almost all wanted TDR to change.<sup>5</sup>
4. Therefore, while our main report has a chapter assessing TDR’s performance in relation to its 2000-2005 strategic plans, because of the many questions raised about TDR’s mandate, relevance and future, in this Executive Summary we felt it more important to provide a brief, overall picture of how TDR is perceived and then focus more on TDR’s future.
5. Many of our recommendations on TDR’s future bring together and crystallize ideas regarding health research that have been discussed and debated for many years, including within TDR and its governing bodies. They respond to countries’ needs and the governing

---

<sup>2</sup> See minutes of the 28<sup>th</sup> session of the Joint Coordinating Board (JCB) meeting held in Geneva on June 23-24, 2006. TDR/JCB (28)/05.3 p. 15.

<sup>3</sup> While this 4<sup>th</sup> External Review was taking place, TDR secretariat was undertaking a parallel visioning exercise focused mainly on functional areas. Our report covers not only functional areas but a much wider range of issues relevant to the future of TDR

<sup>4</sup> TDR, working with external consultants, has developed a 10 year vision focused mainly on strategic functional areas predicated on “business lines”. See “Proposed 10-year Vision and Strategy.” Summary presented in February 2006 at the STAC meeting in Geneva.

<sup>5</sup> STAC 27 also identified the need for “repositioning of TDR in the context of a 10 year vision that will provide a framework for a renewed mission in support of sustainable impact and response to country needs.” see TDR/STAC-27/05.3a p. 2.

bodies' insights and proposals, and to stakeholders' high expectations of TDR.

## The Past

6. TDR has been extremely successful in the past, and continues to be moderately successful in fulfilling its mandate to promote “tropical diseases research” directly and through training. It has a proud track record of achievements. It is respected and trusted. When TDR’s functions are broken down into individual components, it is true that theoretically other entities could do what TDR has done if these other entities managed to stay the course and had a clear vision, goodwill and some luck. For the same total range of activities and impact, however, they would probably have consumed considerably more resources. Even TDR’s detractors recognize that there has never been, and still is not, any other organization that combines TDR’s convening power, credibility, extensive network of scientists in both the North and South, and impressive track record, especially in research capacity building. They also recognize how remarkable it is that this has been accomplished during 30 years at a total cost of only a few hundred million dollars. Thus the ERC finds a consensus that, based on its 30 years of achievements, its sustained focus on neglected diseases affecting the poor, its institutional arrangements and its convening and leveraging functions, TDR has been a unique and extremely important organization.

## TDR in a Radically Changed Landscape

7. When it was created, TDR was a lone, tall, prominent tree standing in grassland. However, the external landscape has changed dramatically in the past decade. TDR now is one tree, albeit unique, in a forest of trees, and depending on its capacity to define its distinctiveness and future niche, the soil in which it is growing in this forest can be rich and supportive, or turn desperately barren.

8. TDR has an identity crisis in this changed external landscape. In the 21<sup>st</sup> century its role amongst other major players in the field has not been clear. The world has changed but TDR has not adequately kept pace in several ways. It seems in danger of getting marginalized as large infusions of funds go elsewhere, e.g. being channeled into several product-developing Public-Private Partnerships (PPPs).<sup>6</sup> TDR has not managed to partner well with some of these new entities or to define respective functions and tasks, and build sufficient linkages and mutual agreements for collaboration. Nonetheless, most interviewees strongly believe that TDR has been relevant in the past and ***will continue to be very relevant into the future if*** it clearly defines, and focuses on, its fundamental mission *and* positions itself correctly<sup>7</sup> to fulfill that mission. The number of people exposed to, afflicted by, and dying from, neglected diseases and diseases affecting the poor has not dropped. The world has witnessed the

---

<sup>6</sup> This is a commonly used term, although these entities vary considerably. Here we mean those PPPs that focus on product development. It might be better to use the abbreviation “PD-PPPs” for “Product Developing Public Private Partnerships”, but thus far there is no general consensus on this usage,

<sup>7</sup> STAC 27 had also noted that “a variety of factors are converging to open up opportunities for TDR to reinforce the need for its repositioning”. TDR/STAC-27/05.3a, p. 2.

emergence of about 30 new infectious diseases in the past 30 years. And poverty and inequities in access to health have certainly not disappeared.

## **TDR's Strengths: The Basis for Its Existence**

9. TDR undertakes a number of very important functions, as indicated by the 27<sup>th</sup> meeting of the Scientific and Technical Committee (STAC) in 2005. In addition to its track record of achievements, TDR has a number of strengths, both potential and realized. These include its scientific staff, governing structures, steering committees and expert working groups; the research it catalyzes and fosters; and its sustained role in research capacity strengthening. Its advantages include the fact that it is a multilateral, intergovernmental, inter-sectoral, co-sponsored organization, largely within the UN system, with WHO as its executing agency. It is championed by many, including its alumni, who are now in important leadership positions around the world, and by its advocates among the co-sponsoring agencies, major funders and governing bodies. It can call upon an extensive network of people working in “tropical diseases” and it is seen as a neutral broker of knowledge that represents the voices of disease endemic countries (DECs).

10. These strengths could make its future secure provided it now begins to capitalize more on carefully thought-out, well-defined, well delineated and seriously negotiated alliances, partnerships and networks, and on a range of very significant emerging opportunities, many of which are identified in our main report.

## **Proposals for the Future: Evolution and Growth**

11. The ERC was convinced that TDR is a very valuable organization. It is needed by disease endemic countries and by others, and this need will grow in the foreseeable future. The ERC therefore wishes to emphasize that TDR should continue to be supported by ALL stakeholders and that this support should increase dramatically. The **newly energized and re-oriented TDR** should be more organically integrated into the global health scene. The new TDR should evolve and grow from the current one. The biggest danger now is that TDR will resist significant change, believing that it will be the best in the future because it was the best in the past. It must resist the temptation to continue largely along the same path as in the past, and miss all the new opportunities it now has to evolve and grow significantly. The ERC noted that the need for evolution and growth had also been recognized by STAC at its 27<sup>th</sup> session in 2005,<sup>8</sup> and by the Standing Committee as early as 2003.

12. With JCB and co-sponsors, the ERC agrees that TDR's general mandate and institutional base remain largely valid. However, the ERC also agrees with JCB and co-sponsors, and with many interviewees that, operationally, TDR's mandate needs to be re-interpreted in light of the radically changed external landscape. The ERC concludes that TDR's focus should be on the very neglected diseases, and even more so on *the health needs of the most needy*

---

<sup>8</sup> TDR/STAC-27/05.3a p. 2: “The framework is also expected to support and foster growth, partnerships, budget increases and long term programme viability.”

*populations*. At its 2004 meeting JCB, in fact, had expressed a similar view to change TDR's focus from a few "diseases" to "people's health needs".<sup>9</sup>

Evolution and growth must be in both form and function—and form must serve function.

#### *A. FUNCTION*

13. ERC recommends that **TDR should create four functional areas** as follows:

- 1) Research Advocacy, Coordination and Stewardship**
- 2) Research and Development for Physical Products**
- 3) Expanded Intervention Research (E-IR)**
- 4) Research Capability Strengthening for the Future (RCS-F)<sup>10</sup>**

14. While a number of current TDR activities may be related to functional areas 1 and 2, the scope of our proposals in these two areas is different from what TDR is presently doing. Functional areas 3 and 4, as they emerge from our review, require a radical shift of emphasis in what TDR does, how it works, and the kinds and mix of staff it employs. These four areas are reflections of the suggestions from STAC regarding TDR's core functions and capabilities.<sup>11</sup> They also respond to JCB deliberations, for JCB has for a long time been pressing TDR to revisit its approach, especially in terms of portfolio flexibility and broader understanding of capacity strengthening and research stewardship functions.

Each of these four functional areas is discussed, and its proposed scope defined, in a separate chapter in the main report.

##### *1) Research Advocacy, Coordination and Stewardship*

15. TDR must continue to represent the interests of disease endemic countries. It must structure and expand its extremely important over-arching, umbrella and stewardship functions aimed at fostering research to address neglected areas of diseases affecting the poor. It must capitalize on its potential strengths to gather intelligence to keep abreast of developments; establish the current status of scientific and technological developments; map evolving partnerships and investments; identify countries' needs and resources; set the

---

<sup>9</sup> TDR's own staff retreat held in 2004 identified its primary goal as "Finding better ways to fight diseases of poor people in poor countries."

<sup>10</sup> All four functions are obviously linked at some points. There will therefore be a need, depending on the context, for negotiations and cooperation at the interface between the 4 functions. For example, should clinical trials come under function 2 (R&D for physical products) or under function 3 (E-IR) ? As the ERC notes in chapter 6, the issue is context-specific and organizational rather than conceptual.

<sup>11</sup> The areas identified were 1) Capacity Building; 2) Specific R&D deliverables; 3) Convener for Global Agenda Setting; 4) Best Evidence-based Practices and 5) Knowledge Management. STAC 27 Strategic Summary, TDR/STAC-27/05.3a.

agenda and convene experts and stakeholders in health research to identify the need for tools to solve problems (which might include policies and strategies as well as physical products such as diagnostics, drugs, and vaccines); and prioritize, catalyze and undertake other “midwifery” functions. In this role TDR does not itself invest in research or product development. It acts as an *honest broker* to ensure that the best solutions are identified and supported; this includes advocating for, and facilitating, the assessment of physical products developed by others and claimed to be useful.

16. This important role would respond to the expectations expressed on several occasions by co-sponsors (e.g. the World Bank) and bilaterals that TDR could, and should, provide this umbrella function to help organize the discussions and review needs and opportunities in its areas of emphasis. It could also partly subsume the knowledge management function that TDR is currently trying to achieve with some difficulty, and which STAC members have been keen to see the TDR Secretariat further develop.

17. Apart from the initial Re-orientation and Stakeholder Engagement Exercise described below, TDR should build a mechanism for regular consultation with other major stakeholders. Consultations will aim to review needs and opportunities in TDR’s fields of competence, and facilitate dialogue and consensus on research priorities and coordination of work and funding.

## *2) Research and Development for Physical Products*

18. The ERC recommends that this function should be restricted to only the very neglected diseases for which critical strategic research and development is not being undertaken by others. A recent Wellcome Trust-funded review by the London School of Economics<sup>12</sup> indicates that there has been a dramatic increase in neglected disease drug development by other entities, such as PPPs, that collectively perform well. Thus, there is no reason for TDR to invest resources to develop products for diseases being addressed effectively by others.

19. Because many others are developing products, the ERC recommends that TDR seriously review which diseases and areas it should invest in for physical product development. Examples might include African sleeping sickness, leprosy, schistosomiasis, diseases caused by filarial infections, visceral leishmaniasis, and malaria caused by *Plasmodium vivax*, *P. malariae*, and *P. ovale*. Others have suggested adding soil-transmitted helminths. When diseases or areas of diseases research are taken up by others or are eliminated, TDR should apply criteria for sun-setting these.

20. To the extent that TDR is involved in physical product development it should limit itself to elements not addressed by others. It must be able to show that it will decisively

---

<sup>12</sup> The New Landscape of Neglected Disease Drug Development. Mary Moran, Anne-Laure Ropars, Javier Guzman, Jose Diaz and Christopher Garrison. Pharmaceutical R&D Policy Project. London School of Economics and Political Science. Published by the Wellcome Trust. see <http://www.lse.ac.uk/collections/LSEHealthAndSocialCare/documents/PRPP/TheNewLandscapeOfNeglectedDiseaseDrugDevelopment.pdf>

complement, rather than merely shadow or compete with, others such as the Medicines for Malaria Venture (MMV), which TDR played a major role in creating. In this role, TDR should continue to inspire, foster, support and indeed **finance**, if necessary, appropriate areas of research, including **strategic and basic research**. It should use its excellent networks of scientists, and it should not exclude, *in principle*, any tool.

21. The ERC concludes, however, that a large proportion of TDR's future long term activities, based on needs, scientific opportunities and users' demands, must be built on two solid and re-enforcing foundations, namely on:

### *3) Expanded Intervention Research (E-IR)<sup>13</sup>*

22. The ERC heard frequently in the course of this review that in the future TDR will need to focus on implementation research (IR). The pipeline of products from various sources, especially PPPs, will require TDR's expertise in IR to be deployable in health systems in DECIs. TDR has a good record in this general area. It has shown itself in some instances capable of rapid learning from field conditions. The research that TDR organized has played a key role in establishing the validity of measures used for onchocerciasis control and in the use of insecticide-impregnated bed nets for malaria control.

23. However, the ERC concludes that what is really needed for the future goes beyond just IR to what we term Expanded Intervention Research (E-IR), which we envision to encompass a more extensive spectrum of research activities, discussed in detail in chapter 7. Research and control are different but they must be conducted closely together. E-IR is in many ways the key link between research and control and is intimately related to scaling up of the use of tools, interventions and policies. E-IR will inform the whole spectrum that spans efficacy research, effectiveness research, implementation research and operational research (partly as envisaged in the Memorandum of Understanding [MOU]),<sup>14</sup> as well as the broader context of intervention. Our conception of E-IR partly responds to the continuing challenges of repositioning of TDR identified at the 27<sup>th</sup> meeting of STAC.

24. The ERC envisions such research as being conducted in close cooperation and coordination with Social, Economic and Behavioral (SEB) research in TDR.

25. In these activities, operating procedures will have to be devised to avoid (or systematically manage) conflicts of interests, or even the perception of conflicts of interest. These might arise, for example, if TDR is evaluating products, policies or interventions that it has itself developed.

26. The ERC recommends that TDR work closely with WHO, which is developing its own vision of research, jointly to define their respective future research roles. They ought to start

---

<sup>13</sup> The ERC uses the terms E-IR and Research Capability Strengthening for the Future (RCS-F) here as shorthand for easier transmission of its message. The terms do in fact reflect the expanded visions of these two functional areas as envisaged by the ERC. These go well beyond what TDR is currently doing, and are described in detail in chapters 7 and 8 respectively.

<sup>14</sup> Annex 2 of the MOU, item 5: "Since several major problems requiring research apply to most or all of the six diseases, the Special Programme includes components on epidemiology and operational research, vector control, socioeconomic and biomedical research."

a serious discussion that identifies what research functions are undertaken by WHO, by TDR, and by them jointly. The terminology used will need to be defined and acceptable to both. One option for future roles is for WHO to view TDR as its research arm in selected areas; another is that there should be joint, or closely coordinated, planning and implementation of a research agenda that best serves the needs of DECs. This will serve to avoid misunderstandings, tensions and duplication. The newly created Global Malaria Programme in WHO lends itself very well to forging a strong and productive relationship between WHO and TDR in the area of intervention research as envisaged by the ERC.

#### *4) Research Capability Strengthening for the Future (RCS-F)*

27. The ERC envisions a much stronger, larger and more varied role for TDR in this area than it currently undertakes. A stronger, more systematic emphasis should be placed on capacity strengthening of **institutions and their networking**. TDR should also go well beyond building technical capacity alone and include broader aspects of research such as skills in clinical trials, research leadership and management, ethics of international collaborative research, negotiation, partnership building, and planning and organizational skills.

28. In the main report the ERC has begun the process of developing this renewed RCS vision by looking at the new potential landscape of RCS: new concepts, new directions, new potential foci, new use of tools, re-invigorated processes, new potential roles to meet new and growing expectations, and new opportunities. TDR will not, of course, be able to do everything, but it now has a much wider spectrum of choices based on needs, demands and opportunities.

29. TDR also now has a wider choice of centres of excellence to collaborate with in RCS. Many of those in countries such as India and China are more cost-effective than those in the North. The ERC recommends that TDR should develop RCS programs increasingly through systematic, negotiated, even contracted, long term partnerships and strategic alliances and through co-branding of exchanges and fellowships with other institutions from the North and, increasingly, the South.

30. A new, expanded RCS should rapidly emerge within the context of E-IR to organically and powerfully link these two foundational functions in the new TDR. TDR could also play a bigger role in research capacity building linked to human resources development for health<sup>15</sup>

31. TDR should also increasingly move, with partners, towards systemic approaches to research capability strengthening at national level, starting with assessments of national health research systems, to help developing countries build up and strengthen their scientific and technological innovation systems and policies according to their needs and circumstances. TDR should address the current sub-optimal coordination of RCS between

---

<sup>15</sup> See The World Health Report: Working Together for Health, World Health Organization, April 2006 (<http://www.who.int/whr/2006/en/index.html>). The report contains an expert assessment of the current crisis in the global health workforce and ambitious proposals to effectively tackle the problem, with the support of global partners, over the next ten years.

different TDR units.<sup>16</sup> The spectrum of activities will encompass training, capacity building, capacity scale up, and fostering and supporting leadership for research policy.

## *B. FORM*

32. The ERC has considered a number of options for the future of TDR. The most radical, suggested by only a few, was that TDR as it currently functions has no further role in the new landscape of global health research and should now be allowed a dignified death. Another was to start with a clean slate- a tabula rasa- and ask if it is still needed and what it might do. A third was to make TDR a purely Africa- focused Programme, since that is where the greatest needs are, and where there are a number of opportunities for TDR, including drawing on funds directed specifically towards Africa. The ERC rejected these options, for it became convinced during this review that now, more than ever, there was a need for a renewed TDR; that a renewed TDR was relevant for all regions; and that TDR should be supported and strengthened by all stakeholders, so long as it shows itself capable of re-orientation and of working in the radically changed external environment.

33. Among the criticisms we heard of TDR were that it is elitist, interacting mostly with research institutions and not well with ministries of health, WHO country representatives or even WHO Regional Offices. This undoubtedly reduces its impact and ability to effect change. Furthermore, TDR was originally envisioned as a dynamic, collaborative network for research and training,<sup>17</sup> and while it has helped build individual and institutional capacity, its role in supporting networks and active collaboration is less apparent.

34. From the above, and from other evidence that includes unaddressed needs identified by co-sponsors, and projections that take into account not only these challenges but significant opportunities, the ERC has concluded that TDR's renewal and re-orientation must include practical, implementable, cost-effective structural changes that strengthen its capabilities while addressing some of its identified defects.

35. The ERC therefore recommends that TDR establish **small, mobile, regionally-based TDR Teams**, each made up of perhaps three professionals, whose main functions would include increasing TDR's relevance and alignment with countries needs and priorities; increasing countries' ownership through participation both in field activities and agenda-setting; and increasing sustainability through localization of research and capability building as well as intra- and inter-regional collaboration. The Teams would increase the ability of TDR to draw on the local resources of all its co-sponsors (WHO, The World Bank, UNDP and UNICEF) and of potential future partners.

36. These small TDR Teams might be based in the facilities of one of the co-sponsors or in a

---

<sup>16</sup> JCB itself has in the past expressed concern about the lack of visibility of RCS and its possible dilution. The concept of RCS+ was then developed, to make a direct link between some of the RCS activities and specific disease research. However, there has been no proper mainstreaming of RCS in TDR, and activities have remained fragmented.

<sup>17</sup> See Resolution WHA 30. 42 and Annex 2 of the MOU, item 8.

collaborating centre of excellence. They would report to the director of TDR in Geneva. They might include staff seconded from any of the co-sponsors, and the staff might rotate between regions and TDR Secretariat in Geneva. The small increase in TDR's budget needed to create these small Teams will be mitigated by a reduction in TDR's overall travel budget by providing expertise locally and by members of the team attending meetings that would otherwise require staff to travel from Geneva. The composition of the Teams would be flexible and change with requirements. These small TDR Teams will increase awareness of, and access to, national and regional financial and other resources. Thus, they will **increase the resources available not only to TDR, but more importantly, to TDR-supported networks and activities**. They will allow a more realistic approach to implement what has been repeatedly requested by JCB as it has urged TDR to evaluate the impact of its activities,<sup>18</sup> giving particular attention to involving countries in this evaluation. They would also allow convergence with the country focus approaches of WHO, UNICEF, UNDP and the World Bank.

37. This model of minimal decentralization will require no major change in numbers of staff at the Secretariat in Geneva. It is likely that staff in Geneva will actually increase to some extent with the suggested changes in function. The Programme as a whole will maintain its *global* oversight capabilities while addressing regional and country needs and priorities more realistically. Some of the staff in Geneva may well volunteer for a short period to become members of the TDR regional Teams, although there is enough talent in all regions to recruit for these Teams.

38. In establishing these small Teams, Africa might be given some priority, both because it has the most urgent and extensive needs, but also because of the new opportunities (see chapter 11), including significant funding opportunities, many of which are specifically directed towards Africa (see chapter 12). Africa might require two Teams instead of one, partly because of poor travel between East and West Africa (although this is improving), and partly to cater to Francophone countries in West Africa. However, because establishing these small TDR Teams is not an onerous or expensive undertaking, other regions could follow very rapidly.

## **Re-orientation and Stakeholder Engagement Exercise**

39. The ERC strongly believes that there is a crucial and unavoidable immediate next step for TDR. It is convinced of the need for TDR to re-orientate itself for the future and that TDR ought not to do this by itself, but to receive advice from other stakeholders.

40. The ERC recommends that TDR undertakes a serious Re-orientation and Stakeholder Engagement Exercise that involves **all** key stakeholders (WHO, governing bodies, co-sponsors, donors and funders; country and regional representatives; research funding agencies; major philanthropic organizations such as the Bill and Melinda Gates Foundation

---

<sup>18</sup> For a discussion of impact evaluation, please see the study commissioned by TDR and prepared by Catherine Michaud and Michael Reich. Both this document and another study by the same authors on the repositioning of TDR, are part of the ERC's final report (Reference documents 3 and 4).

(BMGF), the Rockefeller Foundation and the Wellcome Trust; PPPs; NGOs, private sector, etc.) Together they must ask “*What does the world need, that TDR can do best, to improve the health of those in greatest need*”? This will bring to the surface and deepen the understanding, and help prioritization, of future specific needs which TDR could address. The process must also be designed and conducted so as to help other stakeholders better define their own needs in E-IR and RCS-F.

41. **JCB and co-sponsors must, of course, define the parameters of this exercise.** The ERC recommends that a group of experts and stakeholders’ representatives should meet, at the joint initiative of the JCB and the co-sponsors, as soon as possible to begin this exercise.

42. One particularly important reality is that the product-developing PPPs have a growing pipeline of potential products and some do not have the experience, skills or resources to conduct affordable, good quality, clinical trials and the necessary intervention research for these products successfully to be accepted and integrated into health systems in developing countries. This may also apply to other initiatives and other product-developing research projects. This reality represents a major opportunity for TDR. The outcomes of the full re-orientation exercise could therefore include well defined, well negotiated, even contracted, forward-looking partnerships between TDR and product-developing PPPs and others.

## **Governance, Management and Budget**

43. With regard to governance structures, The JCB Sub Committee on Governance, whose report forms an integral part of this 4<sup>th</sup> External Review,<sup>19</sup> has already made detailed and thoughtful recommendations, which this report mostly follows. However, the ERC understands that those recommendations have only been partially and slowly taken into account and implemented. The ERC makes additional recommendations in the main report.

44. The ERC recommends that TDR should maintain its links and continue its association with the World Health Organization. The ERC further recommends that TDR should be enabled to operate within a strong, comprehensive **Administrative Structural Agreement** that will reduce bureaucracy at all levels, give TDR more delegated authority, contain all necessary waivers, recognize that TDR is *special and different*, and allow operational reform of its secretariat and governing bodies. This can be done without re-opening the MOU. That option, however, should not be excluded but remain available if an Administrative Structural Agreement cannot be satisfactorily negotiated in response to the proposed vision, and to suit the future structure and operations of TDR, including the need to interact more freely and productively with PPPs, philanthropic organizations, NGOs and the private sector; and to enter into appropriate strategic alliances and partnerships. Many of the recommended reforms will depend for implementation on this Administrative Structural Agreement; and on final clarification of the legal status of TDR and of the relationship between JCB and WHO, especially in terms of distribution of responsibilities and authority.

45. The Management Review of TDR, which was commissioned by the World Bank, and

---

<sup>19</sup> Reference Document 2

which is also part of this report,<sup>20</sup> has made a number of recommendations, some of which have not been implemented completely. The ERC builds on these recommendations and makes additional ones in the main report.

46. To achieve all of the above the budget of TDR will need to increase significantly. The ERC points out in chapter 12 a number of possible options for increased resources. These include some regionally-directed resources that might be more accessible by the creation of small regional TDR Teams, and others which TDR has almost completely neglected until now. Some new sources and funding models have also been discussed by STAC.<sup>21</sup>

## **The Director of TDR**

47. The ERC recommends that the next director of TDR be given greater authority, independence and seniority of decision-making, with a higher salary level, than the current director.

## **Overall Conclusions**

48. TDR is an extremely valuable organization. Even in the changed external landscape, TDR will continue to be needed by DECs and by others. The need for TDR will grow in the foreseeable future. However, to fulfill its mandate and to meet the expectations of its stakeholders and the needs of DECs, TDR must undergo a process of re-orientation and renewal. It must evolve and grow. To achieve this, TDR should continue to be supported by ALL stakeholders. Indeed support for TDR ought to increase dramatically.

**In turn, TDR must refrain from the temptation to resist these changes.**

---

<sup>20</sup> Reference Document 1

<sup>21</sup> With regard to new funding sources, STAC 27 notes that “constraints imposed by limited (and relatively static) funds over the past years, highlight the need to explore not only different sources but also different funding models, based on new partnerships and linking also with in-country control programmes that can be relatively well funded.” TDR/STAC-27/05.3a p. 7.

# Summary of Major Recommendations

The 4<sup>th</sup> External Review Committee recommends that TDR:

**1. Creates an implementation task force to follow up on the recommendations of this review. This might be tasked to identify priorities and their pace of implementation**

**2. Is supported by all stakeholders to evolve and grow to a renewed mandate that addresses the very neglected diseases and the health needs of the most needy populations**

- TDR must think radically and strategically
- Because of the radically changed and rapidly changing external landscape, TDR must be prepared to make serious efforts to renew itself and not be tempted into accepting small changes
- While TDR needs to evolve and grow, it ought to maintain its focus on the needs of disease endemic countries; and to maintain and foster its own respected values
- TDR should build on its strengths, emphasize its unique attributes, and rapidly address and overcome its recent weaknesses, including staff demoralization and management, administrative and other issues identified in the Management Review and elsewhere in this report

**3. Creates four functional areas as follows:**

**i) Research Advocacy, Coordination and Stewardship**

- Stewardship requires a cultural change in TDR
- The need for this crucial role has been expressed by TDR's main constituencies
- This is a role that no other institution at present could legitimately fulfill
- TDR should be proactive in identifying and advocating for all research necessary to resolve major health problems of neglected populations
- TDR should facilitate and catalyze global research efforts, partnerships and investment; and support consultation and coordination among interested parties to help them set up research agendas and priorities
- TDR should maintain oversight of ongoing research, identify gaps, and mobilize resources to fill them, using its considerable convening power

**ii) Research and Development for Physical Products**

- TDR should reduce R&D for physical products to address only the few very neglected diseases (or areas of neglected diseases) that others are not addressing adequately. If others do not continue addressing those areas in the future, then TDR should be prepared to address them if they are important. It should not compete with PPPs, industry etc. in physical product development (diagnostics, drugs, vaccines etc.)

### **iii) Expanded Intervention Research (E-IR)**

- TDR should re-focus itself much more towards E-IR, including emphasis on policy and social development
- It should rapidly scale up capacity for E-IR and Social, Economic and Behavioural research by increasing staff in the area of social sciences
- It should clarify and reinforce its links with WHO's control programmes to ensure better synergy and complementarities in their respective efforts

### **iv) Research Capacity Strengthening for the Future (RCS-F)**

- TDR should study the wide range of possibilities in RCS available in the new landscape
- It should foster and facilitate a systemic approach to research capacity building in countries, enabling them to develop not only technical skills but also competences in research oversight and management, as well as in ethics
- It should reinvigorate its efforts to strengthen and collaborate with research training institutions in the South
- It should build more effectively on the RCS potential of its networks of alumni, and of scientists in the diaspora

## **4. Undertakes a serious Re-orientation and Stakeholder Engagement Exercise in the very near future**

- The ERC believes this to be an unavoidable step for the renewal of TDR
- The co-sponsors and JCB should define the parameters of this exercise
- At this exercise, disease endemic countries must be well represented and their needs and demands taken seriously
- The outcomes of the above exercise might include proposals for negotiated, even contracted, strategic alliances and partnerships with major stakeholders; proposals for methods of securing increased funding; and discussions with co-sponsors on how best to make use of the latter's resources.

## **5. Decentralizes by creating small, regionally based TDR Teams**

The Teams would increase

- TDR's relevance and alignment with countries' needs and priorities
- Countries' ownership through participation both in field activities and agenda-setting
- Sustainability through localization of research and capability building as well as intra- and inter-regional collaboration
- The ability of TDR to draw on the local resources of all its co-sponsors (WHO, the World Bank, UNDP and UNICEF) and other future partners
- Alignment with the country focus of its co-sponsors.

## **6. Develops a strategic staffing plan that takes into account the needs of the new TDR and its future functions and structure.**

- 7. Considers ways in which it might be possible to enlarge the co-sponsor group to reflect the key players in global health and the new sources of major funding for global health research, RCS and public health interventions.**
- 8. Considers ways in which TDR might improve its relations with PPPs, the private sector, philanthropies and others who have similar or overlapping mandates to address neglected diseases and the health needs of poor populations.**
- 9. Creates a mechanism for regular consultation/ engagement with the major philanthropies and other major funders, such as NIH, to coordinate their approaches and investments.**
- 10. Improves its relationship with WHO, its executing agency, by**
  - **Clarifying those issues in the Memorandum of Understanding (MOU) that have been identified by the JCB Sub-committee on Governance as requiring clarification**
  - **Negotiating a comprehensive Administrative Structural Agreement with WHO**
    - To streamline and make its administrative and financial management more efficient and transparent
    - To enable TDR to undertake the changes needed for renewal and for implementation of its new directions
  - Working closely with WHO to delineate their respective or joint research roles so as to avoid misunderstandings, tensions and duplication as TDR and WHO develop a future vision of research.
- 11. Implements the other recommendations of the JCB Sub-committee on Governance and additional recommendations on governance issues identified elsewhere in this report, taking into account the proposed directions of the new TDR. It should**
  - Review and clarify the relationships among JCB, STAC and TDR Secretariat, and their relationships at various levels with WHO as the Executing Agency
  - Consider ways to increase undesignated funding, and whether it would be possible again for TDR funds to flow directly to TDR
  - Consider whether it might be possible for co-sponsors and members of JCB to play a bigger role in supporting TDR between meetings. This might take the form of advocacy and resource mobilization
  - Review the set up, terms of reference and working methods of all Steering Committees and Scientific Working Groups to ensure a good fit with TDR's new

directions

- Exert more effort in evaluating all its work.

## **12. Has strong leadership**

- The issue of leadership is absolutely crucial to the future of TDR, no matter what form or functions the new TDR assumes
- The next director of TDR should be given greater authority, independence and seniority of decision-making, with a higher salary level, than the current director
- The director of TDR, in addition to being a good scientist, should be: a visionary who is decisive, nimble, bold, courageous, possesses strong diplomatic and political skills, is a great communicator who is internationally respected, and is able to take responsibility for major decisions, be comfortable working with all stakeholders, be able to live and work in disease endemic countries, and be able ultimately to manage the whole TDR Secretariat and overrule petty bureaucracy.

# Chapter 1. Introduction

## The Terms of Reference of the 4<sup>th</sup> External Review (see Annex 2)

Although the 4<sup>th</sup> independent external review was established by JCB in February 2005, the decision to undertake it had been made by JCB as early as June 2003 at its 26<sup>th</sup> meeting. JCB had requested an early commencement of the Fourth External Review in order to gain maximum benefit from the review for the preparation of TDR's Strategy for the period of 2006-2011. However, this was delayed partly because of the change of the Programme director and the ongoing discussions in the JCB on a ten-year vision for TDR. The terms of Reference were revised and finalized in 2004.

The purpose of the Fourth External Review was "to assess the overall relevance, appropriateness, adequacy and efficiency of TDR in relation to its current objectives, strategic approaches, and stated values (see the Strategy 2000-2005 document). To achieve this, the Review will include a broad Programme assessment, which will look at all of the Programme's relevant aspects."<sup>22</sup>

The 4<sup>th</sup> External Review Committee (ERC) was also asked to be prospective, looking at "the role of TDR in the broader international research, control, and institutional environment, taking into account the nature and values of the Programme and its comparative advantages" and to "take into account findings from related studies" including:

- a Management Review (presented to JCB(27) in June 2004)
- a review of the governance of TDR (conducted by a JCB Sub-Committee and presented to JCB(27) in June 2004)
- World Bank Approaches to Global Programmes: An Independent Evaluation (Phases I and II) (completed, a brief summary of findings presented to JCB(27) by the Bank
- Impact Evaluation for TDR: Feasibility and Approaches (C. Michaud and M. Reich, May 2005; study commissioned by TDR; revised in December 2005)
- Options for Positioning and Role of TDR in the Current and Future Research Environment (C. Michaud and M. Reich, presented to STAC in February 2005, and subsequently revised).

The 4<sup>th</sup> review is meant look back at the past 5 to 6 years, following on the Third External Review, with emphasis on the period from 2000, which was the start of the TDR's Strategy for 2000-2005. The review was specifically asked to take a prospective view over the next 10 years, i.e. up to 2015. "For the next strategic period, different scenarios should be considered, including, for example, **resource increases and a broader mandate.**"

In June 2005, Professor Abdallah Daar, chair of the 4<sup>th</sup> External Review Committee, gave the JCB an overview of the work undertaken to that date. The presentation was received very well and the ERC was thanked for its efforts. The JCB brought up a number of suggestions and ideas for consideration by the ERC when pursuing its work, including: an agreement that

---

<sup>22</sup> TDR 4<sup>th</sup> External Review proposed final Terms of Reference, June 2004. Annex 2.

the external review should encompass "out of the box" thinking; a question: Is TDR still relevant or can others now do better? And a suggestion to do a SWOT analysis (internal strengths and weaknesses, and external opportunities and threats).<sup>23</sup>

## Methodology

Based partly on the original mandate given to the ERC in February 2005 and partly on subsequent guidance from the JCB meeting of June 2005, this review has not focused primarily on past performance but on the **future of TDR**. This is a broad-ranging and robust review of TDR, taking into account the very changed landscape in which TDR now finds itself in comparison to 30 years ago, when it was created. The review is not a research project in the academic sense. Nevertheless, it bears many similarities to a "case study"<sup>24</sup> and was guided by the principles and some common practices of qualitative research data collection and analysis.

### Period of 4<sup>th</sup> External Review: February 2005- May 2006

#### *Data Sources, Collection, Participants and Settings*

The ERC obtained quantitative and (mainly) qualitative data from a variety of sources, which included:

1. Review of documents and data requested from TDR Secretariat. This included the three previous external reviews and the Management Review commissioned by the World Bank. The ERC is also grateful for the two papers by Catherine Michaud and Michael Reich, which were commissioned by JCB and which are part of this review (see Reference documents 3 and 4)
2. Review of data from other sources and journal publications relevant to the work of TDR.<sup>25</sup>
3. Overall, opinion and information were elicited from over 250 informants, of whom about 150 key informants<sup>26</sup> (Annex 3) participated in in-depth, face-to-face,<sup>27</sup> semi-structured, open-ended interviews. An interview guide (Annex 4) was developed for this purpose. On occasion e.g. at TDR secretariat and at NIH, these interviews were held in groups. Informants were told that their comments would be treated confidentially. The categories of informants included:
  - i. The director of TDR, Dr. Rob Ridley, face-to-face on several occasions during the review<sup>28</sup>

---

<sup>23</sup> Report of the 28<sup>th</sup> session of the JCB

<sup>24</sup> R.E Stake. 1995. The Art of Case Study Research. Thousand Oaks, CA: Sage

<sup>25</sup> See Annexes and Background documentation of the 4<sup>th</sup> External Review

<sup>26</sup> See list of interviewees in Annex 3

<sup>27</sup> Only on rare occasion was an interview conducted by phone or by email

<sup>28</sup> During this review, the director was in the process of developing a 10 year vision for TDR

- ii. TDR staff, interviewed as a group and then in some cases individually
  - iii. Members of TDR's governing and advisory bodies (Standing Committee and JCB, STAC and some Steering Committee members), both current and former
  - iv. All three former Directors of TDR (Drs. Lucas, Godal and Morel), in some case on more than one occasion
  - v. Co-sponsors, including staff at the World Bank, UNICEF, UNDP
  - vi. WHO staff with deep knowledge of TDR; some of these had previously worked in TDR
  - vii. Regional Representatives of WHO, at the senior level from all regions, and including other staff from AFRO and PAHO. All the Regional Directors of WHO but one were interviewed. These were Dr. H. Gezairy (EMRO), Dr. S. Omi (WPRO), Dr. S. Plianbanchang (SEARO), Dr. M. Roses Periago (PAHO), and Dr. L. Sambo (AFRO), as well as Dr. Y. Charpak, Representative of WHO EURO at the EU.
  - viii. Bilateral donor organizations and countries' representatives
  - ix. Officers of other global health or health research organizations, including COHRED, the Global Fund against AIDS, Tuberculosis and Malaria (GFATM), and the Global Forum for Health Research (GFHR)
  - x. Officers of PPPs
  - xi. Officers of research funding agencies e.g. NIH, including the Fogarty International Center
  - xii. Officers of philanthropies (e.g. Bill and Melinda Gates and Rockefeller Foundations)
  - xiii. Officers of institutes involved in research in "tropical" diseases or diseases of neglected populations (e.g. the Swiss Tropical Institute)
  - xiv. TDR alumni
4. Further in-depth interviews, at various stages of the review, with some of the people in 3 above
5. Written evidence provided following interviews in 3 above
6. Written evidence provided independent of 3 above
7. Observations made at TDR secretariat on various visits by members of the ERC, but more particularly of TDR working methods during this external review by Dr. Martine Berger, the Executive Secretary of the ERC
8. Feedback and data obtained at various meetings attended by the ERC, including:
- i. STAC 2005
  - ii. JCB 2005
  - iii. Standing Committee, March and October 2005 (part of which was attended by the Executive Secretary alone), and March 2006 (part of which was attended by the Chair of ERC alone)
  - iv. World Health Assembly, Geneva, May 2005
  - v. Global Forum for Health Research in Mumbai, September 2005
  - vi. Scientific Working Group on Lymphatic Filariasis, May 2005; SEB Steering Committee, June 2005; and IRM Steering Committee

9. Separate visits and interviews held with regional key informants by Prof. Hu Ching Li (Asia); and Dr. Mohamed Abdullah and Prof. Susan Reynolds Whyte (Africa)

10. Case studies illustrative of TDR's work and its relations with others working in global health

11. Observations, feedback and discussions held with staff at various institutes around the world, e.g. the Infectious Diseases Institute in Kampala

12. Interpretational insights were obtained from members of the 4<sup>th</sup> ERC with experience in research in developing countries, especially Professor Mohamed Abdullah, who has chaired the Board of Management of Kenya Medical Research Institute (KEMRI) for 21 years and is a member of the Africa Advisory Council on Health Research (AACHR); Professor Susan Reynolds Whyte, who continues to do research capacity strengthening and intervention research regularly in Africa; and Professor Hu Ching-Li, who worked for WHO at country, region and global level under different Directors-General, was Assistant Director General for many years and finally Deputy Director-General of WHO, who drew upon his deep knowledge of the history and workings of WHO and its associated agencies; and Dr. Stephen Hoffman, who provided an industry perspective.

The final report was completed after the ERC received comments on an April 2006 draft from a STAC sub-committee, the Standing Committee and TDR Secretariat.

### *Data Analysis*

The above sources produced a very large body of data.

As is usual in qualitative studies, the data were analyzed in parallel with data collection in an iterative fashion throughout the course of the review.<sup>29</sup> Members of the ERC re-read and analyzed their notes and subsequently each one answered the questions in the interview guide according to her/his interpretation of the data. These responses were shared among the ERC to see if members were interpreting the data in the same way. There was, from early on, a high level of agreement among the members on their interpretation of the responses to the interview questions, and on the conclusions to be drawn. Efforts were made to check validity by "Look[ing] for consistencies and inconsistencies among knowledgeable informants and find[ing] out why informants disagree about important things."<sup>30</sup>

The Executive Secretary of the ERC organized the notes, summarized important documents, and carried out a thematic/content analysis<sup>31</sup> on the basis of which a taxonomy of issues was

---

<sup>29</sup> SJ Taylor & R Bogadan. 1984. *Introduction to Qualitative Research Methods*. New York: John Wiley & Sons. p. 361.

<sup>30</sup> HR Bernard. 1995. *Research methods in Anthropology: Qualitative and Quantitative Approaches*, 2<sup>nd</sup> Edition. Walnut Creek, CA: AltaMira Press

<sup>31</sup> JM Morse & PA Field. 1995. *Qualitative Research Methods for Health Professionals*, 2<sup>nd</sup> edition. Thousand Oaks, CA: Sage. p. 138 ff.

developed. This taxonomy formed the main structure for organizing further analyses. As the analysis progressed, ERC members were asked to provide written summaries and interpretations of the data clustered around the major issues. They were also asked to envision various scenarios of the future of TDR, based on the data, its analysis, and their projections into the future, and these were also shared and discussed by the whole ERC. All members provided input on all topics, but each had major responsibility for reviewing the material on particular areas of their specific competence.

ERC members communicated on a regular basis by email and by frequent conference calls. They also met together<sup>32</sup> in Geneva in February 2005 (at the establishment of the external review and the STAC meeting); at the Standing Committee meeting in Washington and New York in March 2005; at the World Health Assembly in May 2005; at the JCB meeting in June 2005 in Geneva; at the Global Forum for Health Research conference in Mumbai in September 2005; and in Toronto in January 2006. The purpose of these exchanges was to share views on the data, develop common interpretations, and provide critical comments on written drafts.

As is customary in qualitative studies “member checking” was carried out by sending drafts to some of the interviewees to establish that their comments were interpreted correctly. The feedback obtained from the STAC subcommittee, the Standing Committee and TDR Secretariat was taken into account in finalizing the report.

### *Limitations*

This independent external review has been based as far as possible on existing evidence and the views of experienced and knowledgeable informants. The recommendations, and particularly those projecting into the future to identify how TDR might most effectively fulfill its mandate, are therefore based on the evidence available and the judgment of the ERC and of many of the key informants. TDR has many supporters and a few detractors. As far as possible, using its judgment and in consultation among its members, the ERC has discounted what it considered to be unfair, or poorly founded, statements against TDR. The ERC did not consider that there were many instances of social desirability bias in response to the questions—i.e., respondents telling the reviewers what they thought they wanted the latter to hear. Indeed the ERC minimized this by relying mainly on the large number of in-depth, face-to-face, semi-structured interviews, where there are opportunities to probe issues in depth, instead of on any mailed surveys.

### *Financing*

The ERC did not employ any research assistants for the review. No member of the ERC received payment for this work beyond travel expenses and per diems.

### *Declaration of Competing Interests*

---

<sup>32</sup> Not all the members were present at all these meetings. On occasion a member was absent.

Members of the ERC declare no competing interests. Dr. Stephen Hoffman has a company, Sanaria, developing a malaria vaccine. He receives no funding from TDR. Theoretically the vaccine could one day be evaluated by TDR.

### *Acknowledgments*

The ERC thanks the various universities and institutions that employ its members and who indirectly supported its work. The ERC also is deeply grateful to all the interviewees and informants for patiently participating and giving of their time and wisdom. The ERC thanks TDR Director and his staff for the time, information and support provided.

A Brief History of TDR's Mandate can be found in Annex 5. A summary and analysis of previous ERC external reviews can be found in Annex 6.

## **Some of the Thinking Behind This Report**

The fourth independent external review was tasked to look retrospectively and into the future, but there was a distinct feeling that it was coming at a time when there was an impending, or unfolding, crisis/threat of irrelevance for TDR, occasioned mainly by a changed and rapidly changing external environment. It was therefore necessary to spend more time on the future. So the ERC started with 4 key questions:

1. Is the original mandate of TDR still valid?
2. Can others discharge this mandate better?
3. What would happen if TDR ceased to exist?
4. If it were to be re-invented for the future, what would the new TDR look like?

As stated above, the ERC has, since February 2005, examined documents, both internal and external to TDR, and interviewed many informed people from various stakeholder groups, and it encountered some significant consensus on TDR. One of these was that in the past TDR had done a great job. There are quite a few who think it is still great. Therefore, the next question ERC addressed was: Is TDR resting on its laurels? As one very informed interviewee said "Maybe TDR thinks it *is* great because it *was* great." Obviously, the task of looking back was less onerous than envisioning an evolved future. Should TDR just remain roughly as it is now but learn to be a little more nimble, manage its work better, resolve management and governance issues, and sell itself better? Or, as one former TDR director advised: start with a tabula rasa- a completely empty slate and ask, "What does the world really need"? And build from there? How radical should the re-imagining of TDR's future be?

TDR is a co-sponsored entity that has become, perhaps inadvertently, quite a complex organization. Its current director told the ERC that many of TDR's core functions are "out of sight, yet co-sponsors and other funders want to see concrete results- and they like something new to keep them interested." But ultimately TDR must be needs-driven or it will face irrelevance for sure, no matter how well it sells itself in the meantime, or what "sexy"

subjects it cares to address. The question then became: what are the real needs? It is this crucial question that the ERC attempted to define better and to answer, and then match the answer to TDR's core competencies. But its core competencies are based on what TDR is today, not what it could become in the future.

Some further questions that the ERC grappled with were: What would make TDR unique and appealing to funders to allow it to address the very real and continuing health challenges of populations living in beset circumstances? Where is the greatest, sustained, need – and where are the potential breakthroughs in resource mobilization linked to the greatest need?

These questions, and the responses the ERC received and discussed during this review, have guided the development of the report and its recommendations. Based on a retrospective review of the achievements of TDR, of its strengths and weaknesses, and on a thorough analysis of the changed landscape, and the needs of DEC's, the ERC developed a vision of TDR's future functions and the changes it must effect to perform these functions effectively, with the best possible synergy with the many other stakeholders in global health research. The ERC included in its reflections the possible implications of its functional and structural recommendations on the management, governance and financing of the Programme.

## Chapter 2. Retrospective Review of TDR Achievements: 2000 - 2005

The data obtained from the Director's report, to JCB (2005) and from other sources, indicate that, given its relatively small budget, TDR's achievements over the past 5 years, although incomplete, are impressive. This has been in large part due to the diversity of TDR's efforts and its capacity to establish research priorities for the diseases in its portfolio. TDR has worked with some partners to identify the resources required to address the problems, and with partners in the developing world to initiate research projects, including implementation research. In this capacity TDR's often modest resources have acted more as a catalyst than as the main source of funding. In other areas where there has been less interest from partners TDR has taken full responsibility for addressing the problems.

Because of the nature of TDR's work, especially with partners, it is difficult adequately to capture the breadth and depth of TDR's accomplishments. Furthermore, TDR's goals and objectives, framework for reporting results and organizational structure have changed over time. In this chapter TDR's achievements are elaborated on a quantitative basis, on a specific disease by disease and area by area basis, and *retrospectively, for illustrative purposes*, from the perspective of the four functional areas being recommended by the ERC. The ERC here also provides examples that illustrate some of TDR's strengths and weaknesses.

In assessing TDR's achievements during the past five years, several sources of information have been used.<sup>33</sup> We evaluate its achievements from multiple perspectives:

1. Its actual results in terms of meeting the Output and Performance Indicators
2. Its specific major achievements in the areas of specific diseases, partnerships, capacity building and technical information
3. Drugs developed with input from TDR
4. Cases illustrating TDR's strengths and weaknesses.

---

<sup>33</sup> The following sources were used. 1. Third External Review Final Report of October 1998 (TDR/JCB (21)/98.5), 2. TDR Strategy (2000-2005) of October 2000, 3. TDR Progress Reports (1999-2000, 2001-2002, 2003-2004), 4. High Impact Products for 2004-2005 (draft), 5. Director's Report to JCB (28) of June 2005 (TDR/JCB (28/05.5)), 6. Discussions with Dr. Robert Ridley, Director TDR (during 2005), 7. Research Capacity Strengthening-Strategy 2002-2005, TDR/RCS/SP/02.1, <http://www.who.int/tdr/publications/publications/pdf/rcs-strategy.pdf> The change from a functional activity focus to a more disease specific focus in the reporting system in 2003-2004 has made it somewhat difficult for the ERC to assess the achievements in terms of objectives, targets and performance indicators defined in 2000.

# 1. Actual Results in Terms of Meeting the Output and Performance Indicators for 2000-5 <sup>34</sup>

In discussions with Dr. Ridley in June 2005 the following major accomplishments and progress in terms of the performance indicators were identified (Tables 1 and 2).

<b><u>Table 1: Major Accomplishments 2000-2005</u></b>	
<b>A. Basic knowledge</b>	<ul style="list-style-type: none"> <li><b><i>Anopheles gambiae</i> genome sequence (facilitated)</b> * Research Advocacy, Coordination and Stewardship</li> </ul>
<b>B. New tools</b>	<ul style="list-style-type: none"> <li><b>Development and registration of miltefosine for Rx of visceral leishmaniasis (partnership Zentaris-Germany)</b> * Research and Development for Physical Products</li> </ul>
<b>C. New and improved intervention methods</b>	<ul style="list-style-type: none"> <li><b>Evidence for artemisinin combination therapies for malaria policy</b> * Expanded Intervention Research (E-IR)</li> </ul>
<b>D. New and improved policies for large scale implementation</b>	<ul style="list-style-type: none"> <li><b>Strategy for managing malaria “close to home” including optimal packaging of drugs</b> * Expanded Intervention Research (E-IR)</li> <li><b>Strategy to inform use of ivermectin for control of onchocerciasis in areas with high loiasis</b> * Expanded Intervention Research (E-IR)</li> </ul>
<b>E. Partnerships for Capacity Building</b>	<ul style="list-style-type: none"> <li><b>Sustained support for development of R&amp;D and training capacity in disease endemic countries (DEC), notably in best research practices, partnerships and networks leading to achievements outlined above.</b> * Research Capacity Strengthening for the Future (RCS-F)</li> </ul>

\* Indicates the functional area proposed by the ERC under which the accomplishment would have fallen.

<sup>34</sup> Targets for 2000-2005 were established in 2000.

**Table 2: TDR Strategic Performance Indicators**

Table 2: TDR Strategic Performance Indicators		Strategy period 2000-2005	
		Target	Achieved
<b>Expected Result A: New Knowledge</b>			
A1	Number of new and significant scientific advances	n.d.	1404
A2	Number of patents resulting from TDR funded research and development	n.d.	9
A3	Number of outstanding advances in scientific knowledge	8	34
<b>Expected Result B: New and Improved Tools</b>			
B1	Number of new/improved tools receiving regulatory approval and/or label extensions or for diagnostics, recommended for use	8	6
B2	Number new/improved epidemiological or environmental tools recommended for controlling neglected diseases	5	1
<b>Expected Result C: New and Improved Intervention Methods</b>			
C1	Number of new/improved intervention methods validated for prevention, diagnosis, treatment of infectious disease	11	17
<b>Expected Result D: New and Improved Policies and Strategies</b>			
D1	Number of new/improved PH strategies for which effectiveness determined, and evidence made available	} 8	12
D2	Number of new/improved strategies for enhanced access to interventions developed, validated and recommended		
<b>Expected Result E: Partnerships and Capacity Building</b>			
E1	Number of R&D partners engaged	400	2537
E2	Number of MSc degree completed	50	43
E3	Number of PhD/Doctoral degree completed	100	117
E3	Number of persons trained in short courses	250*	1149+
E4	Number of research institutions in low income disease endemic countries strengthened	13	8+
E5	Proportion of partners who are from Disease Endemic Countries out of the total number of partner: engaged	50%	70%
E6	Proportion out of total new and significant scientific advances produced by scientists from disease endemic countries	15%	48%
<b>Expected Result F: Technical Information, Guidelines, Instruments and Advice</b>			
F1	Number of research instruments and guidelines for infectious diseases developed and published	n.d.	38
F2	Number of global research priority-setting reports for neglected infectious diseases published	n.d.	4
F3	Mean monthly number of page views to the TDR web site	n.d.	160,162
F4	Number of unsolicited requests for research guidelines and instruments	n.d.	9,958
n.d.: Target not defined in strategy document for 2000-2005			
* Target for immunology training only			
+ Reported total for 2002 to 2005 only			

### Assessment

In terms of raw numbers TDR appears to have achieved the majority of output and performance indicators identified in 2000. However, it did not meet quantitative expectations in terms of “New and Improved Tools,” “New and Improved Intervention Methods,” or “Resource Management.”

All four functional areas proposed by the ERC are represented, but the most tangible and substantial impact was in the E-IR area. Under the proposed *Research Advocacy, Coordination and Stewardship function*, TDR could now accurately and confidently claim accomplishments that many have criticized TDR for taking credit for in the past. An example is TDR's role in the sequencing of the *Anopheles gambiae* genome. TDR did not fund or participate in the actual sequencing and annotation of the genome, but TDR played an enormously important role in identifying the need for the project, advocating for the project,

and convening the principals so that the project would succeed, which it did. When the accomplishment is placed in this functional area, TDR can take great pride in claiming the sequencing of this genome as an accomplishment, without risking communicating a misconception regarding TDR's specific role in this project. The same can be said for other projects, and it is anticipated this will be the case for many projects in the future.

## **2. Major Achievements in the Areas of Specific Diseases, Partnerships, Capacity Building and Technical Information.**

The following achievements have been taken from a document provided by the Director entitled, "High Impact Products for 2004-2005." They are not meant to be exhaustive, nor have they all been checked by the ERC to determine the extent of TDR's involvement in the accomplishments. Rather, they should be considered to provide an indication of what TDR sees as its primary "products"/achievements in the last biennium (2004-2005). These achievements generally build upon work conducted over the previous three years or more.

### **Working with other partners TDR has facilitated progress towards:**

#### **1. Malaria**

##### Drugs

- A label change for Coartem so it can be used in children of 5 kg (R&DP)
- Establishment of the effectiveness of artemisinin combination treatments (ACTs) (E-IR),
- Introduction of ACTs into public health programs in Africa (E-IR),
- Establishment of the effectiveness and usefulness of Lapdap, including use in pregnancy and in combination with artesunate (R&DP, E-IR),
- Finalization of fast track regulatory approval by the FDA for rectal artesunate (R&DP)
- Establishment of the effectiveness of intermittent preventive treatment in infants in reducing mortality (E-IR).
- Establishment of the Medicines for Malaria Venture (MMV). TDR was instrumental in the establishment and nurturing of MMV, an organization to which TDR has now devolved many of its previous Malaria R&D activities (Research Advocacy, Coordination and Stewardship)

##### Control

- Development and implementation of a strategy for managing malaria "close to home" including optimal packaging of drugs delineated (E-IR),
- Large scale deployment of insecticide impregnated bed nets. Based in large part on data from TDR-sponsored studies and promotion insecticide impregnated bed nets are finally being introduced where needed most in sub-Saharan Africa (E-IR).

##### Genomics

- Sequencing the genome of *Anopheles gambiae* (Research Advocacy, Coordination and Stewardship)

#### **2. Tuberculosis/HIV**

##### Drugs

- Initiation of assessment of fixed dose combinations for use in TB control in multi-centre studies, including Nigeria and Tanzania (E-IR).
- Initiation of clinical trials to assess 4 different methods to determine TB drug susceptibility in Lima, Peru (E-IR).
- Assessment of optimal time to initiate HAART therapy for HIV in East Africa (E-IR).

##### Diagnosis

- Establishment of WHO/TDR TB Strain Bank in Antwerp, Belgium (R&DP for new diagnostics, Research Advocacy, Coordination and Stewardship)
- Operational Research

- Assessment of best ways to roll out new HIV control efforts (E-IR).

### **3. African Trypanosomiasis**

#### Diagnosis

- Establishment of a consortium to identify new targets for diagnosis and staging of African Sleeping Sickness (Research Advocacy, Coordination and Stewardship, E-IR)

#### Genomics

- Establishment of a consortium to sequence the Tsetse fly genome (Research Advocacy, Coordination and Stewardship)

### **4. Dengue**

#### Mosquito

- Assessment of a new pupal survey methodology for identifying breeding sites amenable to control (E-IR).

### **5. Leishmaniasis**

#### Drugs

- Registration of Miltefosine (R&DP). Establishing methods for optimal use of the drug and determining its potential for incorporation into policy and scale up for Kala Azar in India (E-IR).
- Development of Paromomycin. and regulatory approval of a parenteral formulation to treat antimony-resistant cases in India (R&DP, E-IR)

#### Diagnosis

- Assessment of 3 new diagnostic methods for visceral leishmaniasis in India, Kenya, Sudan and Ethiopia. One of these diagnostic methods has now been recommended for use in India (E-IR)

### **6. Schistosomiasis**

#### Drugs

- Assessment of high dose regimens of Praziquantel in areas with low cure rates with standard doses (E-IR).

### **7. Lymphatic filariasis**

#### Control.

- Conclusion of 4-8 year studies to inform elimination strategies by mass treatment with DEC/ivermectin and albendazole in rural and urban settings (E-IR)

### **8. Onchocerciasis**

#### Epidemiology.

- Development of methods for rapid mapping of Loa Loa developed and being assessed for capacity to assist onchocerciasis and lymphatic filariasis control in Central America and Africa (E-IR).

#### Diagnosis.

- Use of innovative transdermal patches for delivering diethylcarbamazine as a method of diagnosis (E-IR).

### **9. Sexually transmitted diseases**

- Diagnosis.
- Evaluation of rapid diagnostic tests for syphilis for incorporation into disease control programs (E-IR).

### **10. Multiple Disease Products**

- Health sector reform to improve health. Execution of studies which indicate that implementation of health sector reforms is threatened because it takes into account the service providers rather than the people. (E-IR).
- Community-Directed Intervention. Completion of multi-country studies in Africa to assess the appropriateness and cost effectiveness of this approach (Community-Directed Intervention) for interventions centered around optimal provision and use of Vitamin A, insecticide impregnated bed nets, tuberculosis therapy and home management of malaria (E-IR).

## 11. Research Capacity Building

- FAME (Forum of African Medical Editors). The continued expansion of this tool to give an authoritative and original voice to African health research. One of the efforts has been to establish harmonized publishing guidelines in 15 African medical journals (RCS-F).
- SIDCER (Strategic Initiative for Developing Capacity in Ethical Research Review). Establishment of guidelines and an active network of regional ethical fora offering training, advice, and assistance in ethical review of clinical trial protocols at national and institutional levels and meeting the goal of establishing national ethical research review committees in 50% of countries in 4 WHO regions (RCS-F).
- Establishment of regional data management capacities for evaluation of clinical trials in the context of regulatory guidelines (RCS-F).

### *Assessment by the ERC*

TDR's performance in R&D is difficult to appreciate over a short period of time, since achievements presented in any given period may result from TDR projects initiated years previously. Thus, many of the achievements examined by the ERC may in fact represent outcomes of work initiated by TDR during previous periods. Furthermore, as discussed in the paper on impact assessment which is part of this review,<sup>35</sup> the tools presently used by TDR to monitor progress are not really evaluating its impact. Other, more qualitative, information can be used to give proxy indications of TDR's real impact and influence, such as the support and finances for health research it has been able to leverage, or the number and quality of partnerships it has been able to catalyze and/or develop.

Essentially all activities and accomplishments presented are executed with partners and many of them are also jointly funded by partners. Regrettably, there is no indication provided by TDR of the relative importance of its contribution versus that of others, which the Programme has been able to leverage. Such information would be useful and, in some cases, could readily be made available. For example, the total contribution of TDR to the *Anopheles gambiae* genome sequencing project was of US\$ 250,000 over three years (2000-2003) for the preparatory work, database and meetings of the Consortium.<sup>36</sup> Contributions of various partners neared US\$ 10 million, of which US\$ 9 million was contributed by NIH alone. This points to the need for TDR to have a better strategy for impact assessment, and not rely mainly on performance indicators that are better suited for administrative and financial monitoring. Being able to document TDR's actual leveraging of resources and real impact on research and health will further enhance the Programme's visibility and public recognition.

Nevertheless, the importance, breadth and depth of the achievements claimed in this TDR document are striking and quite remarkable. The activities of the past five years also would fall within the four functional areas being proposed by ERC for the new TDR. A number of important activities and accomplishments have been in the functional area we term Expanded Intervention Research, with significant activities in the 3 other areas.

---

<sup>35</sup> Reference Document 4

<sup>36</sup> This network included the Institut Pasteur, the European Molecular Biology Laboratory (EMBL, headquartered in Germany), the University of Notre Dame (U.S.A.), the French National Sequencing Center (Genoscope, France), Celera Genomics (U.S.A.), The Institute for Genomic Research (TIGR, U.S.A.), the Institute of Molecular Biology and Biotechnology (IMBB, Greece), the ONSA network (São Paulo, Brazil) and leading mosquito researchers from around the world, all under the auspices of TDR.

It has surprised some people that TDR has de facto eliminated vaccines from its portfolio and claims no, or minimal, accomplishments in developing vaccines for tropical diseases. The ERC concurs with STAC's and JCB's views, consistently expressed in their reports as available since 2001, on the importance of "TDR's continued involvement in vaccines". It notes JCB's recommendation (June 2004) "that TDR will explore a range of options to remain involved in vaccine R&D" and concurs with the Standing Committee's nuanced recommendation, in June 2005, cautioning that TDR's current "de-emphasis on vaccines" - acknowledged by JCB(28) - should not mean disengagement and should be "subject to review of scientific data over time". Now that vaccine R&D has moved to the Initiative for Vaccine Research (IVR) at WHO, it would be advantageous for TDR and IVR to work very closely together and draw on each others' strengths.

Overall, based on the specific achievements delineated above it is quite clear that TDR has made a substantial contribution to the field and significant progress in achieving its broad objectives. There is a much more to be done, and most of this work could not have been done without partnerships – and that is an indication of both success and the real need to strengthen future partnerships.

### 3. Drugs Developed by Industry with Input from TDR

To provide a long term perspective the ERC thought it useful to include examples in the table below.

**Table 3. The Value of Drugs Developed by Industry with Public Input from TDR since 1975. (Those registered since 2000 are shown in red)**

BRAND NAME (FIRST REGISTRATION FOR THE NEGLECTED DISEASE INDICATION) GENERIC NAME MALARIA	HEALTH VALUE IN DEVELOPING COUNTRY SETTINGS	ISSUES NEEDING FURTHER ATTENTION
1. Artemotil® (2000) β-artether <sup>37</sup>		Safe and effective but... <ul style="list-style-type: none"> <li>• Intramuscular</li> <li>• Potential cardiotoxicity issues</li> <li>• Developing country price still not agreed</li> <li>• Does not match WHO recommended treatment protocols</li> </ul>
2. Paluther® (1996) Artemether		Safe and effective but... <ul style="list-style-type: none"> <li>• Price US \$24.65 per adult treatment</li> </ul>

<sup>37</sup> Many in the malaria community think TDR should not have been involved with the development of this drug.

3. Coartem® tablets (2004) (paediatric label extension )

Artemether/lumefantrine

The label extension championed by TDR has provided Africa with its first safe, effective, suitable new antimalarial for many years. WHO/TDR's record on other aspects is less positive.

Safe, effective and suitable but...

- The US \$2.40 per adult/treatment cost and US \$0.90 per child/treatment require substantial public subsidy, without which broader use would be very difficult.

4. Lapdap® (2003)

Chlorproguanil/dapsone

Suitable and very cheap: US \$0.08 per child treatment/ US \$0.29 per adult treatment. But...

- Potential for cross-resistance with a commonly-used malaria treatment (sulfadoxine-pyrimethamine)
- No longer matches WHO malaria treatment policy (policy changed while drug was in development)
- Safety uncertain in G6PD deficiency (a not uncommon African health problem)

SCHISTOSOMIASIS

5. Biltricide® (1982)

Praziquantel

Praziquantel is effective in a single dose against all species of schistosomiasis. Generic praziquantel use has controlled schistosomiasis in Brazil, the Mahgreb region, the Middle East, China and the Philippines, and a global control plan is now in progress. This was made possible by the use of a simpler formulation developed by a South Korean company (Shin Poong), which brought the cost of treatment down tenfold. For instance, the cost of a child's treatment was reduced from US \$2.25 (1994 WHO-reduced price of Biltricide®) to only US \$0.20 with the new formulation.

VISCERAL LEISHMANIASIS

6. Impavido® (2002)

Miltefosine

Impetus for 3 countries, Nepal, India and Bangladesh, to start a programme of elimination of visceral leishmaniasis, supported by SEARO

Safe, effective in males and children, suitable but...

- Potentially teratogenic, therefore can only be given to women with child bearing potential if contraception is guaranteed
- Cheaper than existing therapies but still expensive. Price US \$145 for a 28-day treatment at Indian private sector price. (Low public sector price still in negotiation)
- Prone to rapid development of resistance
- Long treatment (one month) although oral
- Lower efficacy in patients with HIV co-infection

TRYPANOSOMIASIS (SLEEPING SICKNESS)

7. Ornidyl® (1990)  
Eflornithine IV

Effective in some strains, safer than existing alternatives and a free five year donation programme, but...

- Two weeks, four times a day intravenous treatment in hospital
- Efficacy only against *T. gambiense*
- Not recommended in HIV/AIDS patients

## ONCHOCERCIASIS (RIVER BLINDNESS)

8. Mectizan® (1987)  
Ivermectin

Ivermectin is being used to eradicate river blindness through mass administration of the donated drug. DALYs have been reduced from about 2 millions in 1995 (before control) to about 1.5 millions in 2003, and the coverage continues to increase (now up to 60% of meso and hyperendemic areas). There have been virtually no new cases of blindness in Onchocerciasis Control Programme areas in West Africa.

Safe, effective, suitable and free (donation programme), but...

- Does not kill the adult worm so requires long-term treatment
- Individual treatment requires dosing once to twice a year for up to ten years (in the absence of re-infection) while control programmes are required to be longer.

Data for this table has been derived largely from the LSE report<sup>38</sup>

**Problems with some of these drugs:** The LSE report made comments regarding two of these recently developed drugs:

**"Lapdap** (chlorproguanil–dapsone) was developed and registered in 2003 as a new cheap antimalarial drug for Africa by GSK, the University of Liverpool, Liverpool School of Tropical Medicine, London School of Hygiene and Tropical Medicine, DFID and WHO/TDR. However in 2003, WHO noted that 'to what extent Lapdap® will, by itself, find use in the treatment of malaria is uncertain. WHO strategy is to use new antimalarial drugs in combination with an artemisinin derivative' (Lapdap does not contain an artemisinin). This change in policy has led to delays in implementing Lapdap®, which is being re-engineered by GSK/MMV as Lapdap-artesunate, at a significant cost in time and resources. WHO/TDR is also conducting Phase IV field trials and pharmacovigilance studies of Lapdap to assess its scope for use."

**"Artemotil** (β-artether injectable) was developed and registered for use in malaria in 2000 by Artecef (a Dutch company) with WHO/TDR assistance. However, it was subsequently rejected for inclusion in WHO's Essential Drugs List (EDL) on the grounds that 'WHO does not recommend the unconditional use of injectable formulations for the management of uncomplicated malaria since effective oral formulations exist to treat this condition. Other injectable formulations of artemether and intravenous quinine ... are currently included in the EDL ... the addition of other antimalarial drugs ... can only be justified if the formulations are more effective,

<sup>38</sup> The New Landscape of Neglected Disease Drug Development. Mary Moran, Anne-Laure Ropars, Javier Guzman, Jose Diaz and Christopher Garrison. Pharmaceutical R&D Policy Project. London School of Economics and Political Science. Published by the Wellcome Trust. see <http://www.lse.ac.uk/collections/LSEHealthAndSocialCare/documents/PRPP/TheNewLandscapeOfNeglectedDiseaseDrugDevelopment.pdf>

safer, easier to use and more affordable [than these]’."

#### 4. Cases Illustrating Some of TDR's Strengths and Weaknesses

To illustrate TDR's strengths and weaknesses and how TDR's past programmes would fit into our proposed new functional areas, we have chosen two projects/programmes as case studies. They are meant to be illustrative, not exhaustive.

##### 1) *TDR Working Well and Having a Major Impact*

This is illustrated by the roles played by TDR in the adoption of artemisinin-based combination therapies (ACTs) for treatment of uncomplicated *Plasmodium falciparum* malaria:

- a) ***TDR as an advocate***: In the early 1990s many within TDR and WHO were still firmly of the belief that sequential monotherapy was the way to deal with drug resistant malaria. However, certain individuals within TDR were of a different view. Several reviews and position papers were published with others that argued cogently for the use of ACTs. In this way, TDR was able to communicate its message effectively to the scientific and public health community. Within WHO, TDR communicated its message very effectively despite early skepticism.
- b) ***TDR as an initiator of studies to evaluate ACTs***: the then Director of TDR, Dr. Tore Godal, saw the merit of the arguments and decided that ACTs should be tested in the field despite the high degree of opposition to the idea of ACTs within TDR and WHO. He felt that proof-of-principle trials were needed and he made a strong case for them to be carried out.
- c) ***TDR as an organizer and executioner of international clinical trials***: Once the go decision was made for multi-country clinical trials, the TDR technical expert who had pushed the idea of ACTs became the manager of the Drug Resistance and Policies Task Force, which then provided scientific guidance for the trials of the ACTs and other related activities. With colleagues he:
  - Obtained funding from USAID via a proposal written by the TDR Task Force manager with help from the Task Force members
  - Recruited a physician manager to oversee and coordinate activities
  - Wrote protocols and received ethics clearances
  - Built capacity in the field
  - Set up study monitoring and advised on study execution
  - Centralized the data into one cleaned database
  - Promoted scientific communication via publication in peer reviewed journals and presentation at international conferences
  - Coordinated actions with policy makers at WHO and in the regions for prompt and effective uptake of research results and translation into policies.

- d) ***TDR spearheading post-ACT trials after the initial Proofs of Principle:*** This has included one large deployment study in South Africa and Mozambique that is examining drug resistance, efficacy and effectiveness, transmission, compliance, social science questions, and an economic evaluation of deploying CoArtemether or artesunate plus S/P. This study is now co-funded by others, including the GFATM, and has become the flagship deployment study in Africa. A smaller study is examining the deployment of artesunate plus amodiaquine in southern Senegal. A series of smaller studies were initiated by the Task Force, focusing on specific aspects e.g. efficacy or economics.
- e) ***TDR working with Roll Back Malaria (RBM) programme to facilitate implementation:*** TDR has worked closely with WHO/RBM (particularly with the "access to treatment" group) and the WHO Regional Office for Africa (AFRO), on research priority setting and development. All along, RBM and AFRO have been kept informed of the progress of the trials and their results. This has been critical to the success of a number of meetings on ACTs and the publication of WHO documents and recommendations. In addition, TDR has provided clinical input to the Treatment of Malaria Guidelines which RBM has recently published.
- f) ***The TDR ACT Programme as a model for other programmes in TDR:*** The following were key ingredients for success: Information gathering and communication by content expert within TDR to support an advocacy position not initially supported by the majority of TDR and WHO staff.
- Visionary, courageous leadership by the director of TDR
  - Excellent design of a program by TDR staff in collaboration with host country professionals
  - Raising external funds to support the program based on the excellent design and leadership position
  - Professional management and execution in collaboration with colleagues in the affected countries
  - Completion, analysis, and formal presentation and write-up of results
  - Advocacy for implementation
  - Support for implementation
  - Evaluation of implementation
- g) ***How the TDR ACT Programme work would have fit into the four functional areas proposed by the ERC:*** The work described above on ACTs would fit well into the functional area approach that the ERC has proposed, and provides a powerful example of how ERC proposes TDR should work in the future:
1. ***Research Advocacy, Coordination and Stewardship:*** TDR recognized a form of therapy that had been established to be effective in South East Asia, and took a significant leadership position in advocating for its assessment in sub-Saharan Africa.

2. **Research and Development for Physical Products:** TDR, together with the Drugs for Neglected Diseases Initiative (DNDi), subsequently initiated the development of two fixed dose ACTs.<sup>39</sup>
3. **Expanded Intervention Research (E-IR):** TDR used its internal expertise, advisory committee system, and legitimacy to develop an assessment program and proposal, raise the funds for this intervention research, and conducted, analyzed and reported on the appropriate research. The findings led to a change in international policy and introduction of ACTs in sub-Saharan Africa. In preparation for their introduction into health care delivery systems, TDR spearheaded further implementation research. The ERC's recommendations include an emphasis on such activities continuing for many years as part of the E-IR function.
4. **Research Capacity Strengthening for the Future (RCS-F):** This has gone on as part of the E-IR work.

**Summary and Conclusions (TDR ACT Program).** TDR has played an enormously important role in effecting a profound change in drug policy at international level by having a carefully thought out strategy that answered an important public health question related to replacing failing monotherapies for resistant *P. falciparum*. ACTs are now being recommended throughout sub-Saharan Africa and elsewhere for treatment of *P. falciparum* and are having a huge impact on the morbidity and mortality of malaria. The work done by TDR on ACTs may ultimately have as large an impact on malaria as has the work that TDR spear-headed in the early 1990s on the effectiveness of insecticide-impregnated bed nets in reducing malaria mortality. Most of the ACT work originally planned by TDR was completed or on its way to completion by 2001-2002; by then, it was ready to enter the implementation research phase, following the usual TDR research pipeline and the re-organized TDR structure.

## 2) *TDR Perhaps Not Working as Well, Thereby Reducing Its Impact*

This is illustrated by the role of TDR in the development of drugs for the treatment of visceral leishmaniasis (VL).

The ERC specifically focused, on the one hand, on the development of miltefosine by TDR in collaboration with Zentaris, a German pharmaceutical company; and on the other, on issues that arose during the collaboration between TDR and the Institute for OneWorld Health<sup>40</sup> to develop paromomycin.

### i. *TDR's perspective on the development of miltefosine*

<sup>39</sup> These activities have not been included in this analysis

<sup>40</sup> <http://www.oneworldhealth.org/>

TDR considers development of miltefosine for the treatment of visceral leishmaniasis to be a major accomplishment. This was summarized in the recent report of the WHO Commission on Intellectual Property Rights, Innovation and Public Health<sup>41</sup> (see box below).

One promising drug is miltefosine. In 1988, researchers reported that miltefosine demonstrated anti-leishmaniasis activity after parenteral use in mice. Miltefosine was originally invented as an anti-cancer agent by ASTA Medica, a German pharmaceutical company, and since 2001, had been developed by Zentaris AG, its biotechnology spin-off, in conjunction with the Max-Planck-Institut in Göttingen and the Universitätsklinik in Göttingen. However, miltefosine was abandoned after Phase II clinical trials, being less effective than another anti-cancer candidate.

In 1995, ASTA Medica/Zentaris signed an agreement with the Special Programme for Research and Training in Tropical Diseases (TDR) for the clinical development of miltefosine as an oral treatment for visceral leishmaniasis. TDR, in close collaboration with ASTA Medica/Zentaris and researchers in India, planned and co-sponsored Phase II and Phase III clinical trials evaluating the safety and efficacy of miltefosine in Indian patients including children aged two years and older, who are especially susceptible to contracting visceral leishmaniasis. The studies reported that the final cure rate of oral miltefosine was approximately 94%. Phase IV trials are currently being conducted in collaboration with Indian regulatory authorities and the Indian Council for Medical Research. Indian investigators were heavily involved in all clinical development. Thus upon registration of the drug in 2002, the Indian authorities were able to promptly execute Phase IV studies and determine the necessary steps for implementation of miltefosine treatment in national health policy. Another consequence was that participation by the Rajendra Memorial Institute of Medical Science in Patna in the clinical trials resulted in the institute being recognized as a centre of excellence for undertaking clinical studies.

## *ii. A different perspective on development of miltefosine*

Others consider miltefosine to be too expensive and to have side effects which are unacceptable (e.g. teratogenicity) for its use in those who need it most. Below, the ERC highlights a perspective that illustrates problems associated with the development of miltefosine and the need for TDR to coordinate its approaches in a better way with the control programmes of WHO. The ERC heard of these problems from several interviewees. The ERC draws here, though, mainly from the summaries of this issue in the LSE report:

---

<sup>41</sup> See also: Miltefosine—1200 patients in phase IV trial in India— next steps following registration of miltefosine. Geneva, UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases, 2002 (<http://www.who.int/tdr/publications/tdrnews/news69/miltefosine.htm> )

"**Miltefosine** was developed and registered for leishmaniasis in 2002 with TDR assistance, despite its potential teratogenicity, in the belief that it was nevertheless a useful new anti-leishmania drug. However, WHO subsequently declined to include miltefosine in its Essential Drugs List (EDL), which guides developing country treatment policy and purchasing decisions, noting that 'toxicity and teratogenicity are even more risky taking into account the target population, the real price and the trend to develop resistance' Failure to conclude a WHO preferential price agreement (offered by the company) or to regulate distribution of the drug mean that miltefosine is being sold over the counter, an approach that leads experts to fear that resistance may emerge relatively quickly. "

It must be noted, however, that the situation is not the same for all WHO Regions. In the South East Asia Region (SEARO), 3 countries so far (Nepal, India, and Bangladesh) have included miltefosine in their national Essential Drugs List, and the availability of this drug has led them to embark on a plan to eliminate visceral leishmaniasis by 2015.

iii. *TDR's role in the development of paromomycin*

TDR played a pivotal role in the development of paromomycin until 2001, but became less involved due to lack of funding and of interested partners for that particular project. When Institute for OneWorld Health (IOWH), a not-for-profit corporation with funding from the BMGF, began a programme to develop and commercialize paromomycin for treatment of VL in India. IOWH and TDR decided to partner and in fact concluded a legal agreement for TDR to organize clinical and laboratory tasks. From the perspective of the IOWH working with TDR was difficult, inefficient and ultimately not productive. An MOU between IOWH and TDR took 22 months to sign, and a number of the services were not considered by IOWH to have been delivered adequately, leading IOWH to hire others to perform the same services.

Whether justified or not, there was a perception of an inherent conflict of interest because TDR was also involved in the development of miltefosine. Within this context, TDR and IOWH developed different perspectives on the issues and communication between them deteriorated.

The ERC laments this breakdown in communication and **recommends that TDR establishes mechanisms to avoid such misunderstandings, and their consequences, in future.** The proposed functional area of Research Advocacy, Coordination and Stewardship may be developed to encompass such a mechanism.

***How the work on paromomycin would have fit into the proposed functional areas:***

The problems described above for paromomycin might have been eliminated or reduced by adherence to the functional areas proposed by the ERC, as follows:

- *Research Advocacy, Coordination and Stewardship:* When approached by IOWH or other parties regarding development of a drug like paromomycin, TDR could provide an unbiased evaluation and a set of recommendations regarding its development. In addition TDR, through its expert committee

system and STAC, would need to provide an evaluation and set of recommendations regarding the merits of development of this new drug as compared with the development of another drug (e.g. miltefosine).

- *Research and Development for Physical Products:* Depending on the outcome of the deliberations above, TDR might or might not itself continue to be involved in developing an alternative drug. If it were to continue, it would ensure through established, objective and transparent mechanisms involving all parties, that plans for the two different drugs were coordinated and were complementary to each other.
- *Expanded Intervention Research (E-IR):* If the above steps were followed TDR would develop an assessment program and conduct, analyze and report on the appropriate research.
- *Research Capacity Strengthening for the Future (RCS-F):* RCS-F would be incorporated into the R&D and E-IR plans as appropriate.

#### *Summary and Conclusions on the Illustrative Cases*

TDR played an important role in the development of miltefosine. Despite the enormous effort that TDR put into the development, WHO has not so far included miltefosine in its global list of essential drugs. This does not mean that the effort was wasted, as three countries in the SEARO region have developed elimination plans based on miltefosine, demonstrating the complexity of evidence evaluation by different stakeholders, and emphasizing the need for a strong Research Advocacy, Coordination and Stewardship function for the new TDR. The work on paromomycin demonstrates that there is great need for communication between TDR and other organizations to improve significantly.

TDR efforts in these two areas (ACT and VL) capture the breadth of what is good and what needs to be improved with TDR, and demonstrate how TDR can, and should, work effectively within the context of the four proposed functional areas. Above all, it points to the fact that, whatever the degree of involvement of TDR in a given partnership, its role and those of its different partners, should be carefully spelled out and negotiated **from the start**, with clear understanding of respective natures, requirements, obligations and culture.

ERC recommends the creation of a coordinating committee between TDR and the major philanthropies and other major funders, such as NIH, to liaise and coordinate their approaches and investments.

## Overall Summary and Conclusions for Chapter 2

This chapter has documented quantitatively, specifically and generally the achievements of TDR during the past 5 years. Given TDR's mission, funding and organizational constraints the accomplishments are impressive. Through its efforts over the years, TDR has truly improved the health of "poor people in poor countries."<sup>42</sup> The combination of vision, advocacy, courage, leadership, commitment, technical expertise and political savvy exemplified in the ACT example represents a striking demonstration of what TDR should, and can be, doing. This has led to a profound positive impact on the health of millions of children in Africa. The ERC's recommendations reflect approval of this type of effort.

The examples of the development of miltefosine and paromomycin communicate a number of the ERC's concerns about how TDR has been functioning in recent years, particularly as it relates to TDR's product development efforts, and its relationship to other organizations such as PPPs in fulfilling its mission. At the least, communication could have been much improved.

Unless TDR succeeds in continuously refining and establishing its position with other partners its impact will be progressively reduced.

During the past five years TDR appears to have met most of the ambitious quantitative output and performance indicators delineated in 2000. However, **in a profoundly changed external environment, its world-wide impact and standing today are significantly less than they were in 2000.**

---

<sup>42</sup> The Committee recognizes the difficulties of ultimate impact assessment in relation to public health interventions. However, there are data emerging that confirm the positive impact of interventions such as ACTs for malaria in countries like Zambia, the onchocerciasis control programme, the use of insecticide-impregnated bednets, the filariasis eradication programme, etc. which could be analyzed and made available

## Chapter 3. The Changed and Changing Landscape

TDR originated with a WHA resolution in 1974 and was finally formalized in 1978. It was created to address the enormous burden that tropical diseases place on the health and development of people in DEC. It aimed to create and improve on tools for their control and management. Research and research capacity strengthening make up its double mandate.

Over the years TDR has been relatively successful in fulfilling its mandates, but the world has changed, with important implications for the future of TDR. When it was created there was little research on tropical diseases and TDR was like a lone tree surrounded by grassland and shrubs. It stood out imposingly prominent. Now there are many other actors doing research on tropical diseases, research capacity strengthening and knowledge management. TDR has become one tree, albeit unique, in a forest of other trees, and its visibility has declined.

### Global Changes

The environment and pattern of diseases have changed in ways that pose new challenges for research and control:

- Non-communicable diseases now constitute an increasingly heavier burden at the same time as there is a resurgence of infectious diseases. Some of the least developed countries, especially those ravaged by AIDS, are experiencing reduced life expectancy
- Changing ecologies, including global warming, deforestation and environmental pollution facilitate the spread of malaria<sup>43</sup> and other health hazards – and these are compounded by poverty and malnutrition
- Migration within and across borders, conflicts and increased urbanization facilitate the spread of infectious diseases
- Globalization, with its greater political and economic interconnections, raises fears about new health risks such as SARS, pandemic influenza and bioterrorism

The political economy of the world has changed in ways that affect the capacity for research and control both positively and negatively:

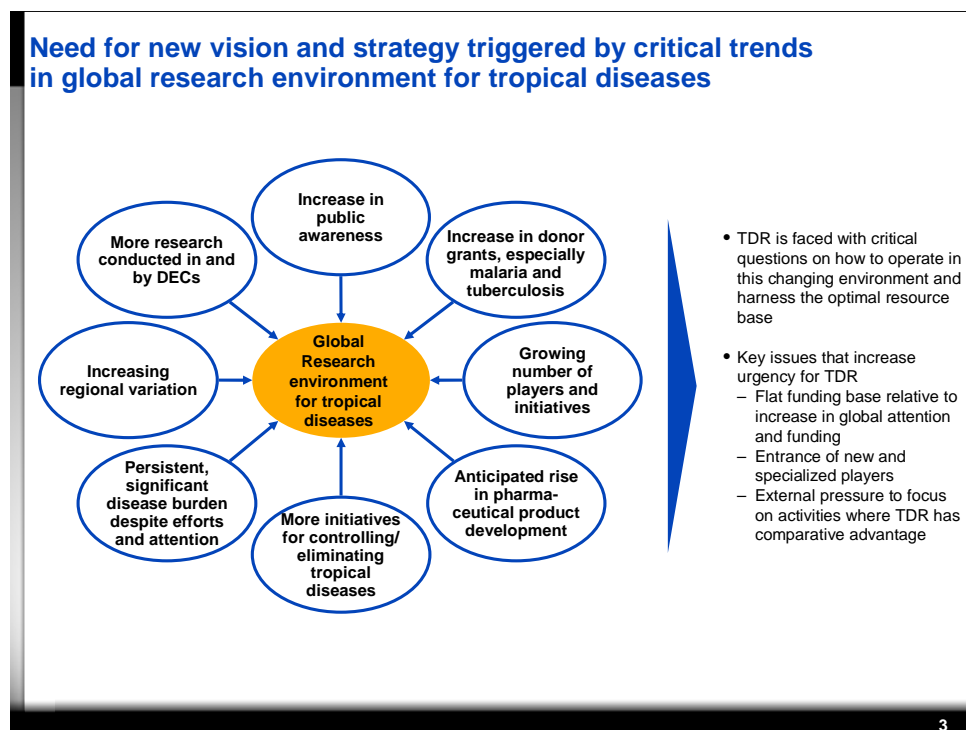
- The large scale brain drain affects the capacity of DEC for health research and health care delivery
- Strong economic and scientific capacity growth in countries like China, India, Thailand, Brazil, Mexico and South Africa provide opportunities for training and research on a South/South basis

---

<sup>43</sup> The importation of malaria to the highlands of Africa and hinterlands of South America, as well as mass human movements from holoendemic into and away from the low malaria zones are important sources of new infections among persons living and working in previously low malaria areas. Seasonal and highland malaria is now a bigger public health problem than it used to be.

- Shifting spheres of influence and interest in the needs of DEC's are providing more funding for research and control, especially in Africa

Most important for TDR, the world has changed in that new players are taking on some of the functions that have been its province in the past. The director of TDR summed up the situation in a presentation to STAC early in 2006. This is shown in the figure below:



Below we discuss some of the more specific and immediate changes in the landscape that affect the future of TDR:

## Changing Relationships with WHO Regarding Research Plans

Some of the most immediate changes that could affect TDR in the near future could well be within WHO. While research is part of its mandate, WHO has not always given it prominence. Apart from its two flagship research programmes, TDR and HRP, and the recently created IVR, its research activities have been rather fragmented.

In May 2005, the World Health Assembly requested the WHO Secretariat to undertake a survey of its research activities to inform the development of a global WHO health research strategy. A position paper will be presented to the WHA in May 2006. WHO has also recently declared its commitment to greater emphasis on research and the management and

use of research results to improve health outcomes. Following the Mexico Health Research Summit, WHO has introduced an initiative to bridge the gap between available knowledge and its translation to improve global health. The new Global Malaria Programme at WHO is also developing a vision for research linked to control. The commonality of objectives of all these with TDR is welcome. This, however, means that TDR and WHO need to work together to ensure clear distribution of responsibilities and areas of work, avoid duplication, coordinate guidance and optimize services to countries.

## **Roles of Other Global Health Research Organizations**

Other global organizations also address issues close to TDR's interests. COHRED and GFHR are both addressing persistent gaps and huge needs in health research in developing countries. Highlighting the contribution of health research to development, they advocate for mobilizing financial and human resources. These organizations work within specific institutional (NGO, Foundation), staffing and budgetary constraints. At the same time, they have a broader research interest than TDR, including non-communicable diseases of high burden like road traffic accidents and violence against women for GFHR, and enabling countries to build comprehensive national health research systems for COHRED.

## **Newer and Bigger Sources of Research Funding**

In terms of budgets, some of the larger organizations involved in research in tropical diseases have completely dwarfed TDR. These include CDC, NIH, the BMGF, the Wellcome Trust and, to a lesser extent, the Rockefeller Foundation. Some have very large budgets. BMGF alone spends about one billion US\$ a year now, much of it on delivering health care but a very large amount also on research through funding PPPs and in its Grand Challenges for Global Health program. The annual budget of NIH exceeds US\$28 billions and in malaria alone it is more than twice the entire budget of TDR. The Wellcome Trust is an independent charity which invests more than £400 million a year in biomedical research.

Of some concern is the trend in the political positions sometimes taken by governmental aid agencies and others with regard to UN agencies. There is reluctance to partner with, or fund, programmes of UN agencies because these are perceived as bureaucratic and inefficient, even though some of these potential donors may themselves be nearly as bureaucratic and cumbersome.<sup>44</sup> Governments prefer to give their money to their own overseas development aid agencies where they have direct control and leverage. Philanthropies in the past have tended to invest in projects promising efficiency and "quick results". This loss of confidence in the global public sector, even though at times based on wrong perceptions, has tended to limit funding to programmes such as TDR. The appropriate response for TDR is to develop the efficiencies and nimbleness that would allow it to garner more support.

## **Emergence of Product-Developing PPPs**

---

<sup>44</sup> Moreover, the accounting requirements imposed by donors are part of, and add to, the UN bureaucracy

It is important to emphasize just how bleak the landscape of new drug development for neglected diseases was before 2000, despite the overwhelming need for such drugs in DEC. Industry was largely uninterested in developing products for "neglected diseases". Even though organizations such as TDR provided subsidized technical and other inputs, the few companies that participated in some R&D for these diseases largely had to bear the costs and risks themselves, both financially and in terms of their reputations. Only 16 of the 1393 new drugs marketed from all sources between 1975 and 1999 were registered for neglected diseases affecting people predominantly in developing countries, and three of those were drugs for tuberculosis, which is not restricted to developing countries.<sup>45</sup>

After 2000, however, different factors came into play which dramatically changed the landscape and there was a huge increase in R&D activity. In the late '90s, the HIV/AIDS pandemic had initiated profound changes in the role of civil society, leading to greater and more effective pressure and advocacy to increase health research and access to health care and information. Major philanthropies, especially the BMGF began to address the health needs of poor countries vigorously. Social responsibility came to be formally reflected in corporate concerns and policies. Industry, philanthropies, NGOs and other groups came together to find ways to correct the pre-2000 failure to develop needed drugs for some of the neglected tropical diseases. They sought innovative means to reduce risk exposure. Various models of Public-Private Partnership (PPPs) began to emerge.

As a result of these developments, today most neglected disease drug development projects that involve companies are being conducted under a not-for-profit approach, or a 'no profit-no loss' model. A report from the London School of Economics (the LSE report)<sup>46</sup> details this new landscape of drug development for neglected diseases and describes this alternative strategic model as one that

"...differs significantly from the traditional commercial approach, under which a company receives substantial profits from sales of a drug in order to cover the cost and risk of developing that drug. Under the 'no profit-no loss' model, companies reduce their R&D costs to a minimum (no loss) thereby allowing them to deliver neglected disease products at low or no markup (no profit). Similar models may be useful to companies in other commercially less interesting areas where public pressure for vigorous new R&D programmes is also high, for example, drugs for Methicillin-Resistant *Staphylococcus aureus* (MRSA)."

The magnitude of the problem of neglected diseases was such that very significant funding, mainly from philanthropies, and particularly from the BMGF, has been channeled over the past few years through these PPPs,<sup>47</sup> specifically to focus on drug and other product development.

---

<sup>45</sup> Trouiller P, Olliaro P, Torreele E, Orbinski J, Laing R, Ford N. Drug development for neglected diseases: a deficient market and a public-health policy failure. *Lancet* **359**, 2188-2194 (2002)

<sup>46</sup> The New Landscape of Neglected Disease Drug Development, see <http://www.lse.ac.uk/collections/LSEHealthAndSocialCare/documents/PRPP/TheNewLandscapeOfNeglectedDiseaseDrugDevelopment.pdf>

<sup>47</sup> See the Partnership database [http://www.ippph.org/index.cfm?page=/ippph/partnerships/name&typobj=0&thechoice=view&s\\_criteria=names&crit\\_id=0](http://www.ippph.org/index.cfm?page=/ippph/partnerships/name&typobj=0&thechoice=view&s_criteria=names&crit_id=0) a free service offered by the Global Forum for Health Research

TDR has played an important role in this evolution. Some of the PPPs, e.g. Medicines for Malaria Venture<sup>48</sup> (MMV, box below) were established with considerable help from TDR. In a way MMV was TDR's creation.

The Medicines for Malaria Venture (MMV) is a nonprofit organization created in 1999 to discover, develop and deliver new antimalarial drugs through effective public-private partnerships. MMV's revised mandate extends beyond discovery and development to include issues of delivery of the new products. After five years of operation, MMV is managing the largest-ever portfolio of malaria research with more than 20 projects in different stages of drug research and development. MMV's goal is to register at least one new antimalarial drug every five years with the first one by 2010 and maintain a sustainable pipeline of antimalarials to meet the needs of the 2.4 billion people at risk of this deadly disease. The development strategy spans drug discovery to late stage clinical development. MMV currently (as of October 2005) has more than 20 projects in its portfolio, five of these already in Phase II or later clinical development, representing what is widely viewed as the largest antimalarial drug research portfolio ever. The portfolio covers a range of different therapeutic needs of both adults and children for severe and uncomplicated malaria. While MMV's portfolio of R&D projects is undoubtedly promising, many projects are in or approaching a critical stage where drugs are advancing through the expensive phases of clinical trials, and their successes will be highly dependent on sustainable funding. Also the 'access challenge' of ensuring that the drugs will reach those who need them most, including navigating drug registration, manufacture, and distribution could be a costly undertaking. Established as a Geneva-based not-for-profit organisation under Swiss law, MMV employs 13 administrative, managerial and scientific staff in its headquarters in Geneva and international office in New Delhi, India. In 2004 MMV posted a budget (total expenditures) of \$28 million. As of late 2005, MMV had received total pledges of approximately \$238 million from the following organizations: the BMGF, ExxonMobil Corporation, Global Forum for Health Research, International Federation of Pharmaceutical Manufacturers Associations (IFPMA), WHO, the Rockefeller Foundation, the World Bank, Roll Back Malaria Global partnership, **TDR**, the United Kingdom Department for International Development (DFID), Swiss Agency for Development and Cooperation, the Netherlands Minister for Development Cooperation, the U.S. Agency for International Development (USAID) and the Wellcome Trust. MMV also receives contributions in-kind, such as management expertise, access to chemical libraries, high throughput screening and data handling, from pharmaceutical companies, biotech firms, universities and research Institutes.

Abstract from the Partnership Database at  
<http://www.ippph.org/index.cfm?page=/ippph/partnerships/name&thechoice=show&id=31&typobj=0>

TDR was also helpful in the launching of the Drugs for Neglected Diseases Initiative (DNDi- see box below).

The Drugs for Neglected Diseases Initiative (DNDi) is a not-for-profit drug development organization established in 2003 which aims to improve the health and quality of life of people suffering from neglected disease. DNDi plans to develop six to eight new, improved and field-relevant drugs by 2014 for human African trypanosomiasis, leishmaniasis, Chagas disease and malaria. An independent, not-for-profit foundation in accordance with articles 80 ff of the Swiss Civil Code, DNDi combines centralized management, to give it a clear project-specific focus using a portfolio-building strategy, with decentralized operations, that mimic modern drug companies using project management in a virtual organization model. Nonetheless, the intention is for the overall governance to be primarily driven by the public sector. **It was founded by** an international humanitarian organization, Médecins

---

[www.globalforumhealth.org](http://www.globalforumhealth.org) and the now inactive Initiative on PPPs for Health.

<http://www.ippph.org/index.cfm?page=/ippph/partnerships>

<sup>48</sup> <http://www.mmv.org>

Sans Frontières; four publicly-funded research organizations; a private research institute; and an international research organization **WHO's Tropical Diseases Research programme (TDR)**. As of April 2005, DNDi managed nine projects in its portfolio, with six new projects, recommended by the Scientific Advisory Committee and approved by the Board, to be negotiated for inclusion, and three projects identified for further exploration. With a headquarters staff of 20 and regional liaison offices in Kenya, Brazil and India, DNDi has also built regional networks of scientists actively involved in the research of new drugs for neglected diseases in Asia, Africa and Latin America. Funding of over \$30 million has been pledged thus far from MSF, other founding partners, the Canton of Geneva, Switzerland, Swiss medical research and development foundations, and private donors. Annual costs are estimated to reach approximately US\$8million in 2005 and a minimum of US\$255 million will be required over 12 years to fund the initiative.

<http://www.ippph.org/index.cfm?page=/ippph/partnerships/name&thechoice=show&id=91&typobj=0>

Another initiative is the Foundation for Innovative New Diagnostics (FIND) <sup>49</sup> which focuses on developing innovative diagnostic products, initially on diagnostics for tuberculosis. The proposal for a dedicated initiative to develop diagnostics in this context originated from TDR staff, but funding from the BMGF could only be secured when it was agreed that FIND would be established as a PPP. When the ERC enquired as to why this was felt necessary, the answer related partly to the kinds of efficiencies that PPPs are meant to bring from the private sector, but more so to the kinds of administrative and managerial inflexibilities associated with the UN bureaucracy.

Over time some of the PPPs have indeed become nimble, productive and efficient at adding value to the product development process. The LSE report documents the roles played by the various PPPs in the recent past. By the end of 2004, over 60 neglected disease drug projects were in progress. 18 of these drugs were already in clinical trials and two were in the process of being registered. These product-developing PPPs now conduct the majority of neglected disease drug projects, have the majority of drugs in clinical trials (including at Phase III) and are likely to register several products within the next few years. The LSE report notes:

Factors associated with higher success were the PPP itself, and the level of resourcing for the individual project. For instance, the two most rapid projects were conducted by MMV, the PPP with the greatest funding<sup>50</sup> and a high level of in-house industry skills, and both received additional funding from the Gates Foundation to allow them to progress without restrictions as part of MMV's 'accelerated projects' mini-portfolio. WHO/TDR's slow performance, on the other hand, appears to reflect lack of funding (with one project on hold for several years) and lack of a primary drug-making focus, as well as structural issues and lack of in-house industry experience.

It adds:

However, many potential donors consider the PPP model is still unproven (although industry with WHO/TDR input has delivered eight new neglected disease drug registrations) as newer PPPs have not yet had time to establish a track record in drug delivery. This, beyond all other considerations, makes governments wary of funding them. Indeed if 'track record' is only measured by the number of registered drugs, then newer PPPs will

<sup>49</sup> <http://www.finddiagnostics.org/>

<sup>50</sup> In November 2005, the BMGF announced three grants totaling \$258.3 for malaria to be used for advanced development of a malaria vaccine, new drugs, and innovative mosquito control methods. Apparently, \$100 million was committed for MMV alone.

need years to establish this; however, if 'track record' is judged by their performance to date then our data show that PPPs collectively perform well.

It is estimated that more than US\$ 1 billion has so far been collectively pledged to PPPs to develop drugs, diagnostics and vaccines against diseases associated with poverty. Some of the more mature ventures have built sizeable portfolios of potential products for their target diseases. The greater involvement of multinational pharmaceutical companies in developing drugs for neglected diseases directly or through PPPs is welcome and should be encouraged.

## **Emergence of Other Players in Capacity Strengthening for Research**

TDR has played a major role in developing the capacity of scientists from disease endemic countries. Many of these scientists have returned to their countries and are holding positions of responsibility. But there, too, TDR has been surpassed by a number of other organizations providing training and capacity strengthening. In Kenya, for example, TDR has trained about 30 candidates over the past twenty five years to Masters or PhD levels. JICA, the Japanese overseas development agency, has trained more than 75 candidates in one Kenyan research institute (KEMRI) alone. When other overseas development partners are added the numbers become even more substantial.

Some DEC's have built substantial local capacity and are now assisting each other through South to South cooperation. For example, Kenya, which had two universities about 15 years ago, now has 18 universities and five of them have schools of public health educating not only Kenyans but students from other African countries. Uganda and Tanzania, which once had one university each, now have about six each, and training in public health and research is expanding rapidly.

Training programs in research institutes in East and Southern Africa have enhanced research capacity in DEC's. The ITROMID program in KEMRI is now producing 30 Masters level students and 15 PhD level students in laboratory medicine and public health each year for the whole of Africa. There are large numbers of Kenyans, Nigerians and Ghanaians studying in Indian universities and many are in medical schools and research institutes dealing with human health. In addition to European countries and the US, Canada, Australia, Pakistan and South Africa also train Africans. Many researchers in Africa and Asia are being trained through collaborations with the Institut Pasteur and the Institut de Recherche pour le Développement (IRD). In Latin America too, many research institutions and programmes are contributing to research capacity building in the region and training a significant number of researchers. These numbers far exceed TDR's capacity and output.

In addition to all these formal training opportunities, large numbers of short courses are sponsored by organizations interested in international health, such as training in ethics in research on human subjects and animals, ethics in international collaborative research, courses on grant proposal writing, leadership in health research, management sciences for senior scientists aspiring to become leaders in their institutions, etc. ESAMI in Tanzania conducts short courses in senior management including health for most of sub-Saharan Africa. Many African research institutions send their candidates to ESAMI for senior

management training. INCLEN has trained many clinical epidemiologists who now do public health research. In the area of ethics, in francophone Africa and with WHO support, NEBRA (Networking for Ethics in Biomedical Research in Africa<sup>51</sup>) provides training and capacity building to African researchers. In Latin America and the Caribbean, FLACEIS (“Foro Latinoamericano para Miembros de Comités de Ética en Investigación en Salud”)<sup>52</sup> and the WHO/PAHO Ethics Centre in Santiago, Chile, are similarly involved in training in ethical research and supporting the creation of independent systems for ethical review of research. In Columbia alone, MVDC (Malaria Vaccine and Drug Developing Center), CIDEIM (International Center for Medical Research and Training), which both benefited in the past from TDR grants, and PECET (Programma de Estudio y Control de Enfermedades) are doing similar, good quality work in building up ethics and research capacity in the region.

## **Emergence of Other Players in Intervention/Implementation Research**

One of the strengths of TDR in the past has been implementation research and creating implementation models for control programmes. But because of TDR's limited capacity to respond to research needs in this area, a few PPPs and some pharmaceutical companies are beginning to develop their own expertise in the South to use for clinical trialing of their various products.

The development of tools and guidelines for intervention and control programs was once an almost sole domain of TDR, but there are now a number of other organizations doing the same. Prominent among these are CDC, NIH and Wellcome Trust. Others that have collaborated with TDR in the past and have major tropical diseases research programmes of their own, include Johns Hopkins University, the London School of Hygiene & Tropical Medicine and the Swiss Tropical Institute. Newer contributors include the Infectious Diseases Institute built with help from Pfizer in Uganda, which is now training about 250 doctors annually from all over Africa in treatment and clinical management of HIV/AIDS patients, and looks set to play a major role in implementation research; and the Tropical Diseases Institute (targeting dengue and other diseases) established in Singapore with help from the Novartis Foundation

## **Conclusion**

The growing presence of other players in research on neglected diseases must be counted a boon for TDR insofar as they share its mission and advance its goals. Some of these new players are more efficient and better endowed than TDR itself. At the same time, patterns of disease, demography and political economy are changing in ways that pose new challenges

---

<sup>51</sup> NEBRA's Steering Committee is composed of 4 African institutions: Abomey-Calavi University, Cotonou- Benin, Faculty of Medicine Bamako-Mali, MRC Laboratoires Fajana, The Gambia (together with MRC, United Kingdom), A Schweitzer Hospital, Libreville, Gabon, 2 European institutions INSERM-France (project coordinator) and Tübingen University Germany, and the department of Ethics, Trade, Human Rights and Health Law of WHO. An Advisory Group of experts in the field of ethics and a Group of Observers from external international public and private organizations interested in the development of ethics within developing countries supplement the Steering Committee.

<sup>52</sup> [www.flaceis.org](http://www.flaceis.org) This network has a revolving chair, presently in Brazil, which has followed Mexico

for planning and agenda setting. The field has become far more complex, raising the question of what exactly is TDR's role in this changed and changing landscape. This calls for a detailed situation analysis to help identify the roles that TDR could play in the future.

## Chapter 4. Situation Analysis

### A Brief Analysis of TDR's Strengths and Weaknesses

In other sections of this report the external opportunities and threats are described in some detail. Here the ERC focuses only on TDR's own strengths and weaknesses.

#### Strengths

##### Some of TDR's Strengths/Values/Core Competencies

- Its nature as a multilateral, inter-governmental agency with multiple co-sponsors
- Its many competent, caring staff, many of whom are from DEC's
- Its track record (TDR is perceived and emulated as "a star"; "a model")
- The respect that people have of TDR
- Its association with WHO, adding to its credibility, especially in disease endemic countries, and giving it entry into countries
- Its record in research capacity strengthening
- Its values (neutral, science-based, public health orientation, voice of disease endemic countries, its focus on equity, and access.)
- Its many supporters, including its co-sponsors, governing bodies and alumni
- Its convening, agenda setting, catalytic and midwifery functions and leveraging capacity

#### Weaknesses

The ERC wishes to underscore the fact that TDR indeed has enormous strengths but recently it has developed some weaknesses (see box below).

##### Some of TDR's Weaknesses

- TDR's place in the 21<sup>st</sup> Century among others engaged in "tropical diseases" research and RCS is unclear
- It is embattled by the external environment; some consider it to be in acute "survival mode"
- It is struggling against WHO's and its **own bureaucracy**
- It does not appear to relate well and productively with other entities addressing global health issues and needs
- It does not sell itself well, especially in articulating its unique strengths in the presence of what appears to be stiff competition from other players
- It does not make good use of its co-sponsors' resources
- It has severe management problems. These may have improved to a certain extent towards the end of ERC's review period, but there is **much to improve** still
- When ERC met them together in the middle of 2005, TDR's members of staff were demoralized—they uniformly felt "disempowered" and had no confidence that matters could be changed without outside help. Some could not comprehend how strategic decisions were made. Until now, some complain about the lack of participation and transparency in the development of the 10 year vision by TDR itself
- According to the director of TDR. "TDR only makes happen what experts tell it to do." This is in keeping with the evidence provided to the ERC that in-house creativity is under-emphasized and under-utilized

The ERC takes these weaknesses seriously. It believes that unless TDR addresses them, it will not be in a position strongly to influence the future and contribute to addressing the serious needs of DEC's.

**The ERC recommends that TDR should implement needed reforms in governance, management and leadership, and change its approach to relationships.** Many of the reforms that are needed have already been identified by governing bodies and by the management review that is part of this report. Many of the recommendations from those deliberations have yet to be implemented fully. Some more recommendations are included in chapter 9.

### **General Situation Analysis**

There is general agreement that TDR has very considerable strengths that led to great achievements in the past. Most interviewees mentioned TDR qualities that are of unique and enduring value, and which are still relevant despite far reaching changes in the world since TDR's inception. Even people who were rather negative about the current TDR recognized that it is widely appreciated by many. As one critic who has dealt with TDR remarked: 'It amazes me how many people defend TDR!' There was near unanimity that TDR is still needed and should build on its virtues to renew itself as it moves into the next phase of its evolution. Given the changed and rapidly changing external landscape, it is crucial to determine which of TDR's particular characteristics give it a comparative advantage in relation to other players in the field. Some of these are identified in the box above.

Below, the ERC analyses two fundamental aspects of TDR as an organization: its mandate and its position on the global scene. We lay the ground for the proposals we make about future functional areas (chapters 5-8) and on the creation of the small regionally-based TDR Teams as a means to get closer to countries and regions (chapter 10). (Considerations leading to our recommendations or that need attention are highlighted in **bold** font below).

### **The Double Mandate of TDR**

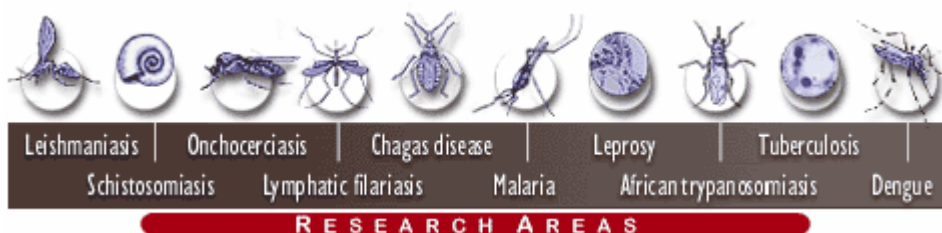
The definition of TDR's entire mission and strategy is inextricably linked to the way it delineates its field of R&D. The debate about this demarcation is lively. Partly it focuses on TDR's 'disease portfolio': how large should it be and which diseases should it contain? Partly it concerns the balance between basic research, product development, and implementation research. But the issues are even larger. To what countries and what populations does the term 'tropical' refer? How should research relate to use, to policy, to equity, and to development?

Debates have been less articulate about how RCS should be accomplished, who should benefit, and what kinds of capacities are desired. If research capacity is conceived not only in terms of individuals but also in terms of regional and country needs, the question is how TDR, with partners, can contribute better to the building or improvement of national health research systems skillfully designed, managed, supervised and monitored.

## 1. Research and Development

### *The Portfolio of Diseases*

As currently publicized on its website,<sup>53</sup> TDR's overall mission is: "to help coordinate, support and influence global efforts to combat a portfolio of major diseases of the poor and disadvantaged."<sup>54</sup> This portfolio of diseases is arguably the brand of TDR within biomedical circles and it has provided the clearest means of bounding and identifying TDR. The bottom line of the TDR web home page is the succinct iconic statement of TDR's portfolio: 10 diseases, eight indexed by vectors and two by microorganisms.



When TDR was established, five diseases were identified as 'tropical diseases' requiring "intensified" research (malaria, onchocerciasis, schistosomiasis, trypanosomiasis and filariasis).<sup>55</sup> Gradually the list has expanded, with tuberculosis and dengue as the latest additions. In fact, TDR has gone beyond these ten diseases, to engage in limited research in support of the initiative on diagnostics for sexually transmitted diseases, and the scale-up of antiretroviral treatment for AIDS. The latter move has been the subject of some heated debate.

In an effort to differentiate strategic research emphases, the TDR 2000 Strategy has classified the portfolio diseases into 3 categories according to the availability of control tools.<sup>56</sup> The "sunset diseases" are those in Category III, whose day is supposed to end through successful elimination.<sup>57</sup> Although four diseases fall into this group (leprosy, onchocerciasis lymphatic filariasis and Chagas disease) they seem to linger in the twilight. No disease has so far been

<sup>53</sup> <http://www.who.int/tdr/about/mission.htm>

<sup>54</sup> As highlighted by the JCB Subcommittee on governance in its report, it is significant that in the past few years TDR's mission statement has been phrased in different ways, pointing to some uncertainty on the part of the Programme as to the specific scope and focus of its mandate

<sup>55</sup> Originally, WHA27.52,1974, referred to the need to develop research on the "most important tropical parasitic diseases" "in countries of the tropical and subtropical zones"; the list was not finite, quoting "malaria, onchocerciasis, schistosomiasis, and trypanosomiasis, etc." WHA resolutions in the following years consistently reflect that same concern to define and respond to "primary needs of the developing countries" "in the various regions of the world", and to link up with control programmes

<sup>56</sup> A JCB member felt that creating these categories may have been misleading for several funders with regard to the importance of the diseases, particularly those in category III, which may have been considered as being less important and not as worthy of support as before

<sup>57</sup> Defined in the Disease Entry/Exit Strategy endorsed by JCB

removed from the portfolio. One (Chagas disease) has been partly devolved to the WHO Regional Office directly concerned.

The ten diseases are also ranked according to the harm they cause. A table of the current disease portfolio shows that the burden of TB and malaria (mortality and DALYs) so far exceeds that of the other 8 diseases that they are barely comparable. These two diseases are by far the most deadly in the portfolio, yet they are hardly neglected.

Conversely the most neglected diseases are not those that cause the most harm. There are exceptions: Soil transmitted helminthiasis is a truly neglected problem, where the burden of disease is also heavy, but where it would be difficult to mobilize resources. Thus, the argument goes, there has to be a balance between the commitment to neglected burdensome diseases and the need for an “attractive portfolio” that will attract funding. Most of interviewees' suggestions on possible new areas likely to attract funding fell within the area of infectious diseases, but several pointed to the growing importance of non-communicable diseases, sometimes related to communicable ones.<sup>58</sup>

Should there be a fixed list of diseases? Many of our interviewees thought that the portfolio should be more flexible. So did the Standing Committee as it reported to JCB (26) in 2003: it recommended that TDR review and adapt its Entry/Exit Strategy to avoid rigid interpretation and to be able to respond in a timely and flexible manner to evolving needs and opportunities for research on relevant diseases. Some of our interviewees saw opportunities to attract funding by addressing selected emerging diseases such as SARS or avian influenza, or even areas such as bioterrorism where there are many issues related to infectious diseases. Others thought TDR should turn deliberately to the new important issues of the 21st century, like environmental perils and demographic and epidemiologic transitions, and concentrate on helping developing countries face these especially as they might relate to infectious diseases. On the other side of the fence were those, mostly scientists, who would retain a fixed list of diseases, but cut down the number in order to concentrate more fully on a few clearly identified ones. “There should be clear guidelines for selection of neglected diseases where TDR can play a unique role”, suggested one person, echoing in other words JCB's consistent request that criteria for TDR's engagement be clearly defined and then adhered to. This approach would require TDR to sell scientific research on “truly neglected diseases” to its donors and not be tempted away from its mission by the availability of funding for research that seems urgent at the moment.

In the 21<sup>st</sup> century a shift has occurred, in language if not in reality. The objects of research are now referred to as ‘neglected infectious diseases’ rather than ‘tropical’ ones and, more specifically, the reference has been to the health problems of the poor. The point was made recently by the **JCB Sub-committee on Governance (June 2004) that TDR's actual raison d'être and focus, in its area of competence, is "populations" in need rather than neglected "diseases" as such.** The adjective ‘tropical’, a geographical term with colonial overtones, seems to be a slightly awkward historical relic for TDR, as it is for some European

---

<sup>58</sup> An example often mentioned is the association of liver (hepatocellular) cancer with viral hepatitis. Others, not associated with infectious diseases, are still neglected, like aflatoxicosis in Africa or arsenic poisoning common in Asia, although they are responsible for high morbidity.

institutions. It has now been replaced by the reference to "disease endemic countries" (DECs) and infectious diseases affecting "developing" countries.

As more resources have been made available for research and development for diseases like malaria and tuberculosis, some of the current ten diseases are now less neglected. It is **important that those remaining be kept on TDR's agenda and that there be monitoring of where research is active and where it is lacking.** It should be recognized, however, that even the scientific and technical advances that have been made do not benefit poor and marginalized populations without effective policies and systems to make them truly available and accessible. **So intervention research on the health problems of the poor is of great importance.**

### *The Portfolio of Functions*

Cross cutting the emblematic ten diseases is TDR's portfolio of functions. In addition to Research Capacity Strengthening (RCS), to be discussed below, and Science Strategy and Knowledge Management (SSK), TDR currently has three functional areas, each with its Coordinator: Strategic and Discovery Research (SDR), Product Development and Evaluation (PDE), and Implementation Research and Methods (IRM). Some of these functional areas are further subdivided (see chapter 9).

The functional areas are commonly related to one another in the metaphor of flowing water. The more basic research is "upstream". It is translated into tools and strategies, especially through the development of new drugs and diagnostics. Finally these are put to use "downstream" through implementation research where the powerful current impacts on the disease. The "pipeline" metaphor has often been used too. Directly borrowed from industry, it was developed along with the matrix and "products" and used in a rigid, strictly linear manner. To allow for better communication and coherence, the first Portfolio Review proposed to reorganize the different products of the TDR portfolio and group them in research "streams" that would be both disease specific and cross-disease.

The main problem with conceiving the process as a "pipeline" and/or a "stream" was discussed at a recent meeting of the SEB Steering Committee. The flow is pictured as going in one direction only; problems and opportunities of the real world cannot impact on the development of tools, much less basic research. **It suggests that questions and solutions start in a laboratory rather than in a public health context with related problems of implementation or use.** In the past there has been an implicit hierarchy in that the most expensive and prestigious science would be identified upstream and mainly located in the global North, while the usability of tools designed elsewhere is tested in the global South.

However, the conceptualization in terms of functional areas could have advantages if it was not forced into a univocal sequence. It could invite thinking about the interfaces between the areas and about the functions; and it could also invite thinking and analysis of which functions TDR is best placed to perform or support in the changing landscape of international health research.

The ERC interviewees had strong and varying opinions about where TDR should place itself on the upstream/downstream continuum. One group felt TDR should change its emphasis, but not totally drop any of the functional areas. Just as with diseases, there was a **reluctance to relinquish an area where expertise had been accumulated over many years**. Although everyone recognized the growing role of PPPs in product development, several people warned that **TDR should not lose its product development expertise, so that it could provide continuity if PPPs prove unsustainable**. “TDR should not leave product development but find other ways to do it, like the MMV.” There was, however, a **widespread view that there are other roles for TDR to play in relation to product development, such as advocacy, coordination and stewardship**. The ERC agrees that the product development function should be seriously examined in terms of the totality of specific imperatives, opportunities, possible niches and TDR’s strongest comparative advantages.

Many of those interviewed were of the opinion that **TDR should give much more emphasis to implementation research, as indeed TDR itself has declared that it will**. The interface between product development, clinical trials, control policies and programmes, and the use of tools in “natural settings” was seen as a neglected and underfunded area. But there were also concerns about whether TDR could take on a larger role here. If it did, it would need to drop other functions. Doubts and reservations were expressed: **TDR is not well enough equipped at present to take on and scale up implementation research** – there is not enough experience and capacity in the current TDR staff. **Implementation research needs more funding**. Industry would have an interest in implementation research, but there would be political and economic issues to resolve there as well.

### *The Role of Social Sciences*

TDR was a pioneer in trans-disciplinary international health research.<sup>59</sup> In 1979 it established a Steering Committee on Social and Economic Research, which operated until 1994. Then, for several years, social science research at TDR became more disease focused and applied. In 1999 the pendulum swung in the other direction with the placement of Social and Economic Research “upstream” in the area of Basic and Strategic Research, as it was then called, and which has now been redefined as Strategic and Discovery Research. There it was able to address “basic issues of trans-disease and global importance” leaving implementation research as a functional area of its own at the lower end of the pipeline. Yet social research was still recognized as a part of implementation research. A diagram from the SEB Scientific Working Group report in 2000 pictures a continuum between basic and applied research and suggests areas of common interest.<sup>60</sup>

The Social, Economic and Behavioural (SEB) research unit at TDR has supported social research related to particular diseases, such as the economics of malaria control in China and support groups for women with lymphatic filariasis in Haiti. It has also taken advantage of its upstream placement to initiate trans-disease research on such issues as **globalization and**

<sup>59</sup> Rosenfield, P. (1992) The potential of transdisciplinary research for sustaining and extending linkages between the health and social sciences. *Social Science and Medicine* 35: 1343- 1357

<sup>60</sup> (TDR/SEB/SWG/00.1)

**infectious disease, health sector reform, ethical and social issues of genetically modified disease vectors, and community participation in infectious disease control.** Social inequalities are a major theme. Most of those interviewed **praised the work of SEB** and felt it had accomplished a tremendous amount given that there is only one scientist in the section. However the view was also expressed that the research focus was **too abstract**, not rooted deeply enough in concrete problems, and too dominated by academics from Northern universities.

There was general agreement that SEB research should play a larger role in the future, especially if TDR is to focus more on the political and economic contexts of communicable diseases. The move from ‘tropical diseases’ to ‘health needs of needy populations’, and the **emphasis of TDR co-sponsors on MDGs and the global development framework** requires careful thinking about staff and resources for the social sciences. **There is urgent need for an economist.**

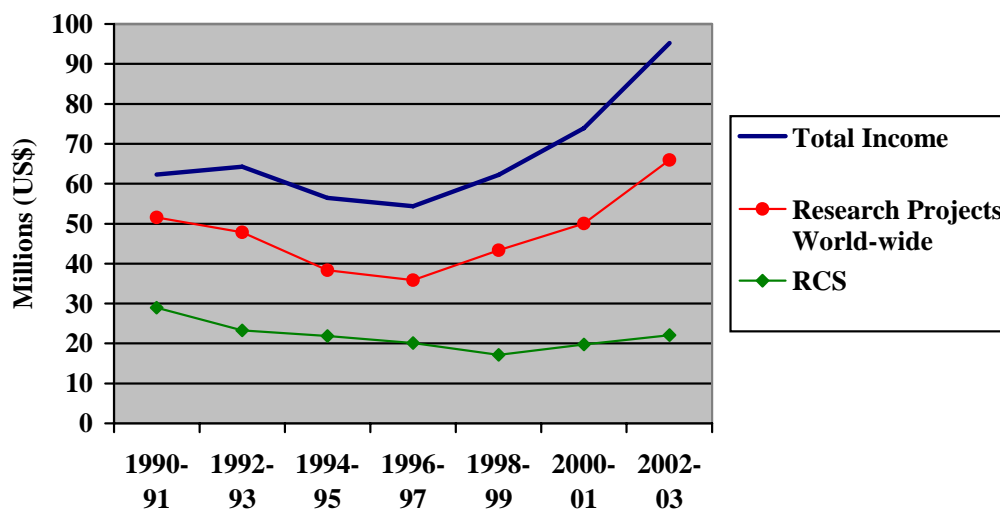
The relations between SEB and implementation research could fruitfully be discussed in a joint meeting of their steering committees or in a scientific working group. The separation of the two areas has now been in force for five years. How are the areas of overlap being handled? Would it be possible to define research that starts with concrete problems of use and still manages to generalize in a conceptually productive way? Perhaps the opposition between basic SEB and implementation research need not be so marked.

## *2. Research Capability Strengthening (RCS)*

The successive External Reviews of TDR, as well as the JCB, have consistently emphasized the importance of RCS and the need to strike a **balance between R&D and RCS**. However, an examination of RCS funding trends (see figure below) shows that the balance might still be improved.

The RCS strategy adopted in 2002 proposed to use 60% of RCS funds in support of R&D – driven activities, and the remaining 40% for support to the least developed countries (LDCs). As far as the ERC can see, this figure has been defined without a clear analysis of demand, needs and opportunities. It would seem advisable not to pre-establish funding proportions in such a way but rather to **propose budget envelopes according to documented relevance** and scientific opportunities.

### Trends in Funding, 1989-1998 Special Programme for Research and Training in Tropical Diseases (TDR)



Sources: 1998 Management Summary (6/99)  
TDR Progress Report 1997-98  
TDR Progress Report 1974-94  
TDR Financial Reports

The decline or, at best, the stagnation of funding for RCS seems to be quite closely linked to the steady decrease of undesignated funding received by TDR over that period (from about 60.7 millions in 1990-91 down to 36.9 in 2002-03). In other words, the undesignated funding, which used to represent most of TDR's income, now constitutes only half of its income. Given that marked shift, funds defined by TDR management as available to RCS have been reduced. This has not been compensated by re-distributing a **greater share of the undesignated funds to RCS, as recommended by JCB.**

Although a major TDR mandate, RCS is not allocated separate earmarked resources. Most designated funds are given to TDR for product development and not for RCS. This points to the pressing need for TDR to make a deliberate effort in its strategy to mobilize resources specifically for RCS. The overall belief, in our view erroneous, seems to be that health research capacity building is an area of low appeal to donors except for a few like Norway and Sweden, who have consistently supported RCS. Some innovative ways of raising funds for RCS need to be found and a robust advocacy program developed to communicate with, and persuade, donors and countries that RCS is actually good long-term investment for control strategies in DEC, as well as for their overall social and economic development .

A review of the position of RCS in the TDR structure over its almost 30 year history is instructive. From representing originally one of the two units of TDR, RCS has moved around in the organigrams, being given more marginal positions, and eventually being defined as “cross-cutting” and even “all-encompassing.” However, in this mainstreaming effort, RCS ended up being fairly diluted.

At the end of the nineties, a gradual dissociation emerged between TDR’s research activities and WHO’s control programmes and, in parallel, TDR’s focus on R&D grew. To address the imbalance between RCS and R&D, the R&D-driven approach (RCS+) was set up in 2002. It does not seem to have been so successful in increasing the involvement of other staff in RCS. The actual support and follow up committed to RCS+ has been less than optimal. Fully developing and **integrating RCS across TDR is a demanding process** in terms of planning, implementation and follow up. TDR has not fully captured this and needs to do so.

Overall, there is an unbalanced and heavy focus on product-oriented capacity building. The ERC’s view is that investment and efforts should rather be on RCS that goes beyond those skills needed for product development (see chapter 8).

RCS efforts appear not to be determined jointly within TDR according to needs, opportunities and priorities which would be negotiated and coordinated across the units. To date, even if some internal collaborations have been developed and work well, there are **no structures or administrative procedures in TDR to ensure regular communication and coordination of the RCS activities** for a strong, coherent capacity building approach which engages all, staff and partners.

**The ERC recommends that such coordination be put in place.**

In the past, TDR has played a key and unique role in training individual researchers. It should now **develop new approaches**, building upon the critical mass which exists in many countries and which it has itself helped to constitute (see chapter 8). While TDR has trained researchers in many countries, it has placed greater emphasis, and rightly so, on LDCs, at the request of JCB. Almost 60% of its training grants have gone to persons from the WHO African Region, and the rest evenly divided between AMRO, EMRO, SEARO and WPRO. The proportion of African grantees has even increased in the last 5 years due to the increased focus on LDCs. However, the research environment, in terms of skilled human resources as well as in terms of health research systems, still varies a lot from region to region and, within the same region, from country to country. This supports the proposition for TDR to further **differentiate and tailor RCS approaches** to countries’ needs and environments.

TDR’s past contributions in RCS have been successful with high retention rates of past TDR trainees in their home countries, although not necessarily working in tropical diseases. However, the issue of impact and sustainability of this individual training has often been raised, especially as, in many cases, it is not linked to strengthening of the trainees’ institutions or of the overall research capability and environment in their home countries. TDR at this stage should pay greater attention to developing a systemic approach to capacity

building for research at national level,<sup>61</sup> as part of fostering a favourable environment for research. This will **require more funding**. The new TDR will definitely have to make the case for such increased funding.

## Global Position and Relationships with Co-Sponsors and Countries

### *TDR's Unique Position*

Based in WHO, the future TDR must build upon its unique position as an international multilateral Programme, sponsored by major international organizations. It has the potential, through its political and scientific legitimacy, to do so. The voices and health interests of countries of the South can be better captured by TDR than by almost any other player in the field. At the same time, as an international agency, TDR is expected to take part in the global development effort. This requires **the full recognition by TDR of its public health mandate and responsibility to contribute to global public goods within this mandate**. Its unique position within WHO and the support of its co-sponsors can be used even more fruitfully to this end. New forms of collaboration with its partner countries must also be devised and effectively implemented. **The creation of the proposed small TDR Teams in regions (see chapter 10) will help to bring this about in a more sustainable way.**

### *TDR's Work within the Global Development Framework*

Within a broader context, the objectives of TDR's work have been formulated as follows:

“to improve existing and develop new approaches for preventing, diagnosing, treating, and controlling neglected infectious diseases which are applicable, acceptable and affordable by developing endemic countries, which can be readily integrated into the health services of these countries, and which focus on the health problems of the poor.”<sup>62</sup>

Concern with the **political economy of disease, with development and with equity** was expressed by many of our interviewees. Representatives of the co-sponsors UNDP, UNICEF and World Bank all underlined that **TDR should work more within the global development framework**.

---

<sup>61</sup> In a background paper prepared for the Commission on Intellectual Property, Innovation and Public Health convened by WHO, Dr. John Mugabe (S&T Advisor to NEPAD) highlights the need and opportunity for TDR to shift from its primary focus "on individuals and institutions in disease-specific research....to improving overall health R&D policies and stimulating linkages between science and technology policies and those for health". Dr. Mugabe rightly stresses that "The Programme as a whole offers a good foundation for launching a global effort to building health innovation systems in developing countries." J. Mugabe, *Health Innovation Systems in Developing Countries, Strategies for Building Scientific and Technological Capacities*, July 2005

<sup>62</sup> <http://www.who.int/tdr/about/mission.htm>

As far back as 1974, in a different context and using the terminology of the time, WHA 27.52 linked the need to intensify research on tropical diseases to the fact that they were **"one of the main obstacles to improving the level of health and socio-economic development"** in the affected developing countries. There has been more emphasis by TDR on the biomedical and technological aspects of its work, at the expense of developmental, social and cultural perspectives. The Millennium Development Goals (MDGs) provide a framework within which poverty alleviation and health improvement are closely linked. As a member of staff from UNDP put it: "TDR could increase its work regarding diseases of poverty, bringing together efforts which are currently scattered". It could facilitate the interface between North/South, research/implementation, public/private, and help keep diseases of poverty high on the political agenda and under public attention."

In part, this discussion belongs in the debate on the disease portfolio. Should there be a fixed and limited list of diseases or should flexibility and need/opportunity prevail? Deeper down, however, the real question here is the extent to which research should be shaped by the context in which its results will be used; and, in turn, which context of use will be selected as a priority reference, by whom and according to which criteria. **Issues like applicability, acceptability, affordability, and feasibility within existing health services point towards country-specific use. Health problems of the poor cannot be encompassed in a list of diseases alone.** A UNDP voice stated it forcefully: "TDR must go beyond the health sector and relate to poverty alleviation programmes."

Capitalizing on the diverse range of expertise and areas of engagement of its different co-sponsors, TDR is in a privileged position to inspire and support them to conduct multisectoral and interdisciplinary research on issues, interventions and policies that interact with, and may have a critical impact on, health and tropical diseases.

### *TDR and WHO*

As TDR's executing agency, WHO is the sponsor that is closest to TDR. Thus TDR is strongly identified with WHO and shares in its authority and universality. As a Special Programme, TDR also enjoys relative autonomy within WHO. Its scientific standards, competitive funding, and peer review processes are unique within the organization, with the possible exception of HRP. As WHO moves to strengthen its role in research, TDR will have an important role to play. **A closer collaboration with WHO's control programmes, for example the recently established Global Malaria Programme, will facilitate Expanded Intervention Research as proposed by the ERC.**

There is a widespread perception that its position within WHO ties TDR to a heavy bureaucracy. This is only partly true, for **many of TDR's bureaucracy problems are of its own making.** A well managed and administered bureaucracy can provide a cogent policy framework, clear guidance and safeguards for accountability and transparency, not just obstacles. The WHO structure which is being stream-lined, offers in-built channels to policy makers and control programmes, as well as requirements for responsible use of resources.

TDR appears to have a **visibility problem in WHO**. It is not dealt with explicitly within WHO's regular activities. Synergies could be better identified and increased, contributing to sharing of expertise throughout the organization. On the other hand, TDR should be more open and improve its communication with other WHO programmes, at central as well as regional level, taking advantage of WHO's established channels. TDR may have a research advocacy and stewardship role to play within WHO as well as beyond it.

#### *TDR and WHO at the Country Level*

Many of those interviewed said that TDR is **not visible enough at country level**. It should approach national public institutions more systematically. The WHO country offices can mediate with the Member States, but more often than not needed information is not provided to them by TDR. The WHO Regional Offices could also be used better. Unfortunately, TDR has not always maintained close relations or systematic communication with the Regional Offices. Thus TDR is not equally known to all Regional Offices and their membership. It was only in 2004 that TDR's first meeting with the regions took place, at the time of the JCB. This commendable effort to address a need clearly identified by the regions should be pursued further. Improved collaboration with WHO would also facilitate countries taking ownership of the research, and ensure the relevance of TDR's work, through better coordination with national control programmes. It remains very much a WHO obligation to integrate TDR into its country teams and put it in the right position to support countries.

Overall, the ERC concluded that TDR's relation with WHO offers many actual and potential advantages. WHO enhances TDR's convening power and leveraging ability. It provides a strong basis for the catalytic role that TDR should play more actively in the future. It enhances opportunities for active collaboration at country level with teams involved in field work and control programmes for greater relevance and better implementation of the tools and strategies developed by TDR. In all the above, **the proposed small regionally based TDR Teams would facilitate the necessary communication at regional and country level.**

#### *TDR and UNICEF, UNDP and the World Bank*

**The very involvement of these co-sponsors signals the role meant to be played by TDR in development.** As a Special Programme TDR is more than a unit or area of work within WHO. Its co-sponsors, UNDP, UNICEF and the World Bank augment WHO's authority and provide diversified channels for partnering with countries and with development and control programmes. Many TDR partners, when referring to its co-sponsors, tend to mention mostly, if not exclusively, WHO. While TDR's link with health is the most obvious, such an omission says something about the **actual lack or, or lack of visibility of TDR's relationships with its other co-sponsors**. Does it point to a lack of commitment and interest from the co-sponsors, or does it reflect a lack of ability on the part of TDR to relate effectively to those who should be among its main supporters? The responsibilities in this partial neglect are probably on both sides.

The co-sponsors provide a diversity of perspectives and resources, through their technical and political networks, that **TDR should tap to increase its own flexibility, access to expertise, and breadth of vision.** They could be better advocates of TDR, mobilizing their own constituencies, particularly at country level. On the other hand, as recommended by the Standing Committee itself, TDR must do its homework, look at its co-sponsors' interests, their policy frameworks and priorities and actively seek opportunities to develop collaboration and synergies. TDR must capitalize on its co-sponsors' competencies and nurture its relationship with them, providing them regularly with relevant information and tools appropriate for their own purposes.

Some of TDR's collaboration with its co-sponsors should be tailored and adapted to their comparative advantages and positioning:

- **UNDP** could use TDR research much more for its own work, especially for poverty alleviation programmes. TDR can help advocate for domestic and international resources to be invested in support of good health research, policies, institutions and infrastructure - including human resources. Jointly with UNDP, TDR would contribute to keep diseases of poverty on the political public agenda. UNDP could facilitate the harmonization of co-sponsors' activities and development aid at country level. Within UN Country Teams, TDR's potential contribution should be better articulated, with WHO's support. UNDP, in collaboration with UNIFEM, can also assist TDR in tackling in earnest the "gender mainstreaming" agenda recommended by JCB (in 2004).
- **UNICEF**, when it recently joined as a new co-sponsor, expressed its high expectations of TDR in terms of greater engagement in research on the paediatric forms of TDR target diseases, integration of gender issues, modelling and predictive research on conditions for successful scale-up of delivery of single and combined interventions, and research on persistent bottlenecks in outreach, delivery and access. UNICEF has volunteered field support through its extended networks. It can be a powerful advocate for TDR, articulating research as part of reaching the MDGs. It could translate some of the work of TDR into its field operations. Some projects have already been developed jointly, on a small scale, in the field of child health. Such opportunities should be better analysed jointly and more systematically pursued and expanded.
- **The World Bank** can use its convening power with bilateral donors, and encourage its country managers to support TDR. In turn, TDR might advise countries to make use of World Bank loans within Country Assistance Strategies and other similar mechanisms that may be developed at country level. It should help countries access and apply for such loans. Alternatively, the development of small entrepreneurial projects on health technology could be encouraged by TDR in DEC's, and submitted for World Bank loans in coordination with the relevant ministries. TDR could play a key role in convincing countries of the high rates of return of health research, advocating that they consider borrowing from the World Bank for this area of activity.

Again ERC believes that **the recommended small regionally based TDR Teams will begin to bring to fruition the possible synergies identified above, especially if they are based in the facilities of these other co-sponsors whenever possible and appropriate.**

There is a widely shared opinion that TDR should work more with governments. Several examples were mentioned to the ERC where the **ministries of health were not aware of TDR's ongoing projects and activities** in their countries. As a result, not all regions and countries understand what TDR does, and at times it has been perceived as being elitist. **Research, and particularly implementation research, is needed to inform national health policies**, but that implies proper communication and reporting to the ministries of health on research issues and outcomes. TDR needs to engage more vigorously in knowledge translation and better analyze how evidence can be internalized to influence change in policy at country level. This is of particular relevance for SEB research.

**The ERC therefore recommends that TDR should enhance its presence and visibility and coordinate its work better with potential partners at country level.** Encouraging cross-sectoral coordination of health research is particularly important since research, in many countries, is not under the responsibility of the Ministry of Health. TDR and its co-sponsors, each having its own entry points and counterparts at different government levels, could clearly play a role in this regard and achieve complementarities. TDR should also reinforce its links with key national research institutions, including the National Health Research Councils, and **promote the development and branching out of research networks.**

To prioritize its work and deliver results more effectively, TDR needs an improved strategic analytical process, with greater involvement of the developing countries in shaping the research agenda. Countries sometimes see the global priorities defined at the multilateral level as a risk and are concerned by the question of who sets the agenda.

**The small, regionally based TDR Teams proposed by ERC will have a major role in helping the voices of DEC's to be heard.**

## **Conclusion: Implications for the Future**

In addition to its track record of achievements which include providing technical guidance and evidence for standard setting, agenda setting and prioritization, TDR has a number of strengths, both potential and realized. These include its scientific staff, governing structures, steering committees and expert working groups; the research it catalyzes and fosters; and its sustained role in research capacity strengthening. Its other advantages and strengths have been mentioned above. It is championed by many, including its alumni,<sup>63</sup> who are now in important leadership positions around the world, and by its advocates among the co-sponsoring agencies, major funders and governing bodies. It can call upon an extensive network of people working in “tropical diseases”—indeed it has been observed that at one time in its history almost all people working on “tropical diseases” in the world had been associated, in one way or another, with TDR. As highlighted by several interviewees, long

---

<sup>63</sup> TDR could do more to cultivate, and work more effectively, with its alumni and other supporters

before PPPs became commonplace, TDR had developed good working relations with industry, within a well tested legal WHO framework, based on a clear public goods orientation and respected ethical values. And it is seen as a neutral broker of knowledge, conveying the voices of disease endemic countries.

These strengths could make its future secure provided it now begins to capitalize more on carefully thought-out, well-defined, well delineated and seriously negotiated alliances, partnerships and networks, and on a range of very significant emerging opportunities, many of which are identified in this report.

Its weaknesses need highlighting but they are not insurmountable and most can easily be rectified. The ERC does not wish to over-emphasize them except in the context of wishing to see them improved soon so the new TDR can take its place in the world of global health as a key player.

With JCB and co-sponsors, we agree that TDR's general mandate and institutional base remain valid. We also agree with them and with many interviewees, however, that, operationally, TDR's mandate needs to be re-interpreted in light of the radically changed external landscape. We conclude that TDR's focus should be on the very neglected diseases, and even more so on *the health needs of the most needy populations*. At its 2004 meeting JCB, in fact, had expressed a similar view that TDR's focus should be expressed, first and foremost, in terms of **people's** health needs rather than "diseases".

TDR needs to *evolve and grow*. This evolution and growth must be in 2 distinct domains: form and function—and form must serve function.

The ERC recommends that **TDR should create four functional areas** as follows:

- 1). Research Advocacy, Coordination and Stewardship**
- 2). Research and Development for Physical Products**
- 3). Expanded Intervention Research (E-IR)**
- 4). Research Capacity Strengthening for the Future (RCS-F)**

The terms E-IR and RCS-F seem accurate for what ERC proposes. If they are found wanting, they may of course be replaced in the future, but we use them here essentially as shorthand for easier transmission of our message.

While a number of current TDR activities may be linked to functional areas 1 and 2, the scope of our proposals in these two areas is markedly different from what TDR is presently doing. Functional areas 3 and 4, as they emerge from our review, require a radical shift of emphasis in what TDR does, how it works, and the kinds and mix of staff it employs. These four areas in many ways reflect and elaborate on suggestions from STAC (2005) regarding TDR's core functions and capabilities. They also respond to JCB deliberations, for JCB has for a long time been pressing TDR to revisit its approach, especially in terms of portfolio flexibility, clarity of criteria for engagement, and a broader understanding of capacity strengthening and research stewardship functions.

The following 4 chapters, each dedicated to one of the functional areas, will help to define the contours of the four functional areas as recommended by ERC. They also help to identify opportunities within these areas. ERC is aware that, particularly for E-IR and RCS-F, TDR

will not be able to make use of *all* the identified opportunities. However, ERC believes that highlighting these opportunities is of value as TDR undergoes a process of re-orientation and renewal.

## Chapter 5. Research Advocacy, Coordination and Stewardship

TDR's track record in research and training in tropical diseases is well recognized. Its access to worldwide expertise and long-standing collaboration with researchers in the South, as well as its relatively easy working relations with industry, make it a valued resource and partner. Thus many stakeholders today continue to turn to TDR to get an overview of research in the field of tropical diseases and a global assessment of where the major needs and opportunities are. Because of its links with WHO and direct channels of communication and cooperation with control teams, TDR remains a trusted source of information on control of tropical diseases. It also has the convening power and scientific credibility to provide a neutral platform through which stakeholders with different interests can review activities and look for possible synergies, based on respective capabilities.

Compared with the many other players and initiatives engaged in tropical health research today, TDR's unique feature is that it combines scientific competency, networking and experience, with a governance system that provides for equal representation and participation of DEC's at decision-making level. This gives TDR legitimacy but also a significant responsibility.

**The ERC believes that TDR could, and should, exercise this responsibility more fully under a "research stewardship function" that must be developed in a structured and concerted manner** to respond to the needs and expectations expressed by its many constituencies.

### Needs and expectations

From our interviews of many stakeholders an overriding concern has emerged with regard to the increasing fragmentation of efforts and resources in the global research environment, and the ensuing cost for all—even though that cost may manifest differently for different constituencies.<sup>64</sup> Within this context, many interviewees have expressed the hope that TDR would be **more proactive** and that, within its sphere of competence, it would use its scientific and institutional legitimacy to facilitate coordination and governance of research as a public good. **This is seen by many as a crucial role that no other institution at present could legitimately fulfil.**

---

<sup>64</sup> The Paris Declaration on Aid Effectiveness: *Ownership, Harmonisation, Alignment, Results and Mutual Accountability* - February/March 2005, OECD/DAC (Development Assistance Committee). Along the same principles and within the context of UN reform, the Global Task Team on improving AIDS coordination among multilateral institutions and international donors has taken up the challenge in its specific area of engagement. *Global Task Team Final Report*, June 2005.

Other important components of the research stewardship function proposed for TDR in the future can be derived from the summary below of the needs and expectations voiced by our interviewees, reflecting the perspectives and experiences of various constituencies.

*Donors* – The main donors that support health research operate within institutional frameworks that involve specific obligations and constraints. They are accountable to their own Boards and must be able to show results and return on investments. They tend to fund vertical programmes. This is true of most bilateral donors, although some try to provide basket funding. Requirements from new donors, including philanthropies, are even more stringent and they tend to seek early and visible results.

- Multilateral and bilateral donors, philanthropies and governments alike, all say that they would welcome greater coordination of demands for research funding, harmonization of procedures and reduction in transaction costs
- Donors all identify the need for comprehensive and reliable information on existing players, projects and investment in tropical disease research.

*TDR co-sponsors* – seek and expect:

- To bring countries' health research needs and priorities in sharper focus; and to promote full involvement of DECAs at all levels of activity and decision-making
- To coordinate activities with other UN team members at country level to advocate for, and help integrate, research and capacity building within Poverty Reduction Strategies, in support of MDGs and within an overall social and economic development perspective
- To facilitate agenda-setting at global level, and thus streamline efforts and reduce transaction costs.

*Researchers* – traditionally meet within their own areas of specialization and will possibly coordinate their work within that context. They usually have little opportunity to step back and look at their work and experience from a distance, in particular to assess the relevance and impact of their efforts. However,

- there is a growing demand on their part for platforms that enable greater interaction across sectors and disciplines, broader access to knowledge and experience, and channels through which to contribute to informed decision-making.

In the recent past, the Global Forum for Health Research (GFHR) has provided new opportunities for scientists to engage in a dialogue with potential donors, representatives of the public sector and industry within a public health perspective facilitated by WHO's active participation in these meetings. However, the Annual Forum meetings of GFHR do not allow for negotiation and decision-making on policies and priorities. Similarly, the large attendance and lively debates on health research at the international conferences held in Bangkok (2000) and Mexico (2004) have demonstrated the strong interest and readiness of all stakeholders to participate and interact with each other. However, to move from dialogue to decision-making on priorities and strategies at national and international level requires a formal governance structure and procedures that are recognized by all States concerned. In this lie TDR's great strengths compared with other entities such as GFHR.

*Public-Private Partnerships (PPPs)* – They are diverse, usually focused on single diseases or single health problems, use vertical approaches, and their capacities are essentially technical and scientific.

- Many PPPs feel the need for a broader situation analysis that can inform their choices better
- They would welcome a mechanism to enable stakeholders to meet, review needs and capacities, and discuss priorities, responsibilities, and coordination of research. Industry alone would also view such a mechanism positively.

*The Disease Endemic Countries* have expressed the need for:

- Platforms and mechanisms through which their voices can be heard and where their public health and related research needs are publicized and better understood;
- Direct participation in research priority-setting and other consultations that help shape and support decision-making

DECs feel that they are often excluded from important debates and decisions. As one of our interviewees put it: “We have the knowledge, but are not in a position to do the priority setting.” Thus the research undertaken may not necessarily address public health problems of real significance to their populations, and although the research may be successful and generate tools, these may be of little use and benefit to them. Yet at the same time, as potential users and main interested parties, they have little access to, and control of, research funding.

## Implications

There is considerable convergence of the needs and expectations expressed by TDR Cooperating Parties and other major stakeholders. Their **expectations point to a number of gaps and shortcomings** which TDR should consider bridging as part of its stewardship function. The main areas of need are:

### ADVOCACY

- to promote intensified research efforts in neglected tropical diseases, and
- to mobilize increased resources in support of that research.

**FACILITATION and COORDINATION** of global research efforts and investment through:

- Situation Analysis and **Knowledge management**
- Agenda- and priority-setting, and **governance of research as a global public good**
- Acting as **a convenor, catalyst and coordinator** for specific research partnerships

In its **STEWARDSHIP** function, TDR should advocate for research and capacity building in tropical diseases in general, rather than for an increase in its own resources. It should champion the needs of the people for whom the research must be developed, and those of DEC's that should be supported in conducting the research and building relevant capacities.

The ERC is aware that, in the future, **Knowledge Management** should become a key element of TDR's stewardship function. This will provide the groundwork and ensure the necessary interaction between various actors and stakeholders on the basis of which TDR will be able, for example, to carry out well substantiated and current situation analyses; to support consultation and coordination among interested parties; and to facilitate informed decision-making at governance level. Knowledge management should be understood in a broad sense, as comprising many activities ranging from the mapping of research and RCS; partners reporting on main research trends and on levels and distribution of funds available for such research; to the dissemination of information and best practices.

To make this happen, ERC recommends that TDR should **work across its different units towards "the creation and subsequent management of an environment which encourages knowledge to be created, shared, learnt, enhanced, organized and utilized** for the benefit of the organization and its customers."<sup>65</sup> TDR's customers here would include all Cooperating Parties, and the stakeholders in health research for tropical and neglected diseases. The "Overall Framework for TDR Knowledge Management (Draft)" currently under study in TDR, is based on these principles. When implemented, it will be an important step forward.

In support of agenda-setting and governance of research as a public good, TDR will foster enhanced participation of DEC's in negotiations on health research priorities and funding at international level. TDR also needs to establish stable links with DEC's at government level, not only with the Ministries of Health but also with other ministries that are relevant to its areas of activity. In addition, TDR should further strengthen relations with Medical Research Councils, Universities and Research Institutions and maintain structured links with its alumni, some of whom occupy key positions in their countries and can provide valuable support at policy level.

Acting as convenor, catalyst and, where needed, coordinator for specific partnerships, TDR can exercise its stewardship function in support of R&D activity, capacity building and implementation/intervention research. Thus it can open the way and provide crucial momentum for collaborative research in areas, including discovery and basic research, that it identifies as holding considerable potential to improve the health of populations in need and which yet remain unattended by the research community.

What can be achieved through TDR's initiative is illustrated by the International Glossina Genomics Initiative (IGGI) established as a consortium in 2004 with TDR's support. It aims at facilitating the sequencing of the Glossina genome and the exploitation of the data in

---

<sup>65</sup> Definition of knowledge management in NeLH Specialist Library, National Health Systems, UK  
[http://www.nelh.nhs.uk/knowledge\\_management/glossary/glossary.asp](http://www.nelh.nhs.uk/knowledge_management/glossary/glossary.asp)

collaboration with DEC. It also aims at mobilizing the African trypanosomiasis research and control communities around activities for disease prevention. Having identified a need to develop new tools and methods, especially for vector control, TDR convened a group of key players and was eventually able to attract attention and support, leading to this initiative and giving a boost to R&D in this neglected area of tropical diseases.

That same stewardship function may be performed by TDR to foster and facilitate systemic approaches to RCS (see chapter 8), as well as in inter-sectoral, multidisciplinary collaboration/partnerships for expanded intervention research. The function must be understood and exercised to serve the needs of the countries and stakeholders rather than TDR-centred projects and institutional interests.

This also implies that TDR would recognize the need to work with other departments of WHO within its collaboration with countries. Collaboration should go beyond tropical diseases and their technical aspects, helping countries to develop sustainable health research systems. Again the ERC believes that **the small, regionally based TDR Teams will help to bring this about.**

### **Stewardship as a concept may sound innocuous but requires a cultural change in TDR.**

It implies a rethinking of its functions and methods of work regarding tropical diseases, as a public service to countries and an essential contribution to the production of public goods for improving health and for social and economic development. TDR's own management and processes, including those that govern its scientific group meetings, should be reassessed to strengthen this perspective. At the same time TDR must be aware of, and guard against, the risk and temptation of mission creep. In this regard, a crucial safeguard would be for TDR to apply the principles of complementarity (vis-à-vis other agencies and partner institutions), and subsidiarity<sup>66</sup> (vis-à-vis the countries that TDR is there to support). To undertake this function TDR can use much of the infrastructure, networks and contacts it has developed over the years, and it might benefit from consultations with other partners such as the UN Research Institute for Social Development (UNRISD), COHRED and GFHR, which have valuable experience and much to contribute in terms of human resources and expertise. Discussions have recently started in WHO on possible financing mechanisms for health research on neglected diseases.<sup>67</sup> TDR might find it useful to bring together, under this stewardship function, the various stakeholders participating in these discussions.

---

<sup>66</sup> The principle of subsidiarity implies that a central body, whether at national or international level, should perform only those tasks which cannot be performed effectively at a more immediate or local level; it also implies that the action or engagement envisaged must bring added value over and above what could be achieved by individuals or member state governments alone. This and some other basic principles that can support the development of coherent and efficient governance of ST & I policy, necessarily involving a variety of partners, are presented in Joachim Arens, "*Building science, technology and innovation policies*," Policy Briefs, SciDev.Net, May 2005.

<sup>67</sup> Two draft resolutions on research will be tabled at the forthcoming 59<sup>th</sup> WHA. One is moved principally by Kenya and Brazil on a "Global Framework on essential health research and development", and includes the proposal to set up a Funding Facility for research on neglected diseases.

## **Conclusion**

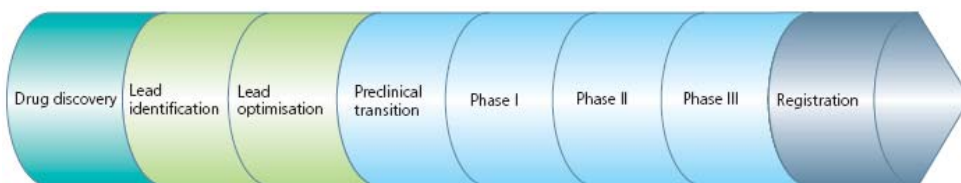
TDR must capitalize on its potential strengths to gather intelligence, keep abreast of developments and establish the current status of scientific and technological developments, as well as map evolving partnerships and investments, and countries' needs and resources. This will allow TDR to become a stronger advocate of health research and of the corresponding necessity to increase research funding. Building on its key strengths, TDR has the ability to become a key facilitator, coordinator and knowledge resource for the ongoing dialogue and collaboration required between all stakeholders on research for neglected diseases.

## Chapter 6. Research and Development for Physical Products

TDR has been involved in research and development (R&D) for physical products since its inception. The research components are currently part of TDR's Strategic and Discovery Research (SDR). The aim of TDR's Product Development and Evaluation (PDE) section through its Product Development activities is to “identify new drugs, vaccines and diagnostics relating to TDR's target diseases, and to develop them through clinical trials to regulatory approval and registration” (see chapter 9).

Developing physical products, especially vaccines and drugs, has been a complicated, usually high-risk and expensive exercise. According to figures from big pharmaceutical companies, in the case of drugs, it might take 10-14 years, and up to US\$ 800 million, to bring a new drug to market (see diagram below).

### Drug Development Pipeline



Adapted from Solomon Nwaka and Robert G. Ridley. Virtual drug discovery and development for neglected diseases through public-private partnerships. *Nature Reviews Drug Discovery* (2003) 2: 919-928  
Source gratefully acknowledged.

NOTE: In the pharmaceutical industry and within TDR, the activities encompassing 'Drug discovery', 'Lead identification', 'Lead optimization' are referred to jointly as 'Research', while activities during 'Phase I', 'Phase II' and 'Phase III' are jointly referred to as 'Development'. Activities during 'preclinical transition' are being assigned to either 'Research' or 'Development'. Studies with drugs that have already been registered are referred to in the industry as 'Phase IV'. In contrast to industry and to emphasize the difference in objectives, TDR refers to its own studies, clinical or not, with drugs already registered as either 'Evaluation' or 'Implementation Research', depending on their objectives.

It is hardly surprising, therefore, that despite the overwhelming need for drugs for neglected diseases, until 2000 there was very little R&D in the private sector for these diseases. In a 2003 paper Nwaka and Ridley noted that

“Drug R&D is technologically challenging, capital intensive and largely driven by market incentives. Although the market system has generated many innovative therapies, it cannot cater for diseases for which commercial incentives are insufficient to trigger private sector investments in R&D”.<sup>68</sup>

TDR had to find ways of dealing with the risk and cost of product development without the resources available to the pharmaceutical industry, and in the process became an early model

<sup>68</sup> *Nature Reviews Drug Discovery* (2003) 2: 919-928

of public-private partnerships, although TDR is not now considered a “typical” PPP. It pioneered the concept of “virtual” drug discovery and development for neglected diseases, partnering with public institutions as well as various private sector companies. TDR recognizes that the clinical trials required to reach product registration, which is the endpoint of product development, often do not provide sufficient information to determine the place of a newly registered drug in WHO's recommendations and countries' control policies. It therefore conducts activities (primarily clinical trials), referred to as 'evaluation', to provide information on the efficacy, safety and effectiveness of registered drugs (independent of whether they were developed at earlier stages with TDR input or not) within the public health context in which they will be used in the countries.

## **TDR's Role in Drug Development in the Old Landscape**

TDR has been very successful in the past in leveraging resources through partnerships for virtual drug development (see box below).

### **TDR Accomplishments in Drug R&D**

Examples of registrations include:

1. Praziquantel with Bayer for schistosomiasis (1980)
2. Ivermectin with Merck for onchocerciasis (1987)
3. Eflornithine with Marion-Merrill Dow for African trypanosomiasis (1991)
4. Liposomal amphotericin B with NeXstar for visceral leishmaniasis (1994)
5. Injectable artemether with Rhone-Poulenc Rorer for severe malaria (1997)
6. Injectable  $\beta$ -arteether with Artecef for severe malaria (2000)
7. Miltefosine with Zentaris for visceral leishmaniasis (2002)
8. Chlorproguanil-dapsone with GlaxoSmithKline for malaria (2003).

Modified from Solomon Nwaka and Robert G. Ridley. Virtual drug discovery and development for neglected diseases through public-private partnerships. *Nature Reviews Drug Discovery* (2003) 2: 919-928

Drugs that have been developed with some input from TDR have made a huge difference to the health of people in DECs, especially after pricing issues were addressed. Although some of them have encountered difficulties (discussed in chapter 2), this is a significant achievement that TDR can be proud of. What is even more significant is how TDR has been able to leverage its resources in such a way that over its whole existence, and for all its activities, it has spent about the same as the cost of developing just one drug today by big pharmaceutical companies.

TDR's roles in drug R&D are not always easy to discern. In general terms TDR has been able to:

- Bring partners together and provide strategic funding and technical support
- Build partnerships between public and private sectors, industry, academia, and developed and developing countries, thus reducing the costs and risks involved in bringing new drugs for tropical diseases to registration
- Mobilize a global network of researchers and developers capable of addressing all aspects of R&D, from discovery through to registration
- Fund research into discovery of new therapeutic targets and preclinical studies
- Orchestrate, sponsor and coordinate clinical trials in disease endemic countries, with industry partners, following strict standards and regulatory requirements.<sup>69</sup>

## **TDR's Role in R&D for Physical Products in the New Landscape**

Our chapter on "The Changed and Changing Landscape" documents the important changes that have taken place, in the external landscape particularly since 2000. These changes call for an examination of the future role of TDR in R&D for physical products. Currently, there are a number of well-resourced PPPs focusing on drug, vaccine and diagnostics development.<sup>70</sup> The pharmaceutical companies, too, have changed their attitude to developing drugs for neglected diseases. The well-received report from the London School of Economics and Political Science ("the LSE report"), already mentioned, notes that whereas in 1999 multinational companies had very little activity in developing drugs for neglected diseases, and kept costs and risks down by working slowly and focusing on 'adaptive' products, by 2005 four of the top twelve multinational companies had neglected disease R&D units employing over 200 scientists, while three others worked on a smaller scale. This activity seems to be driven by 'non-commercial' motives (i.e. by broader business concerns rather than by returns in the neglected disease market) and is conducted under a new 'no profit-no loss' model that provides drugs to developing country patients at cost price.

Since the publication of the LSE report two new mechanisms for supporting R&D on vaccines and for providing a market for such vaccines have come into being. They are the International Finance Facility for Immunization (IFFIM)<sup>71</sup>, and the G-7's Advanced Market Commitment (AMC) for vaccines against malaria, tuberculosis, and HIV<sup>72</sup>. It is anticipated that these mechanisms will provide financial incentives that "push" (IFFIM) and "pull" (AMC) development of new vaccines.

---

<sup>69</sup> See TDR's website at <http://www.who.int/tdr/about/products/registration.htm>

<sup>70</sup> See the Partnership database

[http://www.ippph.org/index.cfm?page=/ippph/partnerships/name&typobj=0&thechoice=view&s\\_criteria=names&crit\\_id=0](http://www.ippph.org/index.cfm?page=/ippph/partnerships/name&typobj=0&thechoice=view&s_criteria=names&crit_id=0) a free service offered by the Global Forum for Health Research [www.globalforumhealth.org](http://www.globalforumhealth.org) and the now inactive Initiative on PPPs for Health. <http://www.ippph.org/index.cfm?page=/ippph/partnerships>

<sup>71</sup> <http://www.iffim.com>

<sup>72</sup> [http://www.cgdev.org/section/initiatives/\\_active/vaccinedevelopment](http://www.cgdev.org/section/initiatives/_active/vaccinedevelopment)

## TDR's Strengths and Weaknesses in Product Development

In the context of the new landscape, Dr. Ridley once described TDR to be “Big Public” as compared to PPPs like MMV that are “Small ‘Public’ ” (see table below). In an honest (self) appraisal, with which the ERC concurs, of the strengths and weaknesses of the different types of organizations involved in R&D for neglected diseases, co-author Dr. Robert Ridley considered TDR's strengths to be

- Knowledge of multiple diseases, health needs and systems in context
- Links to governments
- Strong networks in disease-endemic countries, and
- Capacity-building focus

Its self-identified weaknesses are **bureaucracy and slow decision making**.

Partnering organizations	Strengths	Weaknesses
Big pharma	Strong drug R&D expertise; strong regulatory affairs; strong project management; strong marketing; internal resources for projects	Bureaucracy: slow decisions; a culture of controlling R&D collaboration
Small pharma/biotech	Specific drug R&D expertise; flexibility of decision making	Drug R&D expertise not complete; market knowledge often limited; often lack internal resources for projects
Academia	Strong basic research: biology/genomics, target identification/validation; understand disease and can think 'out of box'	Drug R&D expertise limited; desire to publish early can conflict with patenting; not used to project management; limited commercial understanding
CROs/consultants	Strengths in specific areas of expertise: management support, regulatory, dossier preparation, toxicology	Few have broad expertise; where expertise is broad, might bring bureaucracy; usually have to pay going market rates
Big public (WHO/TDR)	Knowledge of multiple diseases, health needs and systems in context; links to governments; strong networks in disease-endemic countries; capacity-building focus	Bureaucracy: slow decisions
Small 'public' (MMV, GATB)	Focus on specific diseases; flexibility of decision making	Young organizations: no products delivered yet; limited developing-country experience

Source: Nature Reviews Drug Discovery (2003) 2: 919-928

This table can be usefully reviewed against the assessment offered in the LSE report, some elements of which have already been quoted in Chapter 3.

The LSE report notes that

"Overall, WHO/TDR-industry collaborations have had a better health outcome than industry-alone projects, with three of the resulting eight drugs having a major impact on global health problems once pricing issues were addressed - particularly in those cases where Phase IV implementation studies were conducted as a prelude to a wider roll-out. However, WHO/TDR's health performance has been rather mixed. This partially reflects its practice of coming in late to support clinical development rather than being an early and active driver of suitable R&D choices, but appears also to stem from their

constrained funding position and somewhat opportunistic approach to compound selection and development."

## **The Place of R&D for Physical Products in the ERC-Proposed Functional Areas**

There is a possibility of overlap between functional area 2 (R&D for Physical Products) and functional area 3 (Expanded Intervention Research, E-IR) as proposed by the ERC. As industry, PPPs and others bring new products to registration, these will need to be assessed on a larger scale within public health settings to collect the evidence needed by DECAs to decide on how to position the products within their health systems. Proposed functional area 1 (Research Advocacy, Coordination, and Stewardship) can help identify and prioritize such assessment needs. These could then be addressed either within functional area 2 (Product R&D) or within functional area 3 (E-IR) depending on the specific objectives pursued. For example, clinical trials of drugs already registered are currently considered by TDR as 'evaluation' under Product Development. In the new approach, they might be taken up either under functional area 2 or under 3. Depending on the specific disease and public health context, it can be difficult to determine when precisely 'evaluation' ends and when expanded intervention research starts. One may expect that, for all functional areas, negotiation – or rather collaboration – will be required at the interface. ERC believes that this should not be a major conceptual issue. It is context-specific and is best addressed by the secretariat as it re-organizes.

## **Conclusions and Recommendations**

Based on all the evidence at its disposal, considering the radically changed external landscape, and specifically the presence of other entities focused solely on developing products for “tropical diseases” (chapter 2), and projecting into the future, the ERC believes that there is no compelling reason for TDR to invest its limited resources to support R&D for physical products whenever others today have the capacity and are committed, with much larger resources, to developing these same products for the same diseases.

**ERC therefore recommends that, in the future, pre-registration R&D on physical products should be restricted to the very neglected areas of diseases for which critical R&D is not being undertaken by others.**

**ERC recommends that, for this product R&D role, the number of diseases in TDR’s current portfolio be reduced.** Examples of diseases that could fall in this category of very neglected diseases are African sleeping sickness, leprosy, schistosomiasis, diseases caused by filarial infections, visceral leishmaniasis, and malaria caused by *Plasmodium vivax*, *P. malariae*, and *P. ovale*. TDR might want to consider adding other conditions at a latter date (e.g. soil-transmitted helminths). When diseases are taken up by others or are eliminated, TDR should apply criteria for sun-setting them.

To the extent that TDR is involved in physical product research and development it should limit itself to elements not addressed by other players. It must be able to show that it will decisively complement, rather than merely shadow or compete with, others such as MMV. In this role, TDR should continue to inspire, foster, support **and indeed finance**, if necessary, appropriate areas of research, including strategic and basic research. It should use its excellent networks of scientists, and it should not exclude, *in principle*, any tool.

One important issue is the argument that TDR in some instances might have such specific or strong expertise and knowledge in a particular area that it should engage in physical product R&D even though there may be others doing the same. While there is some merit in this argument, TDR needs to be careful. The key questions to ask when considering this option are: Is this the best way for TDR to be expending its precious limited resources?; Is TDR the most efficient organization to be undertaking this task; and What are the opportunity costs?

In the rare instance when a good argument can be made along these lines, the ERC believes that before initiating such a program, the move will need to be recommended through the Research Advocacy, Coordination and Stewardship function, assessed by STAC and approved by JCB. This is also a subject very appropriately discussed at the Re-orientation and Stakeholder Engagement Exercise (see chapter 13, Next Steps), and in subsequent regular stakeholder consultations.

## **Chapter 7. Expanded Intervention Research (E – IR)**

We heard repeatedly from many of our interviewees, including those from the governing bodies, co-sponsors and PPPs, that “implementation research” (IR) is what is desperately needed and that this is what TDR should focus on. JCB has actually already determined that this should be a future focus of TDR, although it has not yet increased funding for it. PPPs, in contrast to TDR, are not well prepared to undertake IR. As one interviewee put it “PPPs focus on the (product) creation step. They have no capacity to see things through to the end. TDR is the umbrella that watches everything from beginning to end.” We heard from people at PAHO that the product-development PPPs, by not focusing and planning adequately for IR, are creating “a recipe for disaster.” We are aware of how ACT implementation in developing countries is lagging; and that artesunate suppositories have not yet been rolled out. The need for IR, and TDR’s future role, is therefore indubitable. With RCS, it is the major niche for TDR in the future. TDR has a good record in this general area. It is capable of rapid learning from field conditions. Its IR expertise played a key role in onchocerciasis control and in determining the advisability of the deployment of insecticide impregnated bed nets. TDR is now playing a pioneering role in home management of malaria. Had it been prepared TDR could have added value in the planning and implementation of MACEPA, the BMGF-funded malaria intervention initiative in Zambia. In the long run the BMGF’s initiatives will fail or succeed depending on whether there is capacity — trained human resources, capacity in IR—in countries. TDR has a role to play not only in IR but in building up IR capacity.

### **Implementation or Intervention Research?**

The term “implementation research” is widely used, but definitions differ. In many people’s minds it is something done “downstream”. For example, we heard repeatedly how TDR will be needed “for scaling up”, and generally “at later stages.” However, in our enquiries and thinking around this subject, we have come to the conclusion that the understanding of IR will need to expand beyond the borders that currently confine the term. To underline the broad remit of this functional area, ERC has adopted the term Expanded Intervention Research (E-IR). Whereas “implementation research” implies the application of a product, “intervention research” suggests research that facilitates the development and scaling up of all kinds of control efforts, including policy. It is not limited to the testing of a specific pharmaceutical product, but extends to deal with larger questions of policy and strategy. E-IR is in many ways the key link between research and control. It comprehends the use of research results *in* control interventions as well as research *on* control interventions under different conditions.

## Clinical Trials: Also a Changing Scenario

Although clinical trials are often considered implementation research, they can also be seen as the last phase of product development. They provide answers to questions about efficacy ("Does it work?") and effectiveness ("How well does it work under controlled conditions, and in real life settings?").<sup>73</sup> Evidence resulting from effectiveness studies will determine policy decisions on the potential public health use of the new products. Depending on context, TDR might decide to place clinical trials under the new R&D for Physical Products function or in E-IR.

In coordination with WHO's relevant departments, TDR can provide a more comprehensive and responsible framework for clinical trials than many other organizations. The necessity for this is increasingly clear as criticism of clinical trial practices emerges. Clinical trials capacity in industrialized countries is rapidly reaching saturation point. There are several million people in the US involved in clinical trials at any one time. Institutional Review Boards (IRBs) and regulators cannot cope with the demand. Private IRBs and contract research organizations are evolving and are often beset by conflicts of interest. The trend is for more clinical trials to migrate to developing countries, where there are significant cost advantages. Some countries, e.g. India, have welcomed such trials. However, the migration of clinical to developing countries is controversial for many people. Nevertheless, if this trend is to continue, then the attendant risks must be avoided and the interests of people in DEC's protected. It therefore becomes extremely important to build the capacity of developing countries to cope with the managerial, scientific and ethical issues involved. Some core issues are related to concerns about community engagement and the feasibility of using new products in real life interventions in the long run. The recent tenofovir trials conducted (and closed) in several developing countries provide a telling example.<sup>74</sup> The mistrust on the part of trial participants and the lack of any forum for community engagement undermined the trials. As one commentator wrote:

...it seems curious that we invest millions of dollars in product development, clinical training, design and building of facilities, etc, but often leave vital processes of community engagement largely to trial and error. Rigorous qualitative research methods, including focus groups and key informant interviews, and ethnographic investigations could provide an empirical basis for theory-based interventions (e.g. diffusion of innovations) and social marketing strategies to support successful fieldwork and preparation on the part of trial investigators and to develop best practices in engagement with local communities.<sup>75</sup>

Attention to community engagement, to social contexts and to ethics and equity issues, including future access to, and affordability of, the products tested (post-trial obligations), is

---

<sup>73</sup> The ERC is grateful to Susan Zimicki for some of her insights garnered during a long interview, which we have folded into our conception of E-IR.

<sup>74</sup> See Mills EJ, Singh S, Singh JA, Orbinski JJ, Warren M, Upshur RE. Designing research in vulnerable populations: lessons from HIV prevention trials that stopped early. *BMJ*. 2005 Dec 10;331(7529):1403-6.

<sup>75</sup> Peter A. Newman, 2006. Towards a science of community engagement. *The Lancet*, 367: 302

the foundation for long term follow-up of interventions after the controlled implementation studies have ended.

TDR has substantive experience with a large range of clinical trials and the capacity to coordinate multi-centre studies. Within the research it supports, TDR contributes to promoting international standards of quality, safety, ethics and human rights and ensures compliance with these standards. It also plays an important role by disseminating best scientific and ethical practices through capacity-building. Its position, values and expertise in this area are well established and recognized.

Even organizations that do their own clinical trials often use national scientists trained by TDR. What is needed - which TDR can facilitate - is a more systematic and concerted effort to help disease endemic countries, PPPs and other organizations developing physical products, to conduct clinical trials which are relevant to the populations' needs, are acceptable to them, and are scientifically and ethically sound. At the same time, TDR will help build up DECs' research management and ethics review capacity so they can negotiate effectively with PPPs, the pharmaceutical industry and other actors involved in clinical trials, and protect the interests of their populations.

Clinical trials can thus become opportunities for DEC scientists to build capacity at individual, institutional and national level. Rather than being 'one-off' test runs, they should be integrated in national health research systems and should yield experience that may be used in other areas of research. The ERC envisions that TDR's focus in this area will be on neglected diseases and diseases of the most needy populations. The scale and potential scope of engagement in clinical trials, and E-IR generally, is such that TDR may not be able to cope with its current staffing and structure. In this context the proposed small regionally based TDR Teams will help by having TDR staff close to where trials are being held, monitoring the situation on the ground, and in diffusing good practices through conducting courses and workshops on a larger and more sustainable scale than is currently done by TDR.

## **Research for Action**

E-IR ranges from focused operational research to broad studies of, say, the global context of inequities in health care. It includes the kinds of research currently being carried out under the "Implementation Research" arm of TDR, as well as that undertaken by the Social, Economic and Behavioural (SEB) research programme.

Operational research is by nature oriented to questions about the application of control strategies in given settings: "How can we solve this specific problem of intervention here?" Yet it points to other and broader questions: "How can we improve the use of this tool?" and "How does this tool compare to others?" It is equally important to ask "What doesn't work?" And, crucially, "If it does work, how do we best roll it out and scale it up." Some of the best work done by TDR examines implementation in several local settings and develops general policy recommendations from those bases. The comparison of specific experiences from a variety of sites provides a sounder foundation for making and refining policy. This gives narrow operational research a broader basic and strategic perspective. In this area, TDR has a

tremendous advantage in its capacity for doing multi-centre research. It would also be able to develop random designs for studying interventions—something that the Global Fund for Aids, Tuberculosis and Malaria is very interested in.

The “upstream/downstream” metaphor is misleading in reference to E-IR. This is a crucial point not only conceptually but practically, for it is intimately linked to the kinds of activities and strategic partnerships that TDR will need to forge in the future. Essentially, clear thinking around how products and interventions will be used should be an integral part of product development. This is part of “use-inspired” research. When products and interventions are used on the ground, lessons learnt through E-IR should immediately inform the development of related tools, interventions and the policies built around them. TDR’s E-IR experts will therefore be interacting with product developers both at the design and R&D stages, and later after doing initial E-IR on the ground. This means a closer working relationship with PPPs and other organizations involved in product development, as well as with control programmes, and within TDR with the R&D for Physical Products groups. **TDR and its partners will need to learn to work together dynamically. In this way TDR can be said to be involved in product development, and to be doing so on a much larger scale than now.**

## Health Research and the Bigger Picture

E-IR puts control efforts into a larger political, economic and social frame. It examines the relevance of historical processes that create inequities and affect disease distribution and control. It relates health to broader issues of development. As one staff of the SEB unit explains, three of the eight MDGs are about health, “but health also interconnects with the other goals, which focus on poverty and hunger, education, gender, the environment, science and technology, and water and sanitation.” National governments and the international community will have to address complex social, economic and political issues if the MDGs are to be realized.<sup>76</sup>

The SEB programme at TDR has exemplified the breadth of vision advocated here in its research on health sector reform and in the current focus on social and economic barriers to access, and on eco-bio-social research.<sup>77,78</sup> Equally important, it has taken on issues that have to do with the global spread of new technologies, for example, in the recent workshop on “Health-related biotechnology in Africa: ethical, legal and social implications of development and transfer.”

Comparative research aims to understand the historical and economic conditions under which interventions work in some settings and not in others. This is another reason why the “upstream/downstream” metaphor is misleading as far as social, economic and behavioral research is concerned. SEB can focus on concrete problems of use while at the same time

---

<sup>76</sup> Bloom and Knowles. 2005 Mobilizing social science research to improve health. IDS Policy Briefing. Issue 23.

<sup>77</sup> E. Blas (ed.) 2004. Health Sector Reform and Tropical Diseases: Opportunities and Threats. International Journal of Health Planning and Management 19:S1-S2

<sup>78</sup> For example, schistosomiasis interventions in China would need take into account the migration patterns that led to the resurgence of the disease.

seeing them in the broader framework provided by basic social science research and learning from attempts to change the world.

**Whereas clinical trials conducted for registration of new products test products under controlled conditions, E-IR examines the working out of interventions under real world circumstances on a larger time and patient scale.** This might mean revisiting control efforts 5 or 10 years after they have been introduced to see how they have been integrated into particular local settings. Applicability, acceptability, accessibility, affordability and feasibility must be followed over time.

## **Health Services or Health Systems Research?**

Discussion of health systems research often tends to gloss over the distinction between health services and health systems. Health services research focuses primarily on the formal health sector and includes management, financing, policy, human and material resources, diagnostic facilities and drug supplies. These are a fundamental part of the real world conditions for interventions and E-IR must take into account health services research. But it must do more than that.

In accordance with its expanded vision, E-IR sees health services in the broader context of other kinds of health activities, as part of a more encompassing health system. Health systems research in this extended sense includes the study of the health care practices that supplement and articulate with the formal health care services. In many disease endemic countries “actually existing health care” involves unauthorized drug shops, poorly qualified private practitioners, “traditional” healers and self-medication. It includes household and community level health care, as the IR unit in TDR so clearly recognized with its home-based management of malaria intervention and its community control of onchocerciasis programme. It embraces the intermeshing of NGO and donor-supported (often time-limited and vertical) projects with basic government-supported health care services. In order to develop safe and sustainable interventions, E-IR must take this broader perspective on the composite health care system.

As WHO develops its capacity for health systems research, E-IR has a central role to play based on its vision and experience in this area. Strengthening E-IR will help WHO in its efforts to strengthen its own research capabilities.

## **Crossing Boundaries**

E-IR is intrinsically **interdisciplinary** (“to address health you mostly need to listen to non-health people”). More than any other type of research it requires the collaboration of biomedical, natural, social and even humanistic sciences—the kind of transdisciplinarity that TDR pioneered. That means a range of professional staff trained in several different social science and related disciplines: economics, political science, development studies, even history, as well as anthropology/sociology. The present staffing situation in SEB and IR is

totally inadequate in this context. E-IR **cuts across diseases**. It should be looking at how to deliver several interventions together in the most practical, efficient and cost-effective way. A myopic, mono-disease approach to control will not stand the test of real world health systems in DECs.

As a function, E-IR is intrinsically linked to RCS and to human resources development (“the value of TDR is not product development...it is people development”; “you cannot have health outcomes without (medical, health) personnel”). At best E-IR done by TDR should be linked to the training of local Ministry of Health staff in E-IR methodologies, both quantitative and qualitative. In this respect, and especially if TDR focuses not only on managing diseases but on fostering health, TDR will already be playing a role in development and addressing the health components of MDGs.

As part of E-IR, TDR will itself be engaged in designing and developing interventions and policies, and when these have been tested, handing them over to disease control, as it has done so well in the past. It should do this with adequate community consultation, preceded by public engagement on a larger scale for major, unfamiliar or controversial interventions. It should foster local ownership for sustainability. In relation to these activities, methods will have to be devised to avoid conflicts of interest. One worry is that TDR cannot objectively evaluate products, policies or interventions it has itself developed. However, conflicts of interest in health research generally are common, and on the whole they are manageable (through introspection, transparency, declaration and, ultimately, recusal)

## **Implementing E-IR**

So as to realize the vision of E-IR,

**ERC recommends that TDR must begin immediately to change its mix of skills, tilting it away from traditional product development and more towards E-IR type of competence.**

This means employing the best people it can find to put in leadership positions. IR has so far not been well understood; it is poorly emphasized in countries; and has not been funded adequately in TDR. However, new sources of funding are very likely forthcoming from players who need TDR’s expertise in E-IR, including PPPs, philanthropies and, indirectly, GFATM. In relation to those PPPs developing products to address neglected diseases and populations in need,

**ERC recommends that TDR begin a dialogue with PPPs and others** to show it will add value to their product development in the way described above. The development of strategic alliances, ideally rooted in contractual obligations, will serve both sides well. This can begin at the proposed Re-orientation and Stakeholder Engagement Exercise foreseen to take place later this year.

Because of the risk of conflict with WHO in the latter’s newly energized focus on research, TDR will need to negotiate definitions, boundaries, and who does what separately and together. **TDR ought to be at the table helping WHO develop its vision for research for disease control.** The particular area of concern is health systems research, a focus that came

out of the Mexico summit and that occasioned a proposal on the creation of a Special Program on Health Systems Research. Several interviewees were concerned about the overlap between IR and health systems research. Would there be a duplication of effort if WHO launches an initiative on health systems research? Others pointed out that they are not the same thing, especially if health systems are defined in the narrow sense we have called health services: the formal professional bureaucratic structures of health care. Ideally they should be leveraging each other's strengths to improve research for disease control. In relations with WHO, TDR should examine what went wrong when relations were strained between "research" and "control"—and what worked best to improve relationships and reduce "tensions".

**ERC recommends that TDR should work closely with WHO to delineate their respective or joint research roles so as to avoid misunderstandings, tensions and duplication as TDR and WHO develop a future vision of research for the common interest of disease endemic countries.**

One option is for WHO to view TDR as its research arm in selected areas; another is that there should be joint or closely coordinated planning and implementation of a research agenda that best serves the health interests of disease endemic countries. Again, the small regionally based TDR Teams that ERC recommends will allow for collaboration to take place in regions and countries more realistically.

**ERC recommends that TDR do a scan to see what NGOs and others are doing that is close to its E-IR mission.** Many of these will be implementing rather than doing intervention research. As far as possible, TDR should be working in close collaboration with all such potential partners.

**ERC recommends that TDR examine how best it can harness the resources of its co-sponsors in implementing E-IR.** In E-IR, UNICEF may be the best to work with because of its Nobel Prize-winning experience working on delivery of health care on the ground. It also has large numbers of staff working in countries.

**ERC recommends that TDR should rapidly scale up capacity for E-IR and SEB by increasing staff in the area of social sciences.** SEB has in theory been in existence at TDR since 1979 but currently consists of only one person.

**ERC recommends that TDR study if the merger of the SEB and IR steering committees would be advantageous.** However, the ERC leaves open the question of how these areas should be structured in future and how relevant activities concerning ethics and gender mainstreaming will be organized in relation to E-IR.

## Chapter 8. Research Capability<sup>79</sup> Strengthening for the Future (RSC-F)

In the preceding chapter ERC strongly recommended that E-IR should be central to the future vision of TDR. Equally important, and in this we concur with the majority of our interviewees, is research capability strengthening (RCS), one of the core distinguishing features of TDR which will continue to play a central role in future. In the past, TDR largely focused on training of individuals. As one knowledgeable interviewee said “They were trained as individuals, and when we meet them now, they are still individuals.” In the future the focus ought to be on (a) individuals and teams as components of institutions and, more importantly, on (b) institutions within (c) national health research systems. The large numbers of individuals trained wholly or partly by TDR remain attached sympathetically to TDR, but only nominally in most cases. We heard that “there are many people in Tanzania, Nigeria, China, PAHO, etc. who have had TDR grants and are now in leadership positions. They have become members of a club...and their culture is transmitted”. This is to be commended, and it is an important asset for TDR. However, even though TDR did RCS well in the past, and many of its trainees are now in leading positions (“In Brazil, all the key figures working in HIV were trained by TDR”), of late TDR is not even doing that very well. The reasons for this, in terms of staffing, matrix structure, compartmentalization, lack of funding, etc. have been reviewed in Chapter 3.

The ERC considers that in future TDR will need to develop a much stronger and more varied RCS. We call this RCS-F—for the future. Below we look at the new landscape of RCS: new concepts, new directions, new potential foci, new use of tools, re-invigorated processes, new potential roles, new opportunities, and new organizational and funding needs. **The ERC understands that the new TDR will not be able to take advantage of all of these.** However, within a renewed vision and strategy, these opportunities and ideas may trigger new thinking about RCS-F that will make TDR's role in the future even more pivotal and valuable. Many of the opportunities highlighted below could be tightly linked to TDR's research work, especially in E-IR.

### New Concepts

Some of the concepts are only new in the context of how TDR can further use them in developing a strong RCS-F.

#### *National Health Research Systems*

The concept of Essential National Health Research, well-established since 1990, has been supplemented by the recognition that health research at country level is part of a more or less formal system with components in ministries, national research councils, universities and

---

<sup>79</sup> While there may be semantic or usage differences, “Capacity” and “Capability” have been used interchangeably in this report

research institutes. In many developing countries Health Research Systems are weak and poorly coordinated. There is little planning for how the overall system can be strengthened. Recently TDR has opened discussions with the Global Forum for Health Research (GFHR) and COHRED to work with countries on analyzing and strengthening their national health research systems. This points to a fundamental re-orientation of RCS-F towards planning at national policy level, extending to research management and coordination.

#### *Democratization and Globalization of Knowledge Generation*

There used to be a time when the North produced knowledge (ensuing in technologies and patents) that the South only managed to import and utilize, often with aid money, without adding value. This is rapidly changing. Countries like South Korea have initially reverse-engineered, and later innovated, their way to join the ranks of OECD countries. Emerging “Innovating Developing Countries” now include China, India, Brazil, Cuba and South Africa. Countries like Mexico, Egypt, and Thailand are rapidly catching up. Investment in R&D, together with a strategic vision for science and technology for development, is an indicator of future success. Recent figures show that China is now proportionally spending more than the US on R&D as a percent of GDP, and vastly more than other developing countries. This is already being translated into large numbers of MScs, PhDs and professional scientists and engineers

This increased awareness of, and support for, science and technology for development and the vision of “knowledge societies”, has been accompanied by greater emphasis on social sciences. In the health domain, this has led to greater awareness of the social determinants of health, reflected in the recent launch by WHO of the Commission on Social Determinants of Health. At the same time, innovation systems theories and models (training, policies, knowledge flows, investments, clustering etc.) have been proposed to analyze gaps and improve innovation capacity in developing countries.

#### *South-South Collaborations*

There are increasing opportunities, as part of the democratization of knowledge, for both North-South collaboration and South-South collaborations in R&D for health. Brazil’s president Luiz Inacio Lula da Silva has made this a priority for Brazilian scientists. These collaborations are now extending beyond the laboratory to include partnerships and collaborations in the private sector, whose role in development was emphasized in the UN report on the Private Sector and Development that was chaired by Canadian Prime Minister Paul Martin and former Mexican President Zedillo. The expanded range of collaborations also represents expanded opportunities for RCS-F. Increase in South-South collaboration is yet another argument for decentralization, institution building and inter-regional networking, which is one of the reasons for the ERC to recommend establishing the small regionally based TDR Teams.

## **New Directions**

TDR itself has recognized the need to shift the balance from individual to institutional RCS. It has in the past played a role in strengthening selected research institutions in the South.

These include the Kenya Medical Research Institute; the Faculty of Tropical Medicine, Mahidol University, Thailand; the Department of Epidemiology and Parasitic Infections, National School of Medicine, Bamako, Mali; and the Institute of Parasitic Diseases, Shanghai, China. All these are highlighted on the current TDR website.

Building on these foundations and continuing to select other relevant research institutes for reinforcement **and networking** will support sustainability for research capacity.

In addition, there are opportunities for TDR to develop strong partnerships with institutions originally supported by the private sector. Examples include the Pfizer-funded Infectious Diseases Institute (currently focused mainly on HIV) in Kampala, and the Novartis Foundation-funded Tropical Diseases Institute (working on dengue and other diseases) in Singapore.

TDR could play an incubator role for the creation of RCS PPPs and thus a key role in developing relevant research capacity in schools of public health in the South, therefore contributing to the training of future health personnel generally.<sup>80</sup> Despite the increase in health training institutions and schools of public health in Africa, their graduates are not yet playing significant roles in mainstream research on a large scale, partly because of lack of relevant expertise, and TDR could play a role in further enhancing their knowledge and skills base. There are also many private medical schools and other private institutions of higher learning that could do benefit from TDR's help in developing their own research capability.

Traditionally TDR has tended to train developing country scientists in the North. There are now other places, more cost-effective, that TDR could consider. India, for example, has universities, research institutions, pharmaceutical/biotechnology industries etc. that match the best in the world. China has hundreds of research institutes. In the future TDR should focus the training of individuals in such centres, through systematic partnerships, strategic alliances and co-branding of exchanges and fellowships with other institutions including those in the North. These could include the Swiss Tropical Institute (and the Ifakara health centre in Tanzania that it is closely associated with), NIH, Johns Hopkins and Harvard Schools of Public Health, the London School of Tropical Medicine and Hygiene, the Fogarty International Centre, and the global health programme at Boston University. This approach will vastly leverage TDR's resources, and in the process help with institutional capacity building in southern centres of excellence now emerging even in Africa, such as Biosciences East and Central Africa, where there is world class expertise close to where the needs are. Such training programs will also help in developing South-South networks and collaborations.

#### *Pipeline Awareness Equals Needs-inspired Planning*

PPPs have in their "pipelines" a number of products—drugs, vaccines, diagnostics—that will need efficient clinical trialing, testing, evaluation and other forms of intervention research

---

<sup>80</sup> See World Health Organization. The World Health Report: Working Together for Health. April 2006 (<http://www.who.int/whr/2006/en/index.html>) The report contains an expert assessment of the current crisis in the global health workforce and ambitious proposals to tackle it over the next ten years, starting immediately

(see chapter 7). In the last few years when TDR talked about RCS+, the + referred to the context largely of product development capacity. Researchers were being trained to develop products. While this will need to continue, TDR must accept that others can do this better, and its focus on RCS+ should rapidly shift to intervention research. This will organically and powerfully link the two foundational functions in TDR's future, namely RCS-F and E-IR. Opening a dialogue with PPPs and their funders, mainly the philanthropies, will help the latter analyze their future needs in RCS for E-IR in the context of what TDR can deliver. It will help TDR understand and plan more effectively for these future needs, which address the same needs that TDR seeks to address.

## Potential New Partnerships

In addition to PPPs, philanthropies and the private sector, there are a number of important stakeholders that, with imagination, political savvy and better communication skills could be better utilized by TDR in its vision of RCS-F. These include:

### *Regional Political and Economic Groupings*

such as the African Union, with its New Partnership for Africa's Development (NEPAD) and its Science & Technology Commission; MERCOSUR; ASEAN etc. Specifically, TDR could: advocate for greater awareness and political support for research; link to the funding sources that work through such groupings (e.g. Canada's Fund for Africa and the International Development Research Council (IDRC), which have worked through NEPAD); and support policies for more effective channeling of aid flows. These are not roles that TDR has played in the past, but they should be part of its vision, and of every day engagement with political leaders, decision-makers and institutional research authorities.

### *National Academies of Science*

With increasing awareness of science and technology as development tools comes awareness of the important role of science academies. The Academy of Sciences for the Developing World (TWAS) is playing a bigger role in advocacy for science. The US National Academies of Science has received a 10-year US\$ 20 million grant from BMGF to boost the capacity of African science academies, especially for health related issues. As a result, for example, the Ugandan National Academy of Sciences has been re-organized and become better funded. Traditionally TDR has worked with a few research institutions. One important additional way of listening, and plugging into the **wider context of science and technology**, is to work with academies of science.

### *Research Funding Agencies*

There is greater emphasis on funding "global health" research amongst the major research funding agencies. At a recent meeting of the Heads of International Research Organizations (HIROS), which includes 17 different funding bodies for medical research from around the world, the focus was on global health and especially research partnership with Africa.

HIROS decided to work towards a declaration to establish a new Global Health ‘Cooperative’ to strengthen capacity in global health research.<sup>81</sup>

The budgets of several funding agencies for global health research are big and growing. Some of them have already joined up with local institutions to support such research—e.g. in Canada, CIHR, Health Canada and IDRC have come together to create the Global Health Research Initiative,<sup>82</sup> whose funding is expected to increase in the near future. TDR needs to learn more about, and better engage, these sources of potential funding for RCS-F—not only in terms of obtaining money but in developing co-branded programs. Other potential partners (not necessarily funding agencies) include GFATM, GFHR, COHRED, etc.

#### *TDR Alumni*

These are loyal supporters in positions of influence that TDR has so far not effectively utilized in RCS. They can play a major role in advocacy for RCS, in playing the role of mentors, in opening doors to centres of excellence and to the resources that come with them. They may volunteer not only for research projects but in actually designing and implementing research training programs, short term courses (e.g. on grant writing), curriculum development, etc.

#### *Diaspora: From Brain Loss to Brain Re-Circulation*

Developing countries have lost vast numbers of highly trained personnel, including scientists, physicians and highly trained nurses to the developed world, which has not formalized mechanisms to compensate developing countries for their loss. Many of these professionals remit back to origin countries large sums of money that have now become significant parts of those countries’ GDP. Unlike those trained through TDR grants, who have an excellent record of returning, most of these professionals will never go back, but continue to have close ties of kinship and empathy with their countries of origin. Many of them are willing to not only send money but to offer scientific, technical, managerial and business expertise and generally to help with science and technology innovation in their countries of origin.<sup>83</sup> We have heard very little from TDR staff and our interviewees of the opportunities for this significant resource to help with RCS in the form of arranging scholarships, short or long term return to help in RCS, and use of their other skills and resources.

#### *NGOs*

On the whole NGOs are focused on delivering health care rather than on doing research. Some of them may provide opportunities for partnering in intervention research, and thereby in RCS. Others e.g. MSH (Management Sciences for Health) could help TDR design research management training programs in developing countries (see Foci below).

---

<sup>81</sup> See [http://www.globalforumhealth.org/filesupld/global\\_update2/5\\_health\\_research.pdf](http://www.globalforumhealth.org/filesupld/global_update2/5_health_research.pdf)

<sup>82</sup> See <http://www.cihr-irsc.gc.ca/e/13249.html>

<sup>83</sup> See for example Séguin B, State L, Singer PA, Daar AS. Scientific Diasporas as an Option for Brain Drain: Re-circulating Knowledge for Development. *International Journal of Biotechnology* 2006;8(1/2):78-90. See also Seguin B, Singer PA, Daar AS. Scientific Diasporas: an Untapped Resource. *Science*, in press.

### *WHO Collaborating Centres*

WHO has an extensive network of prestigious collaborating centres. We heard no mention from TDR staff, or indeed from our interviewees, of the value of this underutilized global resource to help TDR expand RCS. Some of these WHO Collaborating Centres, e.g. the University of Toronto Joint Centre for Bioethics,<sup>84</sup> have been doing RCS, in partnership with the Fogarty International Center of NIH, PAHO and WHO/EMRO, in the form of training for research ethics—potentially one of TDR’s foci in the future. TDR should study these centres and identify those that it could partner with for its E-IR and RCS-F.

### **New Foci for RCS-F**

These are not all entirely new for TDR, for some of them have played a role in various units, e.g. in SEB. However, they are worth highlighting as a group that stands in contrast to RCS for product development. These include:

#### *Convergent Technologies Platforms and Knowledge Domains*

With increased investment in research—e.g. on sequencing the human genome, (approximately US\$ 3 billion globally over 10 years), regenerative medicine (California alone has earmarked US\$ 3 billion over 10 years), the Grand Challenges in Global Health program (US\$ 437 million on just 43 research projects), the world is witnessing an era of hugely expanded knowledge and tools in the life sciences that will allow us better to understand, and more imaginatively to solve, health problems. Amongst the outcomes of this new life science is the increasing convergence of technologies and technology platforms e.g. bio-informatics, plant-derived vaccines and drugs, manufacture of rare therapeutic proteins e.g. in the sperm of pigs, nano-medicine (including handheld multiplexed point-of-care diagnostic tools based on genomics, proteomics, micro-fluidics and quantum dots), etc. We are beginning to realize there is much to be learnt across knowledge silos such as health, agriculture, veterinary science, environmental sciences, social sciences etc.

In all this, there are new opportunities for RCS-F: there will be research work (linked to RCS) to be done to develop new standards and best practices; and to study new ethical, legal, cultural and social issues arising from these developments.

#### *Intellectual Property (IP)*

IP can play various roles: in providing incentives for research; for advancing or inhibiting access to knowledge and products; and for building or hindering research capacity strengthening. It is a subject that is fraught with ignorance and misunderstanding, and one that developing countries have largely not learnt to harness as a tool for development—although most countries in the developing world have signed on to international agreements that bind them, sometimes to the detriment of health care delivery, to minimum standards of IP protection.<sup>85</sup> The Rockefeller Foundation helped create MIHR (Centre for the

---

<sup>84</sup> See MHS bioethics programme at [www.utoronto.ca/jcb](http://www.utoronto.ca/jcb)

<sup>85</sup> See the report of the WHO Commission on Intellectual Property Rights, Innovation and Health at <http://www.who.int/intellectualproperty/en/>

Management of IP for Health Research<sup>86</sup>), which has been helping developing countries increase their capacity to understand and better use IP—especially in technology transfer. There are huge opportunities for research for TDR in this general area, and for RCS and its utilization “in context”. TDR is rightly praised for its work in increasing access to important health products for DECAs. It should build on this record and help to build the capacity of DECAs to address IP issues.

### *Knowledge Translation*

Even the developed world is perpetually faced with the question of how to convert knowledge into useful products for industrial development (ministries of finance are interested in national returns on investments of any sort, including research funding) and for the creation of public goods leading to better health. Yet this task is not easy, and is a subject of enquiry all over the world. In the context of TDR and its future partners (PPPs, philanthropies, etc.) there are a number of opportunities in knowledge translation. One such is the capacity for rapid learning loops—the capacity rapidly to capture results of intervention research and convert those into useful data to inform product development, or more immediately to alter disease control policies—and then to do further intervention research on those newly re-designed tools and policies.

### *Research Management*

This is a truly neglected area and an opportunity for RCS-F related to the concept of national health research systems mentioned above. The capacity to develop policies and legal frameworks to guide, govern and manage research has often been neglected by developing world institutions and governments.

There are several drivers for strengthening research management in developing countries. More research funds and projects are pouring into developing countries. These include clinical trials, which sometimes raise ethical concerns, as mentioned in Chapter 7. Contract research organizations are beginning to appear in developing countries.

All this, unfortunately, is not accompanied by greater capacity for research management, ethical review, monitoring and evaluation. Stronger national research systems are needed to ensure that health research is beneficial and not harmful to the population, and that it is actually useful and useable. Mechanisms are needed to ensure that external resources are optimally used for further training of national researchers.

TDR could have a big role to address these issues. There is a need to improve national capacity for research management. Training must be done in countries and regions, drawing on regional expertise and experience. This implies having a sustained infrastructure in the countries concerned and making use of regional networks. **Here again the proposed small regionally based TDR Teams could make a big difference.**

### *Bioethics*

Although this could be considered part of research management, we believe that it warrants specific emphasis. The clinical trials research management needs highlighted above; the increased complexity and power of the new life sciences; the convergence of technology

---

<sup>86</sup> [www.mihir.org](http://www.mihir.org)

platforms; the performance of research in resource poor settings; the need for international collaborations and partnerships; the management of databases (access, confidentiality, unpredictable research use, linkage to medical records, etc.); the need for public consultation and community engagement—all these raise profound ethical issues, most of which have not been studied adequately even in developed countries. We talk of bioethics, but this term is also meant to capture the ethical, economic, environmental, cultural, legal and other social issues arising as a result of increased research in developing countries. We believe that there are huge opportunities here for TDR generally, but for RCS-F specifically, especially in the context of E-IR.

## New Opportunities

Here we highlight additional new opportunities that might be linked to RCS-F:

1. The internet and possibility of creating virtual campuses
2. RCS is a form of education. Traditionally TDR has not tapped into sources aimed at raising education capacity in developing countries. The World Bank, for example, does have a focus on education for development. There may be funding opportunities here for TDR, which should volunteer ideas and projects that can mobilize the Bank's diversified competencies and interest in the Education, S&T and Health sectors<sup>87</sup>
3. The bigger picture of the emergence of infectious diseases and the expanded needs of disease surveillance and of pathogen and human genetic epidemiology
4. Specific focus on research training in public and private schools of public health and medical, nursing and pharmacy schools
5. The potential dark side of biotechnology—e.g. bioterrorism. There is a real danger that intense focus on bioterrorism by the developed world will undermine the peaceful use of biotechnology in developing countries.<sup>88</sup>

### Emphasis on Newer Roles for RCS

RCS is one of the strengths of TDR. It is generally not done by PPPs. Its importance will grow. TDR must continue to be the overarching umbrella organization that imaginatively thinks of RCS needs. Some of the RCS roles it could play in the future, in addition to funding MScs and PhDs include:

- Mapping and identifying strengths and weaknesses of other players in RCS
- Developing an independent, objective benchmarking and standard-setting organization
- Development of best practices for RCS
- Facilitation of a federation of RCS institutions

---

<sup>87</sup> "Between 1980 and 2004, 19 projects in the health sector used Bank support for S&T capacity-building and research, ranging from less than \$ 1 million... to \$ 104 million... While Bank S&T-focused health projects were relatively uncommon, those that existed were diverse." *Review of World Bank Lending for Science and Technology, 1980-2004*, Michael Crawford et al., World Bank, January 2006, p. 24. The analytical work currently developed by the WB Science and Technology Programme on national models of technological learning for developing countries is also of relevance.

<sup>88</sup> See report entitled "DNA for Peace: Reconciling Biodevelopment and Biosecurity" at [http://www.utoronto.ca/jcb/home/documents/DNA\\_Peace.pdf](http://www.utoronto.ca/jcb/home/documents/DNA_Peace.pdf)

- Becoming an incubator for RCS PPPs.

## **Organizational and Funding Needs for RCS-F**

TDR itself may need internal capacity strengthening and revised management systems in order to re-invigorate its RCS mandate. In the past only one unit at TDR has been accountable for RCS. Although other functional units developed capacity building activities, there was insufficient coordination, planning and reporting about RCS across the Programme as a whole. The renewal of RCS will require a much stronger attention to capacity building among all functional areas, and administrative procedures to coordinate, synergize and report on activities. In particular, there must be a strong organic link between E-IR and RCS-F.

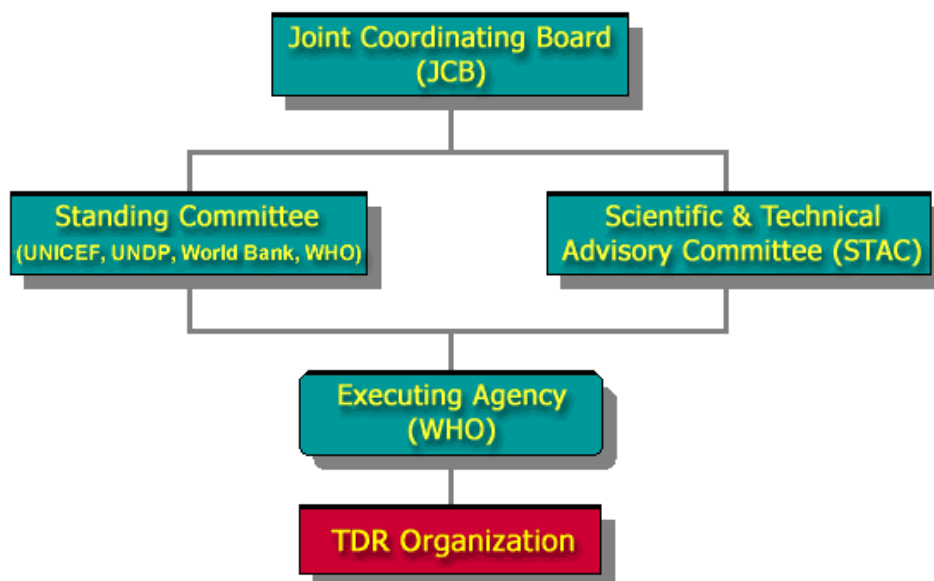
The renewed emphasis on RCS must be accompanied by fund raising and budget planning. There is an overall belief that health research capacity building is an area of low appeal to donors. Most designated funds to TDR are given to product development and not to RCS. Given the strong shift of TDR funds to designated areas, funds available to RCS per se have been reduced over time and this has not been compensated by re-distributing the undesignated funds to RCS as recommended by JCB. Some innovative ways of raising funds for RCS need to be found and a very robust program of advocacy designed to sell the idea that RCS is actually good investment in the long run.

## Chapter 9. Governance, Management and Functioning of TDR

The governance and management of the Programme should not be considered in isolation from its functions and corresponding structures. They are discussed here in a separate chapter for the sake of clarity and readability. The recommendations of the ERC here reflect current realities and needs identified by the ERC and (often) based upon the findings and recommendations of prior studies, e.g. that of the JCB Sub-committee on Governance.

### A. Governance

TDR is governed according to the organigram shown below:



*The functions, composition and modus operandi of the JCB, the Standing Committee, the Scientific and Technical Advisory Committee (STAC), and the Executing Agency (WHO) are defined in TDR Memorandum of Understanding (MOU) adopted in 1978, amended in 1988, and again in 2004 to formally include UNICEF as a cosponsor.<sup>89</sup>*

Concerned about what seemed “a general lack of clarity and common understanding of TDR organizational nature, and of the mutual obligations and expectations of the various parties

---

<sup>89</sup> Memorandum of Understanding, see **Reference Documents for JCB meetings, JCB web site**

that interact within the Programme”<sup>90</sup>, JCB initiated a number of reviews, according to the following sequence:

1. In 2001, JCB set up an e-working group to look into trends and implications of designated/undesignated funding and JCB membership;
2. In 2002, JCB requested a Working Group to make an assessment of issues related to governance (including respective roles of JCB, STAC and the Standing Committee) and administrative arrangements with the Executing Agency;
3. In 2003, the JCB Sub-Committee on the Review of TDR Governance was mandated to consolidate previous analyses and formulate recommendations on relevant issues;
4. In June 2004, the report of the Sub-Committee was submitted to JCB, together with the report of the Management Review originally commissioned by the World Bank. These are now integral components of the 4th External Review.

**Building on the report of the JCB Sub-Committee on Governance and reviewing the implementation of its recommendations, the ERC has identified some issues that remain to be addressed.**

The majority view expressed to the ERC by TDR Cooperating Parties<sup>91</sup> is that, on the whole, TDR governance has worked quite well. Designed 30 years ago, at a time when few programmes had such a transparent and participatory system, TDR governance has long been considered a model. Over time, however, the expectations of stakeholders have changed and significantly increased. A broad range of players and constituencies, from both the public and the private sectors, are now engaged in global health and international collaboration and they expect recognition, including within governance. Importantly, all stakeholders agree that, within a Programme such as TDR, DEC’s should be at the centre not only of field activities but also of agenda and priority-setting at governance level.

## **Joint Coordinating Board (JCB)**

### *Membership*

In June 2005, JCB decided to increase the number of members it elects itself, from 3 to 6. However, it did not discuss or define the criteria for the selection of these additional members in order to ensure “parity in representation of disease endemic countries and other contributors” – as recommended by the Sub-Committee on Governance.

---

<sup>90</sup> JCB Working Group on Governance, 2002

<sup>91</sup> As per the MOU, Cooperating Parties are: 1) those governments contributing to TDR resources; those governments providing technical and/or scientific support to TDR; and those governments whose countries are directly affected by the diseases dealt with by TDR; 2) those intergovernmental and other non-profit making organizations contributing to TDR resources or providing technical and/or scientific support to TDR.

**The ERC recommends a review of JCB criteria for balanced representation of its membership** (public/private sector, profit/not for profit, etc), as recommended by the JCB Sub-committee on Governance

#### *Roles and Responsibilities*

The JCB is TDR's ultimate decision-making body in terms of policy, orientations, programmes and related budget. However, a review of recent JCB documentation could lead to the conclusion that the Secretariat has tended to look at the JCB sessions as ritual events and opportunities for TDR-centred advocacy and funding rather than a meeting where policies are actively discussed in depth and critical, informed decisions are made. The emphasis has been on formal presentations, success stories and, often, submission by the Secretariat of preformatted decisions for JCB's endorsement. To be in a position to really "govern" the Programme, **the JCB would need to receive robust situation analyses and a range of options which it would evaluate and select, from a policy perspective, using STAC's advice on scientific and technical aspects.**

The ERC also notes that, in recent years, the TDR Secretariat has tended to make important decisions with major policy implications with little engagement of the whole JCB, e.g. when it committed with other partners to engage in HIV/AIDS; and, against repeated recommendations of STAC and JCB e.g. when it de facto exited from vaccine R&D, claiming devolution to IVR. Whatever the scientific and/or budgetary grounds on which such orientations may be justified, such major policy decisions should not be made before in-depth study by JCB. On such matters, the Secretariat could, and should, consult JCB electronically, before and not after the fact.

In addition, a review of JCB's recommendations shows that several of these have not been implemented at all or have been implemented only partially. They include recommendations on key issues such as evaluating impact, developing closer collaboration with regions, mainstreaming gender, assessing the effect of RCS policy on retention/migration of researchers, implementing or redefining the disease entry/exit strategy, retooling TDR for research agenda-setting at global level, clarifying criteria for TDR's partnerships, etc. Such inadequate and often haphazard compliance with JCB recommendations undermines the overall coherence of TDR policy and reduces trust.

**The ERC recommends that JCB increases its engagement with the Programme and fully reclaim its governance role, with definitive authority on priority-setting and an active role in policy-making. We further recommend that JCB more directly participates in shaping its meetings agenda and more closely monitors implementation of its decisions by the Secretariat.**

#### *Working Methods*

In principle, discussion by the JCB of the overall budget could take place every other year only, and not every year as at present. To improve working methods, the Standing Committee and JCB have suggested that the Secretariat provide time and analytical data to

enable a truly strategic discussion of different budget options against scientific opportunities; progress and impact of activities; and the evolving research environment and public health needs. Previous JCB working groups on budget and governance have also suggested that, in between sessions, the Secretariat should provide information on budget status and any changes in stakeholders' commitments so as to facilitate JCB's response and support to TDR. This is important and the ERC supports the recommendation, with the proviso that these updates are brief and informative, and do not consume even more of the time of TDR staff than at present.

The proposal to hold JCB sessions outside Geneva every other year was also made to redirect TDR's focus more effectively to the needs of DEC's. The Secretariat has recently organized one-day briefing sessions, immediately before the JCB, for newly designated regional members of JCB. **The ERC recommends institutionalizing these improvements**, and further recommends **bringing JCB even closer to countries' needs** by fostering mechanisms that would give DEC's a higher profile and more active role in JCB, e.g. in agenda setting and making presentations regarding regional needs.

## **Standing Committee**

In 2004, the JCB Sub-Committee on Governance recommended that the Standing Committee be transformed into an Executive Committee, with the proviso that the JCB's representation would be formalized and increased, based on transparent selection procedures and ensuring parity between industrialized and developing countries. The need was for authorized decisions to be made on behalf of JCB, in between regular sessions, for timely response on policy issues that impact priorities and budget.

In June 2005, having heard the opinion of the WHO Legal Office, JCB did not propose to change the status of the Standing Committee but recommended that "the JCB Chairperson and Vice-Chairperson and the STAC Chairperson participate in future meetings of the Standing Committee" in a consultative role. While this ad hoc arrangement has the advantage of not requiring amendments to the MOU, it has been described to the ERC as a potential source of ambiguity.

### **The ERC recommends that:**

- 1) If it is confirmed that there is no need to transform the Standing Committee into an Executive Committee, a mechanism be established to ensure consultation of JCB members between sessions, as appropriate, when major policy matters require prompt and formal decisions
- 2) If the Standing Committee is to be given executive functions, these should be defined and the membership of the Standing Committee be formalized accordingly, including the selection of JCB representatives.

The recommendation of the Sub-Committee on Governance that the Chair of STAC be invited to the Standing Committee is already being implemented and is an important step

towards improved communication and interaction between the various levels of TDR governance.

The Standing Committee has repeatedly urged TDR to make better use of all co-sponsors' networks and resources and in particular to develop synergies at country level. It has also advised TDR to make a explicit efforts to relate to its co-sponsors' mandates and priorities, pointing out the new funding opportunities this might open up, including bilateral development funds channeled through UN country teams. To date, no systematic follow up by TDR can be identified, although the move to rotate the Standing Committee meetings between Geneva and other cosponsors' headquarters is a positive development. In this context the proposed small, regionally based, TDR Teams (described in detail in chapter 10) could make a big difference. They would help TDR to open up to broader, multisectoral and interdisciplinary partnerships, including with co-sponsors' teams and country counterparts.

## WHO as the Executing Agency

The vast majority of the ERC's interviewees perceive TDR's institutional link with WHO as a considerable asset, particularly in terms of public health identity and synergies. It is against this background that the ERC interprets the recommendation of the JCB Sub-Committee on Governance that the concept of "Executing Agency" be clarified and that administrative arrangements between TDR and WHO should be revisited and revised where needed for improved performance and collaboration with others. Some changes in approaches and responsible officers on both sides have already brought about improvements and added flexibility regarding some aspects of TDR's operations. This has been welcomed as a positive step by all, while recognizing, at the same time, that flexibility must be balanced with accountability and compliance with standards and rules.

### The ERC recommends:

- a) Clarifying, and distinguishing between, the administrative oversight role of WHO as the Executing Agency and its technical and scientific interest and involvement in the Programme
- b) Revising administrative arrangements between TDR and WHO. This would be best achieved by negotiating an omnibus **Administrative Structural Agreement** between WHO and TDR that would reduce bureaucracy, give TDR more delegated authority, contain any needed waivers, and recognize that TDR is special and different. This would allow reform of its secretariat management, administration and working methods without re-opening MOU. In drawing up this agreement it might be useful to draw on lessons, and seek inspiration, from other WHO-based or -related partnerships<sup>92</sup>.

---

<sup>92</sup> The ERC has heard with much interest that creative approaches are being developed to equip the WHO Lyon Office for National Epidemic Preparedness and Response with decentralized mechanism to grant it greater operational flexibility and responsiveness. This shows that the opportunity would similarly exist to work out innovative institutional solutions for TDR together with the Executing Agency.

## **The Scientific and Technical Advisory Committee (STAC)**

### *Membership*

The Sub-Committee on Governance has emphasized that STAC, “as an independent advisory body reporting directly to the Standing Committee and JCB, specifically provides TDR, at governance level, with scientific legitimacy and leadership”. It recommended that STAC therefore “must represent the very best, worldwide, of a relevant range of disciplines. It should also include personalities with a deep understanding of how research can most effectively be mainstreamed in national and local agendas.” It further stressed the need to aim at geographical and gender balance.

At JCB's request, STAC provided its perspective on its membership and methods of work. It proposed that its membership be reduced to about 12, with a term that would be extended from 3 to 4 years. Thus, each year, 2 to 3 members would be replaced. The selection process would also be reviewed to enable STAC to discuss and make proposals on membership, e.g. through a sub-committee, according to predefined criteria.

**The ERC recommends that the STAC proposals on its membership be reviewed rapidly by JCB and, if approved, be implemented at an early opportunity.**

### *Functions*

The Sub-Committee on Governance stressed that the advisory role of STAC should extend to “include prospective and strategic advice to JCB on scientific developments and their potential applications to public health, as well as implications for international collaboration and TDR”. Thus STAC would not only review TDR's activities but also serve as a think-tank and catalyst on strategic/scientific issues. The ERC and many interviewees see this as an important function to assist TDR to position itself strategically in a rapidly evolving research environment while responding to countries' needs in a timely manner.

In contrast with the roles delineated above by the MOU and the Sub-Committee, a review of STAC's agendas and recommendations reveals that, in the period covered, a sizeable part of the time and attention of STAC has been directed by the Secretariat to matters that verge on the administrative and financial and are better addressed at other levels of TDR and its governance. In addition, it appears that decisions on priorities are made by TDR senior management and entered into the WHO Budgeting system well in advance of STAC sessions in the form of detailed budget codes and allocations, thus limiting substantially the actual influence of STAC's advice.

Over time, the Secretariat has increasingly used STAC to validate its own managerial choices, rather than for STAC to provide advice to the JCB on the Programme's scientific orientations. In 2005 however, following the first overall Portfolio Review conducted by TDR internally, STAC was able to provide strategic advice on potential features of the future TDR vision, and some of the criteria that might be considered for organizing TDR's scientific

choices. However, by STAC 2006, there had been no systematic follow-up and analysis by the Secretariat of these proposals and their implications, a process that might have usefully fed into the ongoing efforts to define TDR's vision. Again in 2006, STAC's agenda included budgetary and administrative items which detracted from analysis of scientific issues and priorities.

**The ERC recommends:**

- 1) A reflection on STAC's composition, functions, selection procedures and working methods to ensure, as recommended by the JCB and by STAC itself, that functions and skills mix allow for consideration of TDR's broader public health role and perspective, with a greater emphasis and dedication of time to its crucial advisory role on strategic/scientific issues
- 2) Altering STAC's working methods to ensure that its members contribute more extensively to TDR strategic/scientific processes, through greater use of working papers, by making better and more extensive use of modern communication technologies,<sup>93</sup> and through better control of the agenda of its meetings.

The ERC supports the proposal that, **every alternate year, STAC and JCB meet in immediate sequence and hold a joint half-day session.** This would result in stronger linkages between STAC and JCB. It would ensure, on the one hand, that the advice provided by STAC responds to JCB expectations and, on the other, that STAC's advice is discussed in some depth by JCB, and that decisions made on that basis are implemented and followed up.

## **Relations with Scientific Working Groups and Steering Committees**

There is currently no established and functioning communication on scientific and programmatic issues between STAC and TDR Scientific Working Groups and Steering Committees (discussed below). The ERC agrees with the Sub-Committee on Governance that such communication is desirable and that it can be developed in a responsible way, without creating confusion of roles or conflicts of interests. The Subcommittee recommended that, to facilitate such exchange, STAC members could individually act as "focal points" for specific Steering Committees. Conversely, Steering Committees could be represented at STAC meetings, possibly on a rotating basis and according to specific topics tabled on STAC's agenda. To date, these recommendations, which require no change in the MOU, have not been followed up.

Irrespective of TDR's future role and functions, a more dynamic interaction between JCB and STAC, as well as between STAC and TDR Scientific Working Groups and Steering Committees, would allow for better response to strategic, scientific or funding issues as they

---

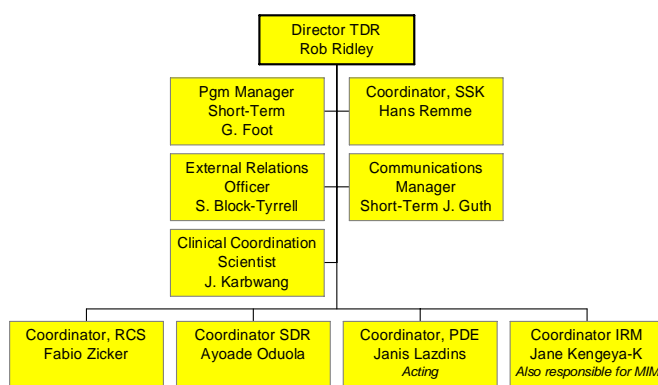
<sup>93</sup> The Sub-Committee on Governance also recommended that, with a reduced membership, STAC should meet twice a year and for shorter sessions. This is costly, and might not be necessary if STAC and the Secretariat made more extensive use of audio- and video-conferencing

arise. The ERC therefore recommends that, in addition to improved interaction between STAC and JCB, there should be increased interaction between STAC and the different Steering Committees, e.g. by representation at each other's meetings.

Finally, the ERC recommends a revision of the calendar of meetings of the governing bodies and advisory groups in a logical sequence that would ensure proper and timely study of the issues related to each body's functions and the proper flow of recommendations from each body leading to strategic decisions.

## B. Management

### TDR Organigram in March 2006



### The Management Review of 2003

The external Management Review of TDR, undertaken in October 2003, was originally requested by the World Bank as part of its administrative requirements. It was presented to JCB in June 2004, acknowledged for its quality and the strategic usefulness of its findings and approved as an advance contribution to the 4<sup>th</sup> External Review. **The ERC was expected to further study and elaborate on the analysis and recommendations of the Management Review.**

The Management Review covered a transition period (1998-2003) when director of TDR<sup>94</sup> was introducing changes in structure to advance reform. It highlighted that "the staff and managers of TDR, including especially the Director and Programme Manager<sup>95</sup>, deserve

<sup>94</sup> Dr Carlos Morel, at this time

<sup>95</sup> Dr Carlos Morel and Mr Erik Blas

credit for formulating and implementing major changes, despite the resistance to change and other difficulties encountered". At the same time, it identified a number of persisting issues that needed to be tackled for full implementation of reform, and made some important recommendations.

Since June 2004, TDR Management has begun implementing some of these recommendations to address some of the problems identified. In parallel with the Management Review, TDR staff, within an "Efficiency Group" initiated by the then Acting Director,<sup>96</sup> tried to identify factors that impeded their work. The conclusions of their internal Report were similar to the analysis of the Management Review on many counts. The Management Review made insightful recommendations to help TDR "perform to its full potential." Implementation, however, has been slow and piecemeal. At the beginning of 2006, although some tools and solutions were being tested by TDR senior management, most of the issues identified by the Management Review remain pending, as highlighted below.

## **From Matrix to Strategy?**

Within its Strategy 2000-2005, TDR adopted a Strategic Emphases Matrix integrating both a functional and a disease perspective, which was meant to re-emphasize diseases and evolve from an inputs-based into an outputs-oriented programme. TDR was reorganized accordingly.

Although the matrix was very often presented to the ERC as a wonderful tool, many interviewees, including staff, noted that it was poorly implemented. The difficulties of developing coherent strategic planning across TDR are partly linked to its matrix structure, as it induces the staff to plan and work within the matrix cell they happen to be in charge of (in isolation from the other TDR activities), with little or no coordination with their TDR colleagues, especially from outside their own functional units. TDR has in fact developed a mechanistic utilization of the matrix, resulting in the multiplication of possible options. Every intersection is accepted as potentially defining a new research need to be added to the TDR list of so-called "products".

TDR, following the WHO process, plans its work by "products", i.e. expected outcomes,<sup>97</sup> which vary considerably in nature and in scope. However, because of its matrix structure, it has defined a large number of products<sup>98</sup> in 70 categories. Some of these products may correspond to one little study or project only, but all "products", whether big or small, require the same amount of administrative work. An efficient and effective strategic process in TDR would imply working on agreed priorities across the programme, resulting in a re-definition of the products and a reduction in their number.

---

<sup>96</sup> Dr. Robert Ridley was Acting Director of TDR for almost a year after the departure of Dr Carlos Morel

<sup>97</sup> In its work plan, WHO defines a product as the expected outcome of the activities of a given unit, while the industry considers a product to be the end result of the development process of a new drug, diagnostic or vaccine, and TDR defines a product as the objective of each cell or bullet point of the matrix. However, even in TDR scientific staff with private sector background tend to use the industry definition, which adds to the confusion.

<sup>98</sup> At times, up to 180 products.

Interestingly, the matrix did not overtly include RCS, one of the two core functions of TDR. RCS was supposed to be cross-cutting, while it also had specific activities and its own functional unit. The JCB soon expressed concern about the lack of visibility of RCS and its possible dilution. The concept of RCS+ was then developed,<sup>99</sup> to make a direct link between some of the RCS activities and specific disease research. However, there does not appear to have been a **proper** mainstreaming of RCS and RCS programmes remain essentially fragmented. Furthermore, it appears to the ERC that the matrix has not really succeeded in refocusing TDR from inputs towards outcomes. This had already been noted by the Management Review, which further highlighted that the matrix had failed to make the disease dimension of TDR more influential, as originally planned. Following on this, the new director of TDR reorganized the Secretariat between the end of 2004 and June 2005, setting up a new unit, Science Strategy and Knowledge Management (SSK), "to obtain, assess and provide strategic and disease relevant scientific information that can inform...TDR's research strategy."<sup>100</sup>

From all the evidence available to us, we conclude that at least as managed so far the matrix system has done more harm than good. **The ERC therefore recommends:**

- 1) **Stopping the use of the matrix in the way it is currently used.** It might be better considered as an aid to strategic thinking
- 2) Establishing an optimal balance between functions and disease contributions to strategic thinking and decision-making, through greater empowerment of the scientific staff, more nimble, transparent and decisive decision-making, and through improved strategic processes (see below)

## **The (Unclear) Strategic Process**

In trying to understand how TDR functions and performs, the ERC first considered a basic question: **who decides on priorities?** Is it the TDR Secretariat, from its own experience, using its so-called 5 steps process? Is it the expert community, via the Scientific Working Groups and the Steering Committees? Is it the JCB, based on the Secretariat proposals and on the advice of STAC? The international community of stakeholders? Or specific donors? Is it disease endemic countries, according to their needs and resources? The ERC has not been able in the course of its review to obtain a clear and definitive answer on this, as views expressed were not univocal, including from TDR staff. **This needs to be clarified together**

---

<sup>99</sup> RCS+ is the name given to capacity strengthening activities that are driven by the TDR specific R&D agenda. These targeted initiatives are identified and recommended by TDR. The aim is to enhance the participation of disease-endemic developing countries in TDR's R&D activities. RCS-Plus initiatives are jointly implemented and funded by the RCS unit and the corresponding R&D committee in TDR. Priority is given to areas considered as having: 1) the greatest potential impact on disease control and 2) the greatest potential impact on strengthening research capacity.

<sup>100</sup> As described when the internal restructuring was introduced.

**with the respective roles and contributions expected of the different groups involved in the various steps of the advisory and decision-making process.**

Various efforts within the Secretariat have been unable to resolve the many issues raised by unclear strategic planning processes. Two Programme-wide Product Portfolio reviews<sup>101</sup> aimed at streamlining the portfolio were apparently not satisfactorily completed,<sup>102</sup> leaving staff frustrated and demoralized. The management problems appear to have been compounded by poor communication and weak decision-making processes within the Secretariat. These latter structural problems are unlikely to be resolved by simply employing external paid consultants to help with strategic thinking, as TDR has done recently.

A Knowledge Survey conducted internally, in mid-2005, shows that there is still little flow of information and knowledge taking place across units in TDR. It notes that **"some current TDR policies and practices adversely affect the flow and usage of information"**. A sizeable number of staff surveyed also indicated that they are not aware of overall strategic thinking in the Programme, or where and on which basis decisions are made. Genuine strategic coordination can hardly be achieved if it does not build on regular and substantive discussion of issues, progress and objectives within and between units. This observation is confirmed by a number of ERC interviewees outside of TDR who have seen some TDR staff members negotiating collaborations individually, in an isolated way, reinforcing the perception that TDR activities are fragmented and poorly coordinated.

#### *ERC Observations and Recommendations*

The lack of overall strategic thinking and priority setting across the Programme; the fragmentation of its projects; and poor communication, coordination and decision-making all contribute to TDR's current problems. A well-functioning and meaningful strategic process would call for better communication and consultation among staff, allowing them to think beyond their own projects and "products", to relate with their colleagues' work, and to contribute *creatively* to short- and long-term decision making.

**The ERC recommends establishing a sound strategic process which has:**

- 1) A structure more conducive to strategic thinking, and that allows internal innovative ideas to surface, be communicated, valued and used
- 2) Clear leadership that enables consensus building around the Programme's objectives and priorities, with common orientations and a rationale well defined for all staff to share in and implement
- 3) Ongoing, coherently planned and facilitated knowledge management within the Programme, to enable:
  - Staff to think beyond their specific projects and "products", to relate with other colleagues' work

---

<sup>101</sup> Which proposed to reorganize and group the different "products" in both disease specific and cross-diseases research streams

<sup>102</sup> According to TDR Management, the budgetary deadlines made it impossible to formulate new priorities from the Portfolio Reviews and translate them into budget reallocations.

- Efficient management to monitor that implementation by the various units is in line with the strategy and priorities as originally defined
- 4) Better planning and structuring of Strategic Management Team meetings, as recommended by the Management Review, with clear agendas and resultant decision-making
- 5) Well timed and coordinated functioning of scientific groups in support of the advisory process (see below).

### *TDR Scientific Groups and their Role in the Strategic Process*

Two main categories of expert groups are meant to play a crucial role in helping to define and implement TDR's work plan: the Scientific Working Groups and the Steering Committees. Their general terms of reference are described in the General Operations Guide. Here we briefly provide explanations not found in the Guide, and provide an analysis of their functioning.

#### ❖ **The Scientific Working Groups (SWGs)**

*In principle, there should be one meeting of each SWG per strategy cycle. Usually, one such group is called for each of the 10 diseases of the TDR portfolio, plus one for vector control, i.e. 11 SWGs will have met between 2001 and the end of 2006.*

#### **List Of The Scientific Working Groups and Dates of Their Meetings**

1. African Trypanosomiasis, 4-8 June 2001
2. Insect Vector & Human Health, 12-16 August 2002
3. Leprosy, 26-29 Nov 2002
4. Malaria, 24-27 March 2003
5. Leishmaniasis, 2-4 February 2004
6. Chagas Diseases, 17-20 April 2005
7. Lymphatic Filariasis, 10-12 May 2005
8. Tuberculosis, 3-5 October 2005
9. Schistosomiasis, 14-16 Nov. 2005
10. Dengue, 2-4 October 2006
11. Onchocerciasis, 31 Oct - 2 Nov 2006

All meetings took /will take place in Geneva, except for Chagas, held in Buenos Aires, Argentina.

Formatted: Font: 10 pt, Font color: Auto

Theoretically disease-focused, the SWGs meet about every 5 years, under the responsibility of the Disease Research Coordinator, to review the state of the art for a given disease or issue, and define the research priorities of the moment. They gather an impressive range of experts and stakeholders from both the North and the South, including researchers, policy makers and control people. They issue general recommendations and a list of priority research questions to be addressed, as well as suggestions on possible areas of work for TDR among these. Thus they provide key strategic advice to TDR to help define its research priorities for the next 5 years.

In principle, STAC, as a multidisciplinary group in charge of overall strategic/scientific advice to TDR, would be expected to review the proposed list of research issues and, from among these, advise on priorities for TDR 's focus in the following years. At the end of each biennium, it could review these for adjustments as appropriate with feedback from the Steering Committees and other expert groups. In practice, summaries of the SWG meetings are presented to STAC by the respective Disease Research Coordinators, but the presentation is often not followed by any substantial discussion because of time constraints. As a result, priorities tend to be selected later by the TDR Secretariat.

In between the meetings of the SWGs, the Disease Research Coordinators are expected to be assisted and advised by Disease Reference Groups, theoretically one by disease. These groups may, or may not, be sub-groups of the respective SWG. They seem to function on an ad-hoc basis, in a way which depends very much on the Disease Research Coordinators themselves, and on the reference group membership. There is no formally structured mechanism to feed their advice back into TDR strategic processes.

### ❖ The Steering Committees (SCs)

Currently nine in number, they are organized according to the 4 functional units: Basic and Strategic Research (SDR), Product Research and Development (PDE), Intervention, Development and Implementation Research (IRM) and Research Capability Strengthening (RCS). As defined in TDR General Operations Guide, they "provide external scientific and technical input and review to the programme".

*Each Steering Committee comprises about 12 members, all external to and independent of TDR, and appointed by Director, TDR.*

*Each Steering Committee is managed by a TDR staff from the corresponding functional unit, the Steering Committee Manager, who ensures coordination, collaboration, and sharing of information with relevant committees and staff within TDR.*

*Steering Committees may delegate management of specific products to Product Development Teams (PDT). This is mostly the case for PDE, which has 15 PDTs and only one Steering Committee at the moment. Their functions are very similar to those of the Steering Committees, although focused on one product/expected result only. RCS does not work with PDTs but with Initiative Teams (ITs), similar in terms of functions and relations to the Steering Committees.*

Based on a preliminary framework and corresponding budget envelope proposed by the Secretariat, each SC develops a workplan with the rationale for its activities and its objectives, on the basis of which calls for proposals are worked out. This workplan is revised annually. It is accompanied by a "summary recommendation sheet" which, following the SC peer review of the proposals submitted, ranks proposals, both rejected or approved, and specify the funding recommended. Financial recommendations are made within a budgetary envelope pre-determined by TDR, theoretically based on the designated funding available and on the distribution of undesignated funding agreed upon by the JCB. It is not clear to which extent Steering Committees are or feel free to make strategic decisions on activities supported by designated funding.

Renewals are discussed first, and the remaining budget allocated to new proposals ranked according to their relevance and scientific quality as assessed by the Steering Committee. A

small amount is reserved within each SC for its members to support or foster projects/activities of their own initiative.

In practice, the Steering Committees do not appear to function in a homogenous way. Some clearly focus on operational issues, while others try to develop more strategic functions and provide advice on new priorities and possible reorientation of TDR activities in their area. This depends on the individuals involved, and especially on the SC chair, and also on the time available and workload of the SC. They review on average 50 to 100 projects, and some of them as many as 150, within 3 to 5 days. **It is to be noted that all these busy experts do this peer review for free, which is an indication of how much they value the work that TDR does.** As a way of preparing and facilitating the discussions of the SC, each member is requested to review in more depth about 10 proposals prior to the meeting.

***There is little communication between the Committees.*** With the exception of the RCS Steering Committee, that applies a principle of cross-membership, TDR research activities and their related budget end up being discussed by these committees in isolation, with little consideration of what might fit into the more general objectives of TDR for the biennium. Moreover, there is no plan of action at the overall Programme level, nor at the unit level, which would allow staff responsible for each Steering Committee to check whether they are complementing or duplicating the work of other colleagues.

Changes and streamlining of the processes in TDR would call for a redefinition of the roles of the different committees assisting TDR in its complex tasks and for a revised sequence of key events and meetings. To play a more strategic role in the regular TDR priority setting process, the composition and working methods of some of the Steering Committees would need to be revised and the interaction among them, and between them and STAC, improved in order to work collectively and coherently towards setting up the basis for regular updates of the TDR workplan. **Ideally, the Steering Committees should all meet early on in the TDR strategic process,** in order to provide timely expert advice in their respective fields on the important needs, issues and constraints of the moment and help TDR re-orient or pursue its efforts accordingly.

**The ERC recommends:**

- Revisiting the role, working methods, composition and selection process of the Steering Committees
- Increasing the interaction between the different Steering Committees and between Steering Committees and STAC

❖ **Use of the Different Groups in the TDR Process**

Overall, it appears that in practice the Scientific Working Groups focus on the strategic elements of TDR processes, whereas the Steering Committees tend to focus almost

exclusively on operational steps at project level, with very little systematic and structured input into strategic decision-making and priority setting.

This, among others, raises the important question of how responsive and reflective are TDR's decisions and priorities to the countries' needs. Both the membership and decision-making processes are crucial in answering this question. Most of the advisory groups' members from DEC's are, as would be expected, scientific experts coming from key research institutions, but they are **not necessarily in a position to represent the voices and the public health needs of their countries of origin.**

The question "who sets the priorities" has not yet received a clear and transparent answer. A common assumption, reinforced by references such as the General Operations Guide<sup>103</sup>, is that priorities are set by the Scientific Working Groups and the Steering Committees and, through them, implicitly by the DEC's. However, due to current sequencing of meetings and budget constraints set by the Secretariat itself, in practice decisions appear to be made largely by the TDR Secretariat. **Thus the claim that DEC's are closely involved in setting the research agenda deserves closer scrutiny.** Careful thinking should go into defining the mechanisms that will ensure their active and systematic engagement in agenda and priority setting. If the recommendation of the ERC to establish small, mobile, regionally based TDR Teams is adopted, it is likely that DEC's will have a bigger say in priority and agenda setting.

Having studied the issues at length and in detail,

**The ERC recommends that TDR:**

- Develops proactive mechanisms to secure the input of DEC's into research priority setting and ensure the relevance of TDR to the countries' needs and priorities
- Clarifies the respective roles and improve the links of the Scientific Working Groups, the Steering Committees and STAC in TDR scientific and strategic processes
- Builds upon a series of transparent, coherent discussions and on clearly identified functions and inputs from both these advisory groups and TDR staff, to improve strategic and priority setting processes
- Revises the timelines of events to better inform TDR's internal strategic and decision making processes

## **Human Resources and their Use at TDR**

As several of our external interviewees have highlighted, there were initially at each desk in TDR people recognized as good scientists, who were top experts in their fields, and the Scientific Working Groups and the Steering Committees meetings were interesting and challenging. With changes occurring in the portfolio, this is no longer the case, as some people are being assigned to deal with issues about which they are not necessarily experts. When TDR programmes focused on particular diseases, the staff was extremely good, functioning almost as world wide focal points for these diseases. As our interviewees pointed

---

<sup>103</sup> General Operations Guide, version 2004-2005, p. 9

out, there are now serious gaps for some diseases. Besides, there is a shortage of expertise in particular fields like implementation research, health systems research, and health economies.

As both the internal and external context in which TDR must perform has changed tremendously, new skills are required from TDR staff. For example, they need experience and competence in conducting negotiations with industry. Although TDR has had long-standing and fruitful relations with industry, currently TDR staff would benefit from explicit guidance from TDR leadership on acceptable approaches. The ERC has had a series of interviews with partners in the pharmaceutical industry. While all provided general positive feed-back, some expressed concern that TDR individual managers appear to be relatively free to negotiate TDR's nature and level of engagement. As reported to us, these managers would in some cases introduce change in approaches and in others resist proposed changes, without clarity as to the reasons. This leads to perceived incoherence and could, if unchecked, decrease the trust and commitment of industry to work with TDR.

Depending on the extent and nature of the changes in TDR's future role and functions, the human resources required might be quite different, and may be organized differently. The ability of staff to comprehend complex situations, manage multi-partner collaboration and foster creativity and innovation would be, for all strategic and practical purposes, an imperative. In depth understanding of public health issues and of the intergovernmental nature and public goods orientation of TDR would be required.

**The ERC therefore recommends** that TDR develops a long-term, strategic human resources policy, based upon clearly identified future needs and projected skills mix required.

## **The Administrative Burden**

### *Budget Process and Allocations*

As stated earlier, the matrix and product portfolio appear to have been misused as a way to micromanage the programme through controlling and accounting for the budget. This has resulted in a large number of different possible allotments that were not necessarily synergised. TDR operations end up being extremely fragmented. Also, because of the way the budget is allocated and budget decisions are made, TDR professionals end up arguing with one another and competing for portions of the funds available, instead of harmonizing their efforts for a common purpose.

A well designed priority setting process should allow individual staff and units better to synergise their work, to negotiate and collectively recommend the most appropriate activities for TDR. This would also contribute to avoiding unhealthy competition. Overall objectives for the biennium would thus be defined and achieved through clustering of activities for which more broadly defined components of the budget would be allocated. It would grant more flexibility to a well qualified staff, within a collectively negotiated financial envelope and, through greater delegation of authority and responsibilities, would improve accountability throughout the programme.

It should be noted also that the portfolio reviews, as conducted in 2004 and 2005, have focused heavily on distribution of budget allocations for administrative entry into the WHO process. **As long as strategic programme budget negotiation on the one hand, and internal budget bargaining on the other, are mixed into one single common process, it is unlikely that genuine strategic thinking can develop.**

#### *The Confusion of the Strategic and Budgetary Processes*

**The Management Review described TDR as being over-administered and under-managed.** Given the powerful position gained by the management unit PPM since 2000, the financial information it has obtained and managed about the different projects and products has often been used as a basis for taking strategic decisions, instead of serving for the best possible implementation of strategic priorities defined according to needs and scientific opportunities. The scientific and technical staff, locked into narrow micro-budgeting processes, was left with very little space to influence strategic decision-making. **STAC highlighted in 2005 that the need for accountability was obvious, but that TDR's strategy should not be defined on the basis of book keeping.**

The deficiencies in budgeting processes are illustrated by the fact that at the end of the last biennium TDR had not spent around US\$ 20 million. It has been argued that this, to some extent, is due to late entry of budget contributions. If this is the case, then the issue should be presented to co-sponsors and JCB to allow for a serious discussion and analysis of possible solutions.

#### *Heavy Bureaucracy*

Most TDR staff, as well as many outsiders, complain that the overall administration of TDR is a burden and slows down its work considerably. TDR staff are required to comply not only with WHO's but with TDR's own added requirements. This has resulted in some tension, which eased somewhat after administrative costs were renegotiated and waivers were given to accommodate some of TDR's specific needs as a research programme. Currently, WHO has embarked on rationalizing and improving its administrative procedures and management information system. This should provide an opportunity for TDR to simplify its own procedures and harmonize these with WHO, in order to avoid duplication, increase coherence and speed up administrative processes. This implies that TDR should make the initial investment in time and energy to define its specific needs in terms of data collection and sharing; basic project information required; evaluation indicators; transparent, reliable and flexible contracting procedures; and simplified disbursement procedures. The objective must be to develop a system that fits both TDR's needs and the WHO requirements.

In so doing, TDR should also make a special effort to reduce its own administrative requirements, e.g. by reducing the number of steps required for some of its processes. The improved delegation of authority that is currently under study will hopefully contribute to this.

**The ERC recommends** that, in order to reduce its administrative burden, TDR:

- Reorganizes, dissociates and streamlines the strategic and budgetary elements of the TDR planning process
- Reduces, based on a rigorous priority setting process, the number of "products" that it is planning and budgeting for
- Implements a real delegation of authority as appropriate, with corresponding mechanisms of accountability
- Redefines carefully its own administrative needs/requirements and negotiates their harmonization with WHO procedures (through an omnibus **Administrative Structural Agreement** as mentioned above), in order to simplify them and to allow TDR to embark on the road to renewal as a respected, needed, connected and important player in addressing the health needs of disease endemic countries.

## **The Leadership Issue**

It took too long (approximately one year) to appoint the current director. As a result of this there developed a leadership vacuum. This initiated a difficult transition period for all the parties concerned. TDR's top management has been criticized. Problems have been compounded by poor communication and weak decision-making at TDR secretariat.

The poor leadership in the recent past has harmed TDR. The ERC, having examined past leadership and its effectiveness, interviewed many people who are very familiar with TDR and, projecting ahead to what TDR will need, concludes that TDR must always have strong leadership. The director needs to provide direction. Ideally the director should be: a visionary who is decisive, nimble, bold, courageous, possesses, besides recognized scientific expertise, diplomatic and political skills, is a great communicator who is internationally respected, and is able to take responsibility for major decisions, be comfortable working with all stakeholders, be able to live and work in disease endemic countries, and be able ultimately to manage the whole TDR Secretariat and overrule petty bureaucracy.

The issue of leadership is absolutely crucial to the future of TDR, no matter what form or functions the new TDR assumes.

**The ERC recommends** that

- The next director of TDR should be given greater authority, independence and seniority of decision-making, with a higher salary level, than the current director
- Before the final appointment of the director of TDR by the D-G of WHO, JCB should play a bigger role in screening and nomination of potential candidates

## Chapter 10. Decentralization: Needs, Opportunities and a Practical Solution

Many of our interviewees wanted to see TDR evolve into something that was even more relevant to people in DECs than it has been in the past. We heard that there will be greater need for a different type of TDR in the future, that TDR needs to evolve and grow, and that it needs to be **closer to the people it serves** than it had been in the past. Taken together, the evidence and projection of future needs and the potential roles that TDR could play, lead to the conclusion that to respond to the changed external landscape, to evolve and grow, to become a truly credible player and to harness new opportunities, TDR would be best advised to have a more visible presence in regions and countries. For this to be realized **ERC recommends the establishment of small, regionally-based TDR Teams (see box below).**

### Characteristics of the Proposed Teams

- Small (3 professional staff, with one or two local support staff)
- Mobile, based in any of the co-sponsors' facilities
- Alert to the needs of countries, and to potential opportunities
- Regionally-based but addressing countries' needs
- Teamwork emphasized and implemented through frequent communication with TDR Secretariat, co-sponsors, and other partners

The Main Functions Would Include:

- Increasing TDR's relevance and alignment with countries' needs and priorities
- Increasing countries' ownership through participation both in field activities and agenda-setting; and
- Increasing sustainability through localization of research and capability building as well as intra- and inter-regional collaboration.

The Teams

- Will report to Director of TDR in Geneva, act as a source of intelligence for the Programme, and represent the director and staff in regional and country meetings where appropriate
- Will develop working methods that make them nimble, agile, efficient, and well connected
- May be made up of or/and supplemented with people seconded by co-sponsors
- May have its composition and location changed with changing needs
- Is best recruited locally, ensuring regional diversity, but could have members from the Secretariat who volunteer for a period
- Staff may rotate between regions and the Secretariat in Geneva

Establishing these small Teams will not entail a large increase in TDR's budget, and indeed some savings may be achieved by a reduction of overall travel costs and accrual of other efficiencies. ERC leaves to the competent authorities the details of how this may best be achieved.

**We were informed that in the early days of TDR's existence, TDR paid for staff to be based in various WHO regional offices.** They must have served some of the functions envisaged by ERC for the small TDR Teams it is recommending. The creation of these Teams would not weaken the centrality of the secretariat in Geneva.

Below the ERC points out the potential advantages and opportunities of, and the arguments that support, its recommendation to establish these small Teams. ERC is aware that TDR cannot do everything or take advantage of every opportunity. Nevertheless, highlighting these opportunities is one way to understand how TDR might expand its horizons and attract more financial support to serve its mandate better.

The ERC presents the following considerations in support of establishing the proposed small, regionally-based TDR Teams:

- 1) TDR itself has talked about evolution from "training" in 1975; to "RCS" in 2005; to "stakeholdership" and "ownership" in the future
- 2) The changed external landscape requires more acute listening to, more rapid learning from, and more nimble responses, to partners
- 3) Future needs are in an expanded vision of implementation research, based in the regions and countries in the "global South", unlike the past focus on physical product development, which required skills, laboratories and processes largely based in the "global North"
- 4) There is increased innovation, understanding of the crucial role of science and technology in development,<sup>104</sup> and political support for research in developing countries
- 5) There are more regionally-focused funds available for health (see chapter 12), particularly for, and in, Africa.<sup>105</sup> There are also regional groupings such as the African Union, Mercosur, Asean, etc. that would benefit from a stronger, credible presence of TDR. These groupings will in turn add value to TDR locally and might be a source of funding for TDR
- 6) World Bank officials that we interviewed indicated that they would like to see TDR **be more active in regions**, playing various roles that might include helping to advise

---

<sup>104</sup> See UN Millennium Project Task Force on Science, Technology and Innovation. Juma C, Yee-Cheong L., eds. *Innovation: Applying Knowledge in Development. Achieving the Millennium Development Goals*. London: Earthscan, 2005. ISBN 1-84407-218-5

<sup>105</sup> At a three-day meeting of Ministers of Health that was attended by 39 delegates from 11 African countries in Abuja, Nigeria in March 2006, the ministers agreed to spend 2% of their budgets on health research. See [http://www.edctp.org/Newsletters/2/Nieuwsbrief\\_2.html#ber\\_11](http://www.edctp.org/Newsletters/2/Nieuwsbrief_2.html#ber_11)

countries on health policy development.<sup>106</sup> The other co-sponsors e.g. UNICEF, have strong country presences and TDR may benefit by working with them more closely in countries and regions. Similarly, UNDP can play an important role in helping TDR to place itself within national development efforts, particularly through the UN country teams

7) A more visible TDR presence will allow TDR to play a bigger, newer, more realistic role in emerging infectious diseases surveillance (e.g. SARS, pandemic influenza, etc.), and in engaging with the “wider context in which infectious diseases emerge,”<sup>107</sup> evolve and are responded to

8) A more visible TDR presence would allow a sharper focus on each region’s portfolio of neglected diseases and the health needs of its own poor populations

9) RCS can also be more effectively tailored to specific regional needs with a nimble, listening, focused, responsive presence that is also best placed to identify regional funds for specific RCS needs. To move from capacity strengthening of individuals and institutions to country-wide research capacity strengthening will require systemic approaches, analyzed and developed together with countries, within their own context, and across local sectors concerned

10) There is increasing talk, and indeed there are increasing examples, of South-to-South collaboration. TDR might be enabled to play a significant, meaningful and sustainable role in taking advantage of, leveraging and energizing this important emerging phenomenon

11) Important NGOs and private non-profit organizations, with whom TDR might learn to engage more effectively, are playing greater roles in development and healthcare delivery in developing countries. The Teams will offer more opportunities to interact with, learn from, and assist these important civil society organizations that could also be important partners in E-IR and RCS-F

12) TDR claims it has access to the most extensive network of clinical trial centres in the world. The European and Developing Countries Clinical Trials Partnership (EDCTP, see text box below) Secretariat announced in 2004 a \$672 million program to support 18 clinical trials in Africa and 9 in Europe.<sup>108</sup> The EDCTP research program will address AIDS, TB and malaria, and in Africa will be enacted through South Africa’s Medical Research Council (MRC).<sup>109</sup> If TDR positions itself well, there are opportunities to leverage its own network, and to work with other networks. There are also opportunities for TDR to leverage its reputation for organizing clinical trials inexpensively. While this can be achieved by

---

<sup>106</sup> Advising on health policy is, of course, something that WHO itself undertakes. The role of TDR ought to be complementary and focused more on research, but even then negotiations between TDR and WHO need to take place as WHO develops a vision for research with a focus on health systems research

<sup>107</sup> Comments made by the WHO/TDR Special Programme Coordinator at the 2005 JCB meeting in Geneva, in relation to TDR’s potential future roles.

<sup>108</sup> See [http://researchafrica.rti.org/index.cfm?fuseaction=home.project&p\\_id=613](http://researchafrica.rti.org/index.cfm?fuseaction=home.project&p_id=613)

<sup>109</sup> According to an MRC (S. Africa) press release “The EDCTP is a response to the appeal of African leaders contained in Abuja Declaration on HIV/AIDS, tuberculosis and malaria, and fits squarely in the NEPAD principles and objectives. This new Partnership aims to bring together African and European researchers to build clinical trial capacity to test the necessary interventions - drugs, vaccines and microbicides - to give Africa the tools to treat those who are sick and prevent the further spread of these diseases. The African office will represent the EDCTP in Africa and provide executive, administrative and promotional support for the EDCTP programme”

operating from Geneva alone, it is more likely to be implemented realistically and more sustainably with small teams engaged closely with partners in regions

### **The European and Developing Countries Clinical Trials Partnership (EDCTP)**

EDCTP's mission is to "accelerate the development of new clinical interventions to fight HIV/AIDS, malaria and tuberculosis in developing countries (DCs), particularly sub-Saharan Africa, and to improve generally the quality of research in relation to these diseases. The activities of the EDCTP include: stepping up cooperation and networking of European National Programmes accelerating clinical trials of new and improved existing products, in particular drugs and vaccines, in DCs; ensuring that research effectively addresses the needs and priorities of DCs; helping to develop and strengthen capacities in the DCs, including the promotion of technology transfer; encouraging the participation of the private sector; mobilising additional funds to fight these diseases. Specific objectives include North-North networking and coordination of European states' NPs and activities; South-South and North-South networking and coordination; Supporting and/or funding clinical trials in the DCs; Strengthening clinical trials and related research and development capacity in the DCs. It provides Clinical Trials grants, Networking grants, Capacity Building grants and Training Awards. See <http://www.edctp.org/default.asp?cid=68>.

Charles Mngone. Born in Tanzania, is its Head of Africa Office see [http://www.edctp.org/Newsletters/1/Nieuwsbrief\\_1.html#ber\\_4](http://www.edctp.org/Newsletters/1/Nieuwsbrief_1.html#ber_4)

13) The ERC has heard that one of the potential scenarios for what TDR might do in the future is to facilitate the work of a federation of PPPs, to enable exchange of information, prioritization, resource allocation, etc. It does not now have the capacity or reputation to do this, especially with product-developing PPPs. A renewed, robust, proven TDR that is actually seen to be providing value efficiently through its regionally-based Teams is more likely to be acceptable to play the role of PPP facilitator- a role that could well link up to its role in Research Advocacy, Coordination and Stewardship. PPPs will see the dangers of each one of them going its own way to do clinical trials, implementation research and other downstream evaluative functions without co-ordination, mutual learning, development of good practices and ethical guidelines, etc.

14) TDR being a significant, respected player in the regions might contribute to making philanthropies and PPPs want to work with, and support, TDR. The former are focused on outcomes, on efficiency, and increasingly on efficiency in adding value in product development. In interviews with staff from the BMGF and with others, the ERC heard that BMGF currently works through Northern institutions to provide health care in the South. We heard that it would like to work more with local institutions in disease endemic countries. We were told that in the long run the presence or absence of implementation capacity in DEC's will "make or break" their efforts<sup>110</sup>. These needs, and opportunities, for TDR will grow as

<sup>110</sup> In May 2005 the Gates Foundation put US\$35m into the Malaria Control and Evaluation Partnership in Africa (MACEPA), which will fund in Zambia a collaboration among PATH, the government of Zambia, and the Zambia Roll Back Malaria Partnership. (see p 141 infra, chapter 12: Financing)

The 14 Grand Challenges in Global Health serve seven long-term goals to improve health in the developing world:

1. Improve Childhood Vaccines

Grand Challenge #1: Create Effective Single-Dose Vaccines

Grand Challenge #2: Prepare Vaccines that Do Not Require Refrigeration

Grand Challenge #3: Develop Needle-Free Vaccine Delivery Systems

2. Create New Vaccines

Grand Challenge #4: Devise Testing Systems for New Vaccines

Grand Challenge #5: Design Antigens for Protective Immunity

Grand Challenge #6: Learn About Immunological Responses

3. Control Insects that Transmit Agents of Disease

Grand Challenge #7: Develop Genetic Strategy to Control Insects

Grand Challenge #8: Develop Chemical Strategy to Control Insects

4. Improve Nutrition to Promote Health

Grand Challenge #9: Create a Nutrient-Rich Staple Plant Species

5. Improve Drug Treatment of Infectious Diseases

Grand Challenge #10: Find Drugs and Delivery Systems to Limit Drug Resistance

6. Cure Latent and Chronic Infection

Grand Challenge #11: Create Therapies that Can Cure Latent Infection

Grand Challenge #12: Create Immunological Methods to Cure Latent Infection

7. Measure Health Status Accurately and Economically in Developing Countries

Grand Challenge #13: Develop Technologies to Assess Population Health

Grand Challenge #14: Develop Versatile Diagnostic Tools

See <http://www.gcgh.org/>

See also Varmus H, Klausner R, Zerhouni E, Acharya T, Daar AS, Singer PA. Grand Challenges in Global Health. *Science* 2003 Oct 17;302 (5644):398-9.

research and development in the Grand Challenges in Global Health program<sup>111</sup> (see text box below) unfolds, and as the PPPs that BMGF supports start having products from their pipelines. The proposed Teams would place TDR in an advantageous situation to take advantage of these developments.

15) With the increasing focus on the role in development of science and technology in developing countries there is more interest in creating centres of excellence. The Teams, alert

---

<sup>111</sup> Funded mainly, but not exclusively, by BMGF

to the opportunities and needs of the region, will make it more likely for TDR to engage with, learn from, and add value to, such efforts

16) TDR has talked of working to help achieve the health components of the Millennium Development Goals (MDGs). This vision currently lacks detail of how it will be implemented. Nevertheless, the ERC supports this vision, but it believes that a more realistic way to implement it is if TDR were to evolve, grow, and also establish small regionally-based Teams that will engage with the development community locally (e.g. the World Bank, UNDP and NGOs)

17) One of the commonest refrains we heard is that TDR does not interact well with local health authorities. It appears elitist, interacts with research institutions and not with ministries of health, country representatives of WHO, or WHO Regional Offices. The proposed small regionally-based Teams will go a long way towards correcting this major deficiency

18) Another consensus point about TDR is that it does not sell itself well. It has internalized this message to some extent and has appointed a public relations officer. The ERC believes that more of TDR's resources should be expended on the people who really matter, and these are in DECs. It is their demands and their voices coming back to TDR's governing bodies, sponsors, donors and funders that will garner TDR sustainable support. Getting the message out and listening, as in advertising, is best done locally, taking into account regional differences

19) The voices of the DECs in global agenda setting are more likely to be heard by, and through, these proposed Teams

20) Use-driven and use-inspired research is something TDR is striving for. This is more likely to be realistically achieved if TDR is close to where the use is going to take place. There will need to be feedback loops between research design and use of products and interventions in real-life settings. This will be facilitated by the Teams

21) TDR, through good use of the proposed Teams, could play a major role in advocating for biotechnology development for peaceful uses. It can at the same time play a role in developing good practices and ethical guidelines that would help to minimize the risk of bioterrorism<sup>112,113</sup> emanating from DECs.

The ERC, taking all these factors into account, has concluded that TDR will be able to leverage all its strengths, and with good planning and implementation, address many of its weaknesses, by a strategy of establishing small Teams based in regions. They might be situated in any of the facilities of TDR's co-sponsors.

**The ERC therefore recommends that TDR establishes such small Teams, and studies how best to situate and enable them to help it leverage its considerable strengths and address some of its weaknesses.**

---

<sup>112</sup> See [http://www.utoronto.ca/jcb/home/documents/DNA\\_Peace.pdf](http://www.utoronto.ca/jcb/home/documents/DNA_Peace.pdf)

<sup>113</sup> Bioterrorism was mentioned as another area of potential TDR opportunity in remarks made by the Special Programme Coordinator at the 2005 JCB meeting

## Chapter 11. Africa: Needs and Opportunities

There are a number of arguments that support having an early focus on Africa: these essentially cluster around greater needs and greater opportunities.

### Greater Needs

Africa bears a huge burden of not only the major killer diseases such as HIV/AIDS, TB, and malaria but also the more neglected diseases in TDR's current portfolio. It has the largest number of HIV positive patients in the world. Of all the continents it has not only the least developed healthcare infrastructure overall, but the least developed research infrastructure—although it now is beginning to develop a few centres of excellence. Africa also has the most catching-up to do in terms of achieving the MDGs, including the health MDGs. Some World Bank officials we interviewed mentioned the potential for TDR to go into countries and influence policy—Africa needs this help more than others. Africa is where there are both strong emerging democracies and weak, recovering and failed states that most need help with policy development. It is where there is greatest need to integrate TDR's work into the meager health research landscape so that, in the words of a senior TDR scientist, “research is not a dirty word”.

Furthermore, Africa's human resources for health have been the least developed, and have recently been decimated by emigration and devastation by HIV.<sup>114</sup> A large proportion of medical school graduates from developing countries emigrate to richer countries, and Africa is very hard hit by this loss. This presents TDR with yet another potential role: linking development of human resources for health to health research e.g. by developing and helping to integrate research into the curricula of new and established public health training institutions. In the past TDR's efforts in research capability strengthening have focused on only a few countries in Africa (e.g. Ghana, Nigeria, etc.). Africa's Francophone countries have to some extent been neglected by TDR (although not as much as claimed by some of our interviewees). A stronger focus, perhaps through establishing two Teams in Africa, one to engage more specifically with Francophone countries, might correct this.

### Greater Opportunities

Africa is where TDR has the greatest opportunity to make a difference. It is also where TDR is likely to pick the earliest “low-hanging fruit” to demonstrate success, become a model and an example, and justify decentralization by establishing the small Teams discussed in the

---

<sup>114</sup> Shortages of trained health staff are a crisis of epidemic proportions in the developing world. Every year, Hospitals report vacancy rates among nursing positions of more than 60%. 44% of nurses in southern Africa are estimated to be HIV positive while 80% of hospital beds are occupied by patients dying of AIDS. See [http://www.msh.org/what\\_MSH\\_does/hcd/index.html](http://www.msh.org/what_MSH_does/hcd/index.html).

preceding chapter. Africa presents the biggest challenges and opportunities for expanded intervention research and research capacity strengthening.

The Special Programme Coordinator, speaking at the JCB meeting in Geneva in June 2005, noted that “the movers and shakers in health are not just governments any more.” Africa presents the greatest challenges but also the greatest opportunity and need to interact meaningfully with NGOs, philanthropies, PPPs, and aid agencies. TDR could provide them with research and evaluative capacity. Another opportunity is to help develop emerging centres of excellence. The African Union, for example, through its New Programme for Africa’s Development (NEPAD) is helping create a network of such centres. One is Biosciences East and Central Africa (BECA),<sup>115</sup> which is based in Nairobi.

Africa also presents TDR with opportunities to engage in the bigger picture of how infectious diseases emerge; and to work with the richer nations on issues of their self-interest, including HIV, dangerous diseases such as Ebola, and bioterrorism. TDR already claims to have the most extensive network of clinical trial sites in the world. It has a reputation for conducting clinical trials inexpensively. Africa presents an opportunity to leverage these TDR resources and to link them with new clinical trials facilities such as EDCTP. Africans, many trained through TDR, have a lot of goodwill towards TDR. It has the track record and local legitimacy to provide leadership in developing good practices and ethical guidelines.

One important area of added value is related to the products coming down the pipelines of PPPs and others addressing African health needs. These will need to undergo clinical trials in Africa. TDR may, or may not, be involved in these trials. However, at present there is no respected, disinterested, objective, experienced body that could provide independent evaluation of results of important clinical trials. This role is often assumed by medical journals, but as we have seen with some recent scandals, even peer reviews in top scientific journals can be inadequate, especially if the stakes are high and things are done in a hurry. *TDR could serve this function of independent review—and Africa provides an especially good opportunity for it because of its weak research and research management infrastructure.*

Furthermore, the successful products will need to be introduced into health care systems, and there evaluated under normal-use conditions. Intervention research in Africa is one of TDR’s past strengths. Expanded Intervention Research will become one of TDR’s most valuable future functions.

Another major opportunity is funding. Because of Africa’s health and development needs, and past neglect, Africa has recently had, and will continue to have, great commitment of funds from the international community. The G8 summit in Scotland in July 2005 made a commitment of an additional US\$ 50 billion aid annually for developing countries, half of it for Africa alone.<sup>116</sup> Debt relief (up to US\$ 40 billion for Africa) will release more resources for health, education and development generally. Much of the research in product-developing PPPs is directed towards diseases endemic in Africa and will therefore attract funding for clinical trials and extended implementation research. This includes outputs from the Grand Challenges for Global Health program, which has so far committed US\$ 437 million. The

---

<sup>115</sup> See <http://www.biosciencesafrica.org/>

<sup>116</sup> For the Summit communiqué, see [http://www.fco.gov.uk/Files/kfile/PostG8\\_Gleneagles\\_Communique.pdf](http://www.fco.gov.uk/Files/kfile/PostG8_Gleneagles_Communique.pdf)

European Union through EDCTP has committed large sums of money for clinical trials, and a lot of those will be carried out in Africa. The African Union's high-level African Biotechnology Panel<sup>117,118</sup> is developing a long term strategic plan for the harnessing of biotechnology for African health, agricultural, industrial and general development needs—and the implementation of that will be accompanied by identification of new resources. Canada has a “Fund for Africa”, C\$ 30m of which has been committed to BioSciences East and Central Africa (BECA), and other countries may develop similar programs. TDR might also be able to draw more from the resources of its major co-sponsors who are very active in Africa.

The ERC believes, therefore, that in the next decade at least, Africa will be the focus of much funding commitment. One challenge will be how to channel these growing resources most effectively to where they are needed most, and here TDR will be perfectly placed to help: to advocate for research; to help with developing human resources for health research ; and to satisfy a number of “downstream” research needs for products in various pipelines. TDR already has a number of very smart African scientists working in Geneva. An early focus on Africa in establishing the small, regionally-based TDR Teams described above would be an advantageous way for TDR to respond to the identified needs and opportunities.

However, since establishing these Teams is not a major undertaking and is unlikely to be expensive, there is no reason why establishing them in other regions should not proceed rapidly.

---

<sup>117</sup> See <http://www.scidev.net/News/index.cfm?fuseaction=readNews&itemid=2238&language=1>

<sup>118</sup> Fore NEPAD, see <http://www.nepad.org/2005/files/home.php>

## Chapter 12. Financing

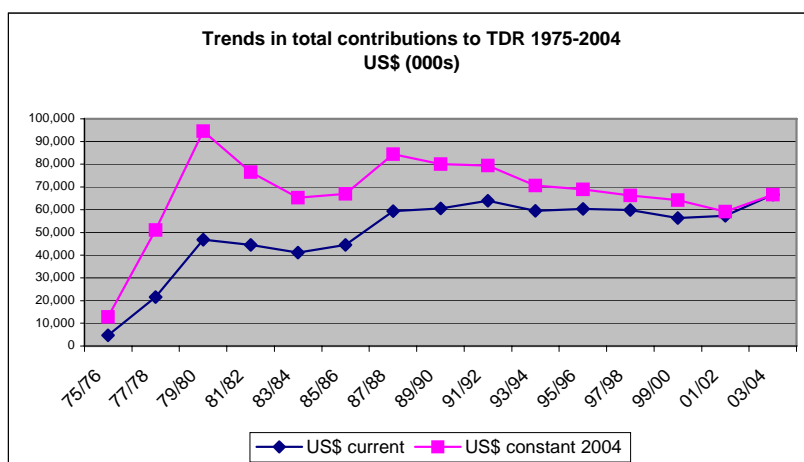
The ERC, like many of the people it has interviewed, including members of JCB, find it difficult to comprehend fully why TDR has not had its funding increased significantly over the past several years. It has been remarkably cost-effective. Its annual budget is low for what it does, wants to do, and with the new vision, can be empowered to do.

Funding is a perennial problem in many organizations including TDR, but the ERC has reasons to believe that there are many opportunities available to TDR that have not yet been explored and some of these will be highlighted in the notes below. The ERC believes that with better understanding of the new landscape, renewed vision, better integration into the global health and health research scene, stakeholder engagement, improved internal capacity and competence including in “marketing” itself, and more support from its co-sponsors, TDR would be able to increase its resources significantly.

The recommendations made by the ERC in terms of functions, structure and the Re-orientation and Stakeholder Engagement Exercise ought to help TDR in raising funds in the future.

### Situation Analysis

A careful study of TDR funding and sponsorship shows an initial enthusiasm with relatively large amounts of resources pledged and funds committed and spent. After a few years this initial enthusiasm waned and interest faded in funding TDR. Fig.1 below clearly shows that there was a steep increase in the budget in the first three bi-ennia between 1976 and 1980. But after that there has been stagnation. There must be many reasons for why this loss of interest has occurred at a time when the need for the public goods that TDR is producing has been so compelling. Perhaps more recently it has been due to the proliferation of other players. Perhaps TDR has not adequately articulated what distinguishes it from other players. Or it has not found adequate support from its co-sponsors. Some of the reasons may have been beyond the control of TDR. Other programmes, e.g. HRP, have also been affected. Part of it may be the issue of donor fatigue in funding the same disease approaches to reducing burden of disease with little discernible drop in mortality and morbidity in the affected countries; and an expanded palette of opportunities for donors and funders to invest in. Moreover, some donors prefer to channel funds through other routes where they have direct say and control. Whatever the reasons, TDR’s budget, at least until around 2002, had reached a plateau.

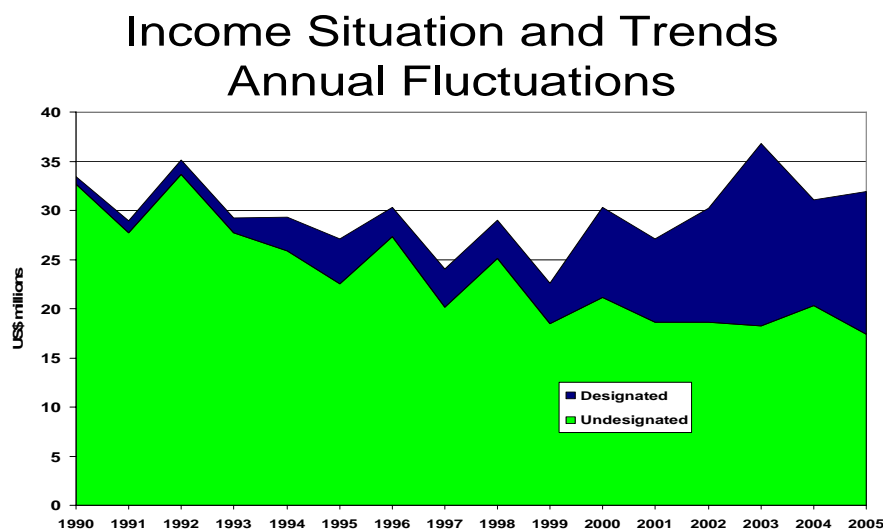


**Fig. 1 Trends in total contributions between 1975 - 2004**

A close analysis of the trends in funding TDR shows that, among countries, there are only a **few consistent contributors** (among whom are Belgium, Canada, Denmark, Germany, Japan, Netherlands, Norway, Sweden and Switzerland; the US contributes regularly through USAID) who have supported TDR in a substantial way all along. There are a few like Austria, Finland and France who only supported TDR at the beginning and stopped a long time ago. Australia, Italy and India, who gave very substantial support initially, dropped to mere trickles over the years. Great Britain, which used to support TDR directly, now channels basket funding to WHO, with funds being redistributed by WHO to its different departments and programmes. Nordic countries may be considering the same approach. Overall, however, there is the consistent trend of **undesigned funds falling** over the years.

What is obvious is that resources committed to research in “tropical diseases” have increased globally but not to TDR specifically. Newer institutions, ventures, initiatives and programmes have emerged recently to address the expanding needs and use the expanded funding.

There are now many others doing what TDR was doing more or less alone in the past. The ERC has heard of the reluctance of some philanthropies to fund TDR because of its slowness and excessive bureaucracy. Most funders are understandably keen to put their resources where they have more influence on directions and outcomes, and where there is transparency. In the recent past TDR has tried to reposition itself and has gained some ground as shown by increases since 2002. The major increase in the recent past has been in designated funding (see fig 2, in blue). This trend began around 1994 and has gained momentum from around 2000. Undesignated funding (green) has continued to decrease. This has caused difficulty, as a certain level of undesignated funding is necessary for TDR to ensure effective discharge of its core functions.



**Fig. 2 TDR Annual Income and Trends**

## Resource Mobilization for the New TDR

TDR is already becoming better at raising funds, but much more needs to be done to ensure that it performs to its fullest potential and to address future needs and demands. The ERC's recommendations in terms of functions and structure of the new TDR will mean bigger budgets but also more sources of funding, including those directed at regions and countries. TDR will need to be much more adept at selling itself and making the case that it has core competencies and strengths that distinguish it from others. The ERC concurs with the Management Review, and with many people it has interviewed, that TDR should manage its own funds directly rather than through WHO. The image of WHO bureaucracy coupled with TDR's self-imposed bureaucracy has put off a number of potential funders.

After the Re-orientation and Stakeholder Engagement Exercise that the ERC is recommending, TDR should create a task force, supported by the World Bank and other co-sponsors, to explore all potential sources, especially ones that TDR has not tapped in the past. It should also try to understand why previous funders have stopped contributing; understand the reservations of those who comprehend TDR's mission but are still hesitating; understand what motivates those who have consistently funded TDR and explore if there is room for further support; and re-consider the issue of designated versus undesignated funding.

The ERC believes that a bold, well articulated, vision for a renewed, nimble, efficient TDR that is smarter, has its house in order, is integrated well into the global health and health research scene, is much closer to where the needs and demands are, and which is capable of addressing MDGs, understands and works with the development community, addresses more

seriously issues of equity, etc will open up more sources of funding. Such a renewed TDR would also be much more adept at forming partnerships and making use of staff secondments.

TDR should make a special effort to find out how contributors make choices when funding projects or institutions and address their expectations using more professional approaches, which might include a dedicated professional whose time is devoted to assisting the director in doing deep research on potential sources and following up on promising leads. There is little doubt that resource mobilization will depend heavily on leadership.

Some areas of research do attract investors easily (e.g. product development and clinical trials for these products) while others are more difficult to fund, e.g. knowledge management, evidence for decision making, and preparation and dissemination of tools and guidelines in various aspects of control programs. To address these, TDR might need to partner with organizations that are interested in broader public health goods and with individual governments that wish to invest in policy and systems issues for developing countries. In attempting to work with all these sources, TDR should focus less on R&D for physical products and more on expanded intervention research (E-IR) and on RCS. TDR ought to find ways of sending the message that RCS is worth funding on a larger scale than before. In RCS, TDR might partner with universities and other training institutions to help build capacity for the regions but also for use by TDR in future.

TDR might on occasion want to base its approaches on enlightened self-interest,<sup>119</sup> emphasizing the interconnectedness of the world, particularly as regards infectious diseases (travel, tourism, pandemics, bioterrorism, need for developing better surveillance tools, etc). There are also enhanced opportunities for TDR to partner with PPPs and with biotechnology and pharmaceutical companies to support clinical trials and implementation/intervention research. Some of these organizations may not have their own in-house expertise or the logistics in testing their products. TDR on the other hand prides itself in having the ability to put teams together to test proof of principle, to do clinical trials and to set up implementation models before scaling up national programs. This is one strength that TDR needs to develop further and to “sell” more effectively in the future, without compromising its values.

TDR is already highly regarded (see text box below). In some cases all it might need to do is convert these “leads” to realities.

---

<sup>119</sup> See Benatar SR, Daar AS, Singer PA. Global Health Ethics: The rationale for mutual caring. *International Affairs* 2003;79:107-38.

EXCERPTS FROM THE  
MOTION FOR A EUROPEAN PARLIAMENT RESOLUTION ON 22 – 06 - 2005

**A6-0215/2005**

**Resolutions:**

45. Believes that public-private partnerships such as the RBM Partnership, TB Alliance, IAVI, IPM, GAVI/The Vaccine Fund, MMV, DNDi and the Institute for One World Health together with TDR are key to innovation and capacity-building;
47. Calls for the Seventh Framework Programme to include specific reference to and funding for research on illnesses that affect citizens of developing countries;
49. Calls on the European Commission to work with the WHO, including through the Special Programme for Research and Training in Tropical Diseases and the Initiative for Vaccine Research, to draw up an essential R&D agenda to define needs and priorities for the developing world;
53. Calls for the activities of the EDCTP to be broadened to include other neglected diseases and other phases of clinical development
57. Calls for an obligation on or incentive to the pharmaceutical industry to reinvest a percentage of profits into neglected disease R&D, either directly or through public programmes;

## Notes on Some Potential Donor Sources

### *Countries*

At present a small group of countries, some through their aid agencies, support TDR. The second wealthiest country in the world, Japan, sits on JCB but makes little contribution. There are a number of wealthy resource-rich countries like Saudi Arabia, Kuwait, UAE, Brunei, Venezuela etc. who have never contributed—they may not have heard of TDR, or been approached by TDR. In addition to compassion, enlightened self-interest is well understood. The global nature of emerging infectious diseases, the threat of bioterrorism, the global nature of tourism etc. are some of the reasons these countries might be interested to work with TDR. It is not often appreciated that some of these countries, such as the UAE, have been the largest providers of aid money, on a per-capita basis, in the world—they themselves, because of tradition, are reluctant to talk about the aid they provide. There is little doubt, however, of their willingness to support good international causes.

- *Rich, Developed Countries*

Few of the rich governments are currently committed to supporting TDR. Why have they not contributed? What would it take persuade them to contribute? Some, like Australia, Italy and Japan, might well respond to a more professional approach supported by co-sponsors. A more carefully planned program might also be launched to attract other European and American funders.

- *Rich, Less Developed Countries*

In targeting these it may be useful to show the potential donors the potential benefits of TDR's work to their own populations. Some have diseases in the TDR portfolio and it would be rational to show them the benefits of teaming up with TDR. Others, like the Kingdom of Saudi Arabia, Qatar, UAE, Kuwait, Sultanate of Oman, and Venezuela are oil rich countries that may not have been approached at all in the past. These countries might be approached with direct appeals and through WHO Regional Offices and co-sponsors. The proposed regionally-based Teams may play a big role in interacting with policy makers in these countries regularly, to win their support.

- *Newly Emerging Economies*

The world is keenly following the increasing influence of emerging innovating countries like India, Brazil, China (which have been funders of TDR), Thailand, and South Africa. These newly emerging economies might be persuaded to contribute more, perhaps in kind if not in direct funding. In some of these countries biotechnology and pharmaceutical companies are growing rapidly and are suitable partners for TDR, if not in R&D for products, then for intervention research.

### *Philanthropies*

Philanthropies ought to be encouraged to become more engaged in TDR governing bodies and even, if made possible institutionally, for the BMGF (and perhaps others) to become a special co-sponsor considering that it spends about US\$ 1 billion a year addressing health problems of DECs, which is greater than the base budget of WHO. Another major player that could be invited on JCB/STAC is the Wellcome Trust. It is one of the top 5 funders of tropical diseases research. It has been reluctant to be a funder, but it might be persuaded to enter into a strategic alliance with TDR. The above, of course, also applies to other well-established foundations active in global health such as the Rockefeller Foundation, which at some point was closely involved with TDR. There are other foundations that could also be explored. These include the Allison Foundation, the new Google Foundation, and others such as the UN Foundation.

The BMGF is an obvious partner for TDR. Some of its initiatives fall well within TDR's areas of expertise. For example, in May 2005 it put US\$ 35m into the Malaria Control and Evaluation Partnership in Africa (MACEPA), which funds in Zambia a collaboration among PATH, the government of Zambia, and the Zambia Roll Back Malaria Partnership. The project is supporting "the coordination of a rapid implementation of proven malaria-control strategies - including insecticide-treated bed nets, indoor mosquito control, and effective medication." MACEPA aims to reduce malaria deaths by 75% in three years. It might be viewed as an implementation research project to show how cost-effective fighting malaria can be. It is in these sorts of opportunities that TDR should be playing a bigger role. The BMGF has funded several PPPs that now have products in their pipelines and might benefit from partnering with TDR for clinical trials/intervention research. It has also funded the Grand Challenges in Global Health program (together with some other but much smaller funders. The products of these research initiatives will require public engagement and community consultation to facilitate evaluation, implementation and integration of any relevant outputs, e.g. new technologies, into health services in ways that many in the past were not familiar with.

The recent tenofovir trials conducted (and closed) in several developing countries provide a telling example,<sup>120</sup> calling attention to the need to develop best practices in engagement with local communities.<sup>121</sup> Again, TDR is well placed to play a big role in such work. To work effectively with philanthropies and other potential partners, what is needed is for TDR to **seriously engage with them in the Re-orientation and Stakeholder Engagement Exercise** recommended by the ERC, followed by long-term strategic alliances, perhaps with contractual obligations, between TDR and the philanthropies. A coordination committee between TDR, the major philanthropies and major funding agencies would also be very useful.

#### *Industry/Private Sector*

Industry is another potential funding source, familiar to TDR as partners in drug development but also now a potential general funding source. We heard from a representative of IFPMA that the pharmaceutical industry would be willing to put in more resources into TDR. Industry will have the same intervention research needs as all others developing products for neglected disease. The ground rules would have to be clear and transparent, and bureaucracy will have to be reduced. But on the whole, at a meeting with a group of representatives of large pharmaceutical companies, they pointed out to the ERC that they do find it easier to work with TDR than with WHO.

An example of what the private sector can do is the new Infectious Diseases Institute in Kampala, Uganda, established with funding from Pfizer Foundation. Two members of the Committee recently visited this institute, which is headed by Keith McAdam and is based at Mulago Hospital right next to Makerere Medical School. It is an extremely impressive set-up, the likes of which we have rarely seen in Africa. It has a huge clinical load of HIV patients. It provides advanced integrated health care, combined with basic and implementation research, runs training programs, and acts as a regional referral laboratory centre. There were a number of people volunteering from Western Countries at the Institute. While current work concentrates on HIV/AIDS, plans are to expand into other infectious diseases. Association with this dynamic institute could provide important opportunities for TDR.

<sup>120</sup> See Mills EJ, Singh S, Singh JA, Orbinski JJ, Warren M, Upshur RE. Designing research in vulnerable populations: lessons from HIV prevention trials that stopped early. *BMJ*. 2005 Dec 10;331(7529):1403-6.

<sup>121</sup> Peter A. Newman, 2006. Towards a science of community engagement. *The Lancet*, 367: 302

### *Research Funding Agencies*

At present TDR does, on occasion, submit grant applications and these should be encouraged and increased. But there is also an opportunity to enter into strategic, contractually obligated, alliances where TDR undertakes to provide intervention research capacity. We did hear in our interviews with people closely associated with the NIH that it would be possible for TDR to draw more on NIH funds. The Heads of International Research Organizations (HIROS) have identified global health as one of the areas they want to invest more in.

### *Other Partnerships*

TDR could also draw more from well-established research institutes such as the Swiss Tropical Institute and its associated Ifakara Research Institute in Tanzania. Again this may not be in terms of money, but in terms of facilities, expertise, manpower, joint planning etc. This also applies to the new clinical trials partnerships such as EDCTP.

### *Aid Agencies*

Aid agencies such as USAID, Canadian CIDA, Swedish SIDA, Swiss SDC, DANIDA, and DFID have worked with TDR in the past and some continue to do so. DFID had pulled out but Dr. Rob Ridley has apparently managed to bring them back with a commitment of 0.5m\$. There are other untapped aid agencies beyond the more familiar ones above—in Japan, the Middle East, etc. that should be explored. Japanese agencies have, for example, made very large contributions to RCS in Kenya.

### *Regionally Directed Funds*

TDR has made little use of regionally- and country-directed funds, even from its co-sponsors such as the World Bank. The ERC believes that the small, regionally-based Teams will make it much more likely for TDR to identify and have access to such funds. Country-directed education funds might also support RCS.

There is a trend in the international community to reverse the decades of neglect of Africa's development needs. The debt-forgiveness movement, starting with Millennium Project and so effectively championed subsequently by the rock star Bono has resulted in about 40 billion dollars of debt relief for Africa, and there are possibilities for more. The G8 countries at their summit in Scotland in 2005 made Africa the focus of their future aid commitment, promising to double aid to Africa by 2010. The European Union has in 2005 committed hundreds of millions of dollars for development and deployment of new vaccines. The ERC believes that this trend will continue, and TDR should be exploring ways in which it can bring value and get support for its programmes.

### *PPPs*

These may not be a major source of direct funding for TDR but they do have intervention research needs and will need to be included in the strategic alliances mentioned above.

### *Global Health Organizations*

The ERC is aware that, in fact, there have been discussions between the heads of TDR and GFATM and others. TDR is beginning to explore with the GFATM ways in which implementation research could be funded. As a representative of the GFATM said to the ERC: “We encourage each applicant to include implementation research. We would like to see requests for funding; and to see these funds well spent.”

### *International NGOs*

There are a number of global NGOs that are working in countries assisting control programs, but having a limited degree of scientific and research capacity, and in some cases lacking the legitimacy and credibility that TDR has in the recipient countries. TDR should develop and foster partnerships with some of these carefully selected large NGOs where there are potential synergies.

### *Friends of TDR*

The ERC heard many times from people it interviewed that the latter would like to help TDR, but TDR has never approached them. A large amount of the money spent by TDR goes to pay people and services—and if people volunteer their time and expertise, that is tantamount to TDR receiving funds. The ERC heard this repeatedly, for example, from the co-sponsoring agencies, who would be willing to second experts to work with TDR on a larger scale than has happened in the past.

In addition, TDR should actually foster the establishment of a “**Friends of TDR**” group that would help it be known internationally, help find volunteers, and advocate for new funding.

## Chapter 13. Next Steps

These recommendations on next steps are predicated on the understanding that the ERC's major recommendations on function and structure will be accepted by TDR and its governing bodies and co-sponsors. The four major next steps (there will be several other intermediate steps), are arranged below in the sequence in which the ERC believes they should be undertaken:

1. Re-orientation and Stakeholder Engagement Exercise
2. Negotiation with WHO of an Omnibus Administrative Structural Agreement
3. Refining, Validation and Adoption of TDR's Main Functional Areas
4. Establishment of small, regionally-based TDR Teams

Resource Mobilization will need to be addressed during all the 4 steps above.

### 1. Re-orientation and Stakeholder Engagement Exercise

This is perhaps the most crucial step of all in the months after the JCB meeting in June 2006, and perhaps for the long term. It would in the end result in re-validation of the mandate of TDR. It needs to be meticulously planned for. The groups and people to be engaged should be carefully thought through and this should be done in consultation with the co-sponsors and JCB. **JCB and co-sponsors must, of course, define the parameters of this re-orientation exercise.**

The ERC recommends that an initial group of experts and stakeholders should be constituted by the JCB and the co-sponsors, as soon as possible after the JCB meeting in June 2006, to begin the process of re-orientation of TDR and to engage some key stakeholders (including WHO, other co-sponsors, representatives of the governing bodies, donors and funders; country and regional representatives; research funding agencies; major philanthropic organizations such as the BMGF, Rockefeller Foundation and the Wellcome Trust; PPPs, NGOs, private sector, etc.). This should be chaired by a neutral, visionary, person with knowledge not only of TDR but of the bigger global health scene, ideally working with a small secretariat.

When completed, this process should not only help TDR's thinking on the major recommended functional areas but also set in motion agreements, and even contracts, between TDR and some stakeholders like philanthropies, PPPs, private sector, etc. as to who should be doing what, when and with what resources.

At the same time, by bringing TDR closer to other players, the Re-orientation and Stakeholder Engagement Exercise will help TDR become more integrated into the global health scene and ought to help with mobilizing resources for TDR itself.

One possible organizing question to focus the exercise on might be ***“What does the world need, that TDR can do best, to improve the health of those in greatest need?”***

The exercise could bring to the surface and deepen the understanding, and help prioritization, of future specific needs which TDR might address.

As discussed at the March 2006 meeting of the Standing Committee in Toronto, it is anticipated that JCB will meet again soon after to discuss the outcomes of the (initial) Re-orientation and Stakeholder Engagement Exercise, so that subsequent planning and implementation of the recommendations of the ERC can begin. Once the initial Re-orientation and Stakeholder Engagement Exercise is completed, it would be useful for a mechanism of regular consultation to be established among TDR and the major stakeholders.

## **2. Negotiation with WHO of an Omnibus Administrative Structural Agreement**

It is the opinion of the ERC that no matter what the final form of the new TDR and its functions, this particular step needs to be carried out. While exploratory discussions could begin straight away, the final details ought to await the outcome of the Re-orientation and Stakeholder Engagement Exercise. It should also leave some room for further negotiations as the new TDR takes shape.

At first, TDR secretariat could begin to draw up a list of those waivers, delegated authorities, streamlined procedures, etc that it needs from WHO. It might be helpful to identify a person to negotiate on its behalf. We were impressed with the confidence of the ADG General Management of WHO, that almost everything that TDR needs in terms of the above requirements can be satisfied through such an agreement. This process of identification of what the secretariat wants and needs could start as early as possible, even before the JCB meeting in June 2006.

Serious discussions with WHO should begin after step 3 below, when it would be clearer what exactly would be needed in the long term.

## **3. Refining, Validation and Adoption of Main Functional Areas**

The ERC believes that the 4 functional areas it has suggested for TDR might be refined, and in their general thrust be validated, by the Re-orientation and Stakeholder Engagement Exercise described in 1 above. That exercise will also help the other stakeholders better define their own needs in Extended Intervention Research and Research Capacity Strengthening for the Future.

Once the functional areas are refined and validated, TDR will need to begin the process of identifying the changes it needs to make, including in personnel, in order to prepare itself for the tasks ahead.

## **4. Establishment of small, regionally-based TDR Teams**

**After receiving feedback form various sources the ERC is proposing the establishment of small regionally-based TDR Teams to achieve goals identified as necessary by many interviewees related to a bigger and more visible presence of TDR in regions and countries (see chapter 10).** The roles that such Teams could play might be discussed at the Re-orientation and Stakeholder Engagement Exercise, particularly with key representatives of DECs. It should logically start to be planned and implemented after the Re-orientation and

Stakeholder Engagement Exercise, when the road ahead for TDR becomes clearer, better understood, and accepted.

This step must be planned for carefully, but it is not likely to disrupt the work of TDR as it re-orientates itself. A road map and implementation plan should be developed with due care.

### *Resource Mobilization*

This should not be done in isolation from the steps above. For example, once it is agreed that TDR needs to evolve and grow, and that its budget needs to increase significantly, and as soon as the vision is clear, then all those involved should start to think about resource mobilization. Of the funding co-sponsors, the World Bank might take a lead in studying this issue and perhaps arranging for a Donors and Funders Forum. Major philanthropies, once they see a clear vision, and a clear definition of the future functions that TDR commits itself to, will identify the areas that they are interested in funding. For example, many PPPs are funded by the BMGF. If TDR shows itself a reliable, nimble, cost-effective partner in organizing and carrying out clinical trials and expanded intervention research, they might very well be prepared to fund TDR on a long term basis to increase its capacity to take the products coming out of the PPP pipelines and shepherd them through to adoption by health care systems, based on scientific evidence. In chapter 12, the ERC has identified other potential sources of financing of the new TDR, including countries that currently do not provide financial support.

## **Overall ERC Report Conclusion**

The ERC, based on analysis of the data at its disposal and projection into the future has concluded that TDR has a glorious history, has encountered some rough patches, and has to a certain extent become disoriented in a radically altered landscape. However, TDR is extremely valuable and it is needed, and that need will only increase with time. TDR must evolve and grow, emphasize different functional areas, and allow other stakeholders to help it define its place in the larger global health landscape. It needs to communicate more effectively to diverse stakeholders just what added value TDR can bring to their own missions. For TDR to serve its mission better and for people to “take ownership”, the new TDR will need to establish small, regionally-based TDR Teams to help it achieve its ambition to serve the needs of disease endemic countries more effectively, and for itself to garner more support.

**After 30 years it is time to take stock, not to take small steps.**

# ANNEXES



Annex 1: Abbreviations Used.....	1
Annex 2: Terms of Reference .....	4
Annex 3: List of Persons Interviewed.....	14
Annex 4: Interview Guide for TDR's 4th External Review .....	21
Annex 5: TDR's Mandate: A Brief History.....	22
Annex 6: Analysis of Previous External Reviews .....	24
Annex 7: List of Background Documents for the 4 <sup>th</sup> External Review Committee .....	27
Annex 8: Recommendations of the Third External Review .....	32
Annex 9: Performance Indicators .....	34

## ANNEX 1: ABBREVIATIONS USED

### **UNICEF/UNDP/WORLD BANK/WHO SPECIAL PROGRAMME FOR RESEARCH AND TRAINING IN TROPICAL DISEASES (TDR)**

---

•	ACHR	Advisory Committee on Health Research
•	ACT	Artemisinin- based Combination Therapy
•	ADG	Assistant Director General of WHO
•	AFRO	African Regional Office of WHO
•	AHRF	African Health Research Forum
•	AMRO/PAHO	American Regional Office of WHO/Pan American Health Organization
•	BECA	Biosciences East and Central Africa
•	BMGF	Bill and Melinda Gates Foundation
•	BOD	Burden of Disease
•	CDC	Centres for Disease Control, Atlanta, USA
•	CIDA	Canadian International Development Agency
•	CIHR	Canadian International Health Research
•	CDS	Communicable Diseases Cluster of WHO
•	COHRED	Council on Health Research for Development
•	DALYs	Disability Adjusted Life Years
•	DANIDA	Danish Development Agency
•	DECs	Diseases Endemic Countries
•	DFID	Department for International Development, UK
•	DNDi	Drugs for Neglected Diseases Initiative
•	EDCTP	European & Developing Countries Clinical Trials Partnership
•	EIP	Evidence and Information for Policy (WHO cluster)
•	E-IR	Expanded Intervention Research
•	EMRO	Eastern Mediterranean Regional Office of WHO
•	ERC	The 4 <sup>th</sup> Independent External Review Committee of TDR
•	FIND	Foundation for Innovative New Diagnostics
•	G 7	Group of the 7 Most Industrialized Countries

- GATB Global Alliance for Tuberculosis
- GAVI Global Alliance for Vaccines
- GFATM Global Fund against AIDS, Tuberculosis and Malaria
- GFHR Global Forum for Health Research
- GMG General Management cluster of WHO
- HIROS Heads of International Research Organizations
- HIV Human Immunodeficiency Virus
- HRP UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction
- IDRC International Development Research Council, Canada
- INCLIN International Clinical Epidemiology Network
- IOWH The Institute for One World Health
- IP Intellectual Property
- IPPPH Initiative for Public Private Partnerships for Health
- IRM Implementation Research and Methods unit of TDR
- IVR Initiative for Vaccine Research, WHO
- JCB Joint Coordinating Board of TDR
- KEMRI Kenya Medical Research Institute
- LDCs Least Developed Countries
- LSE London School of Economics and Political Science
- MACEPA Malaria Control and Evaluation Partnership in Africa
- MDGs Millennium Development Goals
- MIHR Management of Intellectual Property for Health Research
- MIM Multilateral Initiative on Malaria
- MMV Medicines for Malaria Venture
- MOU Memorandum Of Understanding
- MRCs Medical Research Councils
- MSH Management Sciences for Health
- NEPAD New Partnerships for Africa's Development
- NGOs Non-governmental Organizations
- NIAID National Institute of Allergy and Infectious Diseases
- NIH National Institutes of Health (US)
- NORAD Norwegian Agency for Development
- OCP Onchocerciasis Control Program
- PATH Partnership for Technology in Health
- PDE Product Research, Development and Evaluation unit of TDR
- PPM Programme Planning and Management Unit of TDR
- PPP Public-Private Partnership
- RAPLOA Rapid Assessment Tool for Loasis
- R&D Research and Development
- RBM Roll Back Malaria Programme
- RCS Research Capacity/Capability Strengthening
- RCS-F Research Capacity/Capability Strengthening for the Future
- RPC Research Policy and Coordination department of WHO/EIP

- SAREC Department of Research and Cooperation of the Swedish SIDA
- SCs Steering Committees of TDR
- SDC Swiss Agency for Development and Cooperation
- SDR Strategic Discovery Research
- SEARO South East Asia Regional Office of WHO
- SEB Social, Economic and Behavioural research in TDR
- SIDA Swedish International Development Cooperation Agency
- SSK Science Strategy and Knowledge Management unit at TDR
- S&T Science and Technology
- STAC Scientific and Technical Advisory Committee of TDR
- SWGs Scientific Working Groups
- TDR UNICEF-UNDP-World Bank-WHO Special Programme for Research and Training in Tropical Diseases
- TORs Terms of Reference
- UAE United Arab Emirates
- UN United Nations
- UNDP United Nations Development Programme
- UNICEF United Nations Children's Fund
- UNRISD United Nations Research Institute for Social Development
- USAID US Agency for International Development
- VL Visceral Leishmaniasis
- WHA World Health Assembly
- WHO World Health Organization
- WPRO Western Pacific Regional Office of WHO

## ANNEX 2: TERMS OF REFERENCE



**UNICEF/UNDP/WORLD BANK/WHO SPECIAL  
PROGRAMME FOR RESEARCH AND TRAINING  
IN TROPICAL DISEASES (TDR)**

DISTR.: LIMITED  
TDR/JCB(27)/04.17  
ORIGINAL: ENGLISH

---

**27TH SESSION OF THE TDR JOINT COORDINATING BOARD  
WHO HEADQUARTERS, GENEVA, SWITZERLAND  
28-29 JUNE 2004**

---

# **TDR 4<sup>TH</sup> EXTERNAL REVIEW PROPOSED FINAL TERMS OF REFERENCE**

*June 2004*

*The terms of reference have been update/revised following review by JCB members (electronically) in December/January 2004 and discussions by the Standing Committee in March 2004, as well as taking into account other internal and external developments*

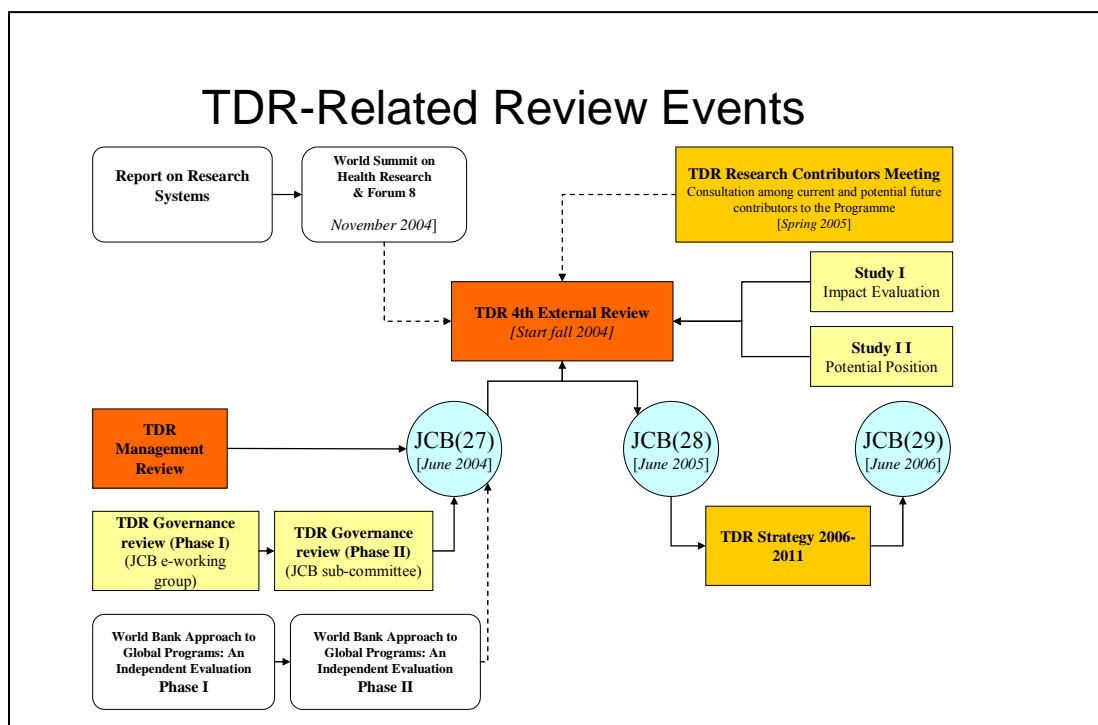
## INTRODUCTION

Based on the Third External Review, TDR developed its Strategy 2000-2005<sup>1</sup> which is now being implemented. However, the environment for disease control and research and development has continued to evolve and many more actors – engaged in funding and implementation - have emerged, particularly during the past few years. Concern has been expressed about the growing number of global programmes and initiatives, leading to some discussions on global research governance. The World Bank has evaluated its engagement and partnerships with global programmes. At the same time, the need for research to contribute to the development of global public goods, and thus to the reduction of poverty, has not diminished. The Commission on Macroeconomics and Health recommended that, by 2007, US\$3 billion should be invested annually at the global level in support of R&D, including research capacity building in developing countries, for the diseases of the poor<sup>1</sup>.

In the long term, TDR's role will depend on how its constituencies perceive its specific strengths within this new and increasingly competitive and diverse environment, and how they would like to capitalize on its experience and its unique scientific and institutional potential to add value to global health research. In order to take stock and prepare for the future, a review of the Programme's managerial performance was carried out as Phase I of the Fourth External Review<sup>ii</sup>. While the Third External Review was largely retrospective and focused on the operations of TDR, the Fourth External Review will be mainly prospective and focus on the future role of TDR in the changing R&D/control environment. At its 26<sup>th</sup> session, JCB requested an early commencement of the Fourth External Review in order to gain maximum benefit from the review for the preparation of the Strategy 2006-2011.

---

<sup>1</sup> See [www.who.int/tdr/about/strategy/default.htm](http://www.who.int/tdr/about/strategy/default.htm)



However, the change of the Programme Director and the ongoing discussion in the JCB subcommittee on a ten-year vision for TDR, it was thought appropriate to delay the start of the 4<sup>th</sup> External Review slightly, while aiming at concluding the review in time for JCB(28) as originally foreseen. The flow-chart above illustrates the sequence and relations between a number of mutually supportive events that are either under way or currently planned.

As a Special Research and Training Programme, co-sponsored by UNICEF<sup>2</sup>, UNDP, the World Bank, and WHO, TDR is committed to supporting and fulfilling the values, goals and internationally agreed instruments endorsed and promoted by its Co-sponsors and their Member States. At the same time, TDR adheres to and promotes compliance with the highest scientific, professional and ethical standards that prevail in the research community.

TDR has traditionally acted both as a funder and as a catalyst. It facilitates *the definition and implementation of the R&D agenda*, by helping to set priorities, mobilizing resources, funding projects, and providing services in the form of technical guidance, and capacity building. It also acts as a brokerage for bringing partners together *to make things happen and helps translate research leads into useful end-products that are accessible to poor and marginalized populations*.

The attainment of TDR's programmatic objectives is the collective responsibility of the whole Programme, regardless of disease, function, or category of staff. This is the basis on which the Programme and its Strategy will be reviewed and evaluated.

<sup>2</sup> At the 73<sup>rd</sup> Standing Committee meeting held in New York in April 2003, the co-sponsors informally accepted UNICEF as a new co-sponsor. The arrangement has subsequently been endorsed by JCB(26) in June, 2003, and was formally approved by the heads of the co-sponsoring agencies in December 2003..

## Purpose and Scope of the Fourth External Review

The **purpose** of the Fourth External Review is to assess the overall relevance, appropriateness, adequacy and efficiency of TDR in relation to its current objectives, strategic approaches, and stated values (see the Strategy 2000-2005), including the prospective future role of the Programme. To achieve this, the Review shall include a broad Programme assessment, which will look at all of the Programme's relevant aspects, and also incorporate the outcomes of the governance review and the management evaluation already conducted or under way. It will also take into account, as appropriate, other related activities as indicated in the above flow-chart.

Beyond an overall assessment, the Review may include the following areas:

- Retrospective, whether the Programme is doing what it set out to do in its Strategy 2000-2005, including the resulting:
  - research portfolio, i.e. diseases and R&D areas
  - research capacity strengthening portfolio, in particular the new approaches introduced in the Strategy
- Prospective, what should be the role of TDR in the broader international research, control, and institutional environment, taking into account the nature and values of the Programme and its comparative advantages
- Take into account findings from completed or ongoing related studies
  - Programme management (completed and presented to JCB(27) in June 2004)
  - Programme governance (currently addressed by a JCB subcommittee and presented to JCB(27) in June 2004)
  - World Bank Approaches to Global Programmes: An Independent Evaluation (Phases I and II) (completed, a brief summary of findings will be presented to JCB(27) by the Bank)
  - Feasibility of and eventual approach to TDR impact evaluation (discussions for commissioned are ongoing)
  - Options for positioning and role of TDR in the current and future research environment (discussions for generating a document are ongoing)

The review should look back at the past 5 to 6 years, starting from the date of the Third External Review, with particular emphasis on the period from 2000, which was the start of the Strategy 2000-2005. The review should further have a prospective view that looks forward on the next 10 years, e.g. up to the year 2015. For the next strategic period, different scenarios should be considered, including, for example, resource increases and a broader mandate.

The 4<sup>th</sup> External Review Committee will provide to the JCB a report in English, not longer than 50 pages, of their findings and recommendations. The Committee shall provide an interim report and a final report as spelled out in the timetable below. It is expected that the time budget for the review should not exceed a total of 20 - 26 person-weeks, excluding the commissioned studies and the management and the governance reviews (the latter two have already been completed).

## METHODOLOGY

The methodology should include, but not necessarily be limited to:

- Desk review of documents, reports, guidelines and manuals of TDR, the co-sponsors as well as donors
- In-depth interviews with administrative and scientific staff in Geneva
- Telephone, video conference, and questionnaire interviews with, and desk review of feedback from, Standing Committee and JCB members, current and potential future contributors, as well as other relevant scientists, actors and stakeholders in the fields of disease control, research, development, etc.
- Desk review of relevant reports, published literature, etc.
- Review of other studies, e.g., “*Options for positioning and role of TDR in the current and future the research environment*” and “*Feasibility of and eventual approach to TDR impact evaluation*”

It is not, given the proposed purpose and scope of the review, foreseen that the Committee will conduct any field trips.

The above generated, mainly qualitative, data should, where possible, be supplemented with quantitative data.

Any additional sources of information or procedure to obtain views and feed back on the performance, role, and set-up of TDR that the Committee feels to be necessary to accomplish the tasks set forth in these terms of reference.

## COMMITTEE MEMBERSHIP

The 4<sup>th</sup> External Review Committee will have five members

1. Chairperson
2. Four members who have a broad perspective of tropical disease research and capacity building but individually they will have specific expertise that focuses on:
  - biomedical sciences, including product R&D
  - social sciences
  - implementation research (disease research – control interface)
  - Scientist/expert representing the area of research capacity strengthening

The committee members should not have applied or received grants or financial support from TDR within the past five years (1998 onwards), nor have served on any TDR Steering Committee/STAC within the same period.

In addition to having team leadership skills, the chairperson must have a thorough knowledge of the R&D fields and the international development assistance environment within which TDR operates.

Timing - Calendar

Month	Task/deliverable	Responsible
December, 2003	Circulation of draft 2 terms of reference to JCB members ( <i>Done</i> )	TDR Secretariat
June, 2004	Final terms of Reference endorsed by JCB	TDR Secretariat/Standing Committee
July – August, 2004	<ul style="list-style-type: none"> <li>– Identification of Committee membership and clarification on budget and resources</li> <li>– Identification/recruitment of an Executive Secretary for the Committee</li> </ul>	TDR Secretariat/Standing Committee
September, 2004	Executive Secretary for the 4 <sup>th</sup> Committee starts working	TDR Secretariat and Chair of Committee
March, 2005	Draft Report submitted to Standing Committee	Chair of Committee
May 2005	Final Report submitted to JCB	Chair of Committee

### OBLIGATIONS OF TDR

- Provide key documents and necessary information
- Facilitate committee contacts with key informants
- Provide temporary office space at TDR offices in Geneva
- Facilitate access to video conference facilities of TDR and/or the co-sponsors
- Ensure the independence of the evaluation
- Hire an Executive Secretary to assist the Review Committee

### OBLIGATIONS OF COMMITTEE

- Inform TDR in timely fashion of all contacts made with key informants
- Treat documents in a confidential manner
- Not publish review results or outputs without permission from TDR
- Return all documents used in the evaluation
- Report in timely basis any possible conflicts of interest
- Produce reports as outlined above

### TENTATIVE RESOURCE REQUIREMENTS (BUDGET)

Item	Units	Unit costs (US\$)	Total
Honorarium Committee members	5	15,000	75,000
Per diem Committee members			
Travel weeks per member	3		
Days per week	7		
Total travel-days	105	229	24,045
Travel of Committee members			
<u>From Europe</u>			
Members	2		
Trips per member	2		
Cost per trip		700	2,800
<u>From elsewhere</u>			
Members	2		
Trips per member	2		
Cost per trip		3,200	12,800
Travel of Committee Chair			
Trips	4		
Cost per trip		3,200	12,800

Commissioned Studies			
Feasibility and approach to impact evaluation			25,000
Positioning and role of TDR			25,000
Management Review (ongoing)			56,963
Governance Review (Sub-committee)			20,000
Executive Secretary (STP P5-level)	10	12,000	120,000
Miscellaneous			10,000
<b>Total Direct Costs</b>			<b>384,408</b>
TDR Indirect Costs (% on grand total)	12%		52,419
<b>Grand total</b>			<b>436,827</b>

## **Annex: Terms of Reference for the Executive Secretary**

### Qualifications:

- Advanced university degree in health related fields
- Excellent English communication and writing skills
- Experience with organizing complex tasks
- Experience from international work with particular emphasis on programme evaluation and review
- Thorough knowledge of the international health development environment

### Duties:

- Organize meetings of the Committee
- Follow-up and providing the documentation that the committee requests
- Communication with committee members, including conducting tele/video conferences
- Doing selected phone and document interviews on behalf of the Committee
- Review of documentation and data analysis as requested by the Committee
- Write-up and editing of the final report

### Conditions:

- Short-term Professional Staff 10 months from 1<sup>st</sup> September 2004 to 30<sup>th</sup> June 2005 - P5 level

## **Annex: Study on potential positioning and role of TDR vis-à-vis the changing research and development environment**

*Discussions are ongoing with potential consultants.*

### **Terms of Reference**

The terms of reference could include:

- Review of the current environment
  - Organizations and initiatives active in research and development for communicable diseases affecting poor and marginalized populations
  - Funding flows in health R&D
  - Gaps in funding and outputs
- Trends in the environment, with respect to the above
- Comparative performance measures and comparative advantages of TDR
- Options for future positioning of TDR to play a strategic role in R&D

### **Methodology**

The methods could include:

- Document reviews
- Telephone interviews
- Questionnaire surveys

### **Output**

- A report, not exceeding 30 - 35 pages to be delivered by 30 November, 2004

## **Annex: Study on feasibility and approach to TDR impact evaluation**

*Discussions are ongoing with potential consultants.*

### **Background**

JCB(26), on reviewing the document on strategic performance indicators as presented by the Programme and approved by the Board, suggested to further look into the development of approaches for evaluation of impact of TDR's work. This would need to occur at levels of:

- long term health impact

- impact on building and retaining research capacity in Disease Endemic Countries
- impact on global research agenda
- impact on policies
- impact on global partnerships.

The Standing Committee, at its 74<sup>th</sup> session, discussed at some length its expectations of impact assessment and provided guidance in this respect. It was reiterated that measuring “public health impact” is an issue which TDR must tackle, whatever the difficulties involved. Impact evaluations need to be constructed carefully and include criteria and intermediate steps - from population-based impact assessment to exploring possible correlations and not be seen as a “one off” exercise, to urgently produce a supposedly final equation. Rather, it should develop an intelligent process to better understand factors involved, how they interact, and how they can be influenced.

The Standing Committee advised that impact assessment could be approached at two different levels. One would be through a very large sort of research based on quantifiable results. A second sort of impact, not necessarily measured in hard numbers, would require answering questions such as “What is this Programme doing? Are we in line with the times? Is the dollar well spent?” Other proposals were to use proxy indicators analyzing whether and how the Programme, and the specific research it carries out, may have influenced policy, practices, scientific capacity and research allocations, at both global and country level.

As the matter is not straight forward nor has simple solutions, current and past experiences and potential future options for TDR need to be reviewed and assessed with regards to feasibility

## **Terms of reference**

The terms of reference could include:

- Review of experiences from attempts to measure impact of organizations and/or programmes of a similar nature to TDR.
- Proposal of different alternative impact evaluation models for TDR
- Analysis of each alternative with regards to feasibility, including:
  - Attributability of impact to the performance and outputs from the Programme
    - Practicality, e.g., how would the model relate to and influence the daily operations of the Programme
    - Usefulness to decision-makers, e.g., the JCB, current and potential funders, etc.
    - Benefit - resource requirements, i.e., whether the benefits of the model is commensurate with the resources required.

## **Methodology**

The methods could include:

- Document and literature reviews
- Telephone interviews
- Questionnaire/Delphi surveys

## **Output**

- A report, not exceeding 30 - 35 pages to be delivered by 30 November, 2004

---

## ANNEX 3: LIST OF PERSONS INTERVIEWED

### **UNICEF/UNDP/WORLD BANK/WHO SPECIAL PROGRAMME FOR RESEARCH AND TRAINING IN TROPICAL DISEASES (TDR)**

---

#### **JCB Members:**

- Dr Barbro CARLSSON, Head , Human Sciences for Social Development, SIDA/SAREC
- Dr Dennis CARROLL, Senior Infectious Adviser, Bureau for Global Programmes, Field Support and Research, USAID
- Pr. Rodrigo CORREA de OLIVEIRA, Head of the Laboratory of Cellular and Molecular Immunology, Oswaldo Cruz Foundation, Centro de Pesquisas Rene Rachou, Belo Horizonte, Brazil
- Professor Nirmal.K. GANGULY, The Director General, Indian Council of Medical Research, Ansari Nagar Post Box 4911, New Delhi - 110029, India
- Dr Montasser KAMAL, Chief, UN Health Related Institutions Unit, United Nations and Commonwealth Division, Multilateral Programs Branch, Canadian International Development Agency, 200, Promenade du Portage, Gatineau (Quebec), Canada K1A 0G4
- Dr Rolf KORTE, former JCB representative of Germany (until 2004)
- Dr Jean LARIVIERE, former Senior Medical Adviser, International Affairs Directorate, Policy and Consultation Branch, Health Canada, former JCB chair (2003-2004)
- Dr Jacques LARUELLE, Service public fédéral Affaires étrangères, Commerce extérieur et Coopération au Développement, Service des NU, Bruxelles, Belgium
- Dr Pia ROCKHOLD, Senior Operations Officer in Social Protection, World Bank, former Technical Adviser, Health, DANIDA, former JCB Representative of Denmark

#### **STAC Members:**

- Dr JEGATHESAN, STAC rapporteur, Malaysia
- Dr Andrew Y. KITUA, Director General, National Institute for Medical Research, Dar es Salaam, Tanzania
- Prof. Mary Ann D. LANSANG, Dept. of Clinical Epidemiology, College of Medicine, University of the Philippines, Manila, Philippines
- Prof. Graham F. MITCHELL, Principal, Foursight Associates Pty Ltd, Melbourne, Australia
- Dr Gill SAMUELS, Executive Director, Science Policy & Scientific Affairs, Europe, Pfizer Global Research and Development, Sandwich, UK
- Prof. Nancy G. SARAVIA, Executive Director, Centro Internacional de Entrenamiento e Investigaciones Médicas (CIDEIM), Cali, Colombia
- Prof. Marcel TANNER, Professor & Director, Swiss Tropical Institute, Basel, Switzerland

## **Co-sponsors of TDR**

### **UNDP**

- Elhadj SY, Director, Bureau for Development Policy
- Monica SHARMA, Principal Adviser and Team Leader, Bureau for Development Policy
- Mina MAUERSTEIN -BAIL, UNOPS-AMICAAL, former TDR Focal Point in UNDP

### **UNICEF**

- Kul GAUTAM, Deputy Executive Director, 3, UN Plaza New York, N.Y. 10017
- Kayode S. OYEBITE Senior Programme Officer, Planning and Coordination Health Section, Programme Division

### **World Bank**

- Dr Olusoji ADEYI, Coordinator, Global Partnerships for Communicable Diseases Human Development Network
- Uma LELE, Operations Evaluation Department, Old Town Alexandria
- Dr Bernhard LIESE, Consultant in Health, Nutrition and Population, Onchocerciasis Coordination Unit, African Region
- Dr Ok PANNENBORG, Senior Adviser for Health, Nutrition and Population, Africa Region
- Dr Pia ROCKHOLD, Senior Operations Officer in Social Protection
- Dr Pammi SACHDEVA, Consultant, Management Review of TDR
- Susan A. STOUT, Manager, Results Secretariat, Operations Policy and Country Services Vice Presidency

### **WHO**

#### **Headquarters:**

- Dr Anarfi ASAMOA-BAAH, ADG/CDS
- Dr Kazem BEHBEHANI, ADG/EGB
- Catherine d'ARCANGUES, HRP/FCH
- Dr Hiroyoshi ENDO, Director, Department of Control, Prevention and Eradication, Communicable Diseases Programme
- Dr David HEYMANN, DGR/POL, Representative of the DG for Polio Eradication
- Dr Marie-Paule KIENY, Director IVR
- Dr Arata KOCHI, HTM
- Dr Stefano LAZZARI, Directeur, Bureau OMS/CSR à Lyon, Département des Maladies Transmissibles, Surveillance et Action, Lyon
- Dr Catherine LE GALES-CAMUS, ADG/NMH
- Dr Kerstin LEITNER, ADG/SDE, WHO/HQ
- Dr Elisabeth MASON, Director CAH/FCH
- Dr Kamini MENDIS, Senior Adviser, Roll Back Malaria

- Dr Anders NORDSTROM, ADG/GMG
- Dr Ariel PABLOS-MENDEZ, Director KMS/EIP
- Dr Tikki PANG, Director RPC/EIP
- Dr Joy PHUMAPHI, ADG/FCH
- Dr Marie-Andrée ROMISCH-DIOUF, Director, Department of Country Focus
- Dr Allan SCHAPIRA, Coordinator, Strategy and Policy Team, Roll Back Malaria Department
- Dr Yves SOUTEYRAND, Director, Coordinator Strategic Information and Research, Department of HIV/AIDS
- Dr Sergio SPINACI, MacroHealth
- Dr Tony UKETY, NDGO Coordinator for Onchocerciasis Control, Prevention of Blindness and Deafness
- Dr Paul VAN LOOK, Director HRP/FCH

#### **WHO Regional Offices:**

- Dr Yves CHARPAK, Representative of WHO EURO at the EU
- Dr Hussein A. GEZAIRY, Regional Director, EMRO
- Dr Shigeru OMI, Regional Director, WPRO
- Dr Samlee PLIANBANGCHANG, Regional Director, SEARO
- Dr Mirta ROSES PERIAGO, Regional Director, PAHO
- Dr Luis Gomes SAMBO, Regional Director, AFRO
- Dr Richard ALDERSLADE, External Relations Officer, WHO Office at the United Nations WUN, New-York
- Dr Fabrizio BASSANI, Executive Director, WHO Office at the United Nations WUN, New-York
- Dr Xavier LEUS, Director and WHO Representative to the Bretton Woods Institutions, WHO Office at the World Bank and IMF

#### **PAHO:**

- Dr Keith CARTER, Disease Prevention and Control (focal point for malaria)
- Dr John P. EHRENBURG, Chief, Communicable Diseases Unit, Disease Prevention and Control
- Dr Gabriel SCHMUNIS
- Dr Zaida YADON, Disease Prevention and Control (for communicable diseases research)

#### **Former TDR directors:**

- Dr Ade LUCAS
- Dr Tore GODAL
- Dr Carlos M. MOREL, Scientific Coordinator, Centre for Technological Development in Health (CDTS), Oswaldo Cruz Foundation, FIOCRUZ, Rio de Janeiro

**TDR staff:**

- Dr Robert RIDLEY, Director
- Marion AGBAYANI, PPM
- Dr Nicole BIROS, PPM
- Erik BLAS, PPM
- Edith CERTAIN, SSK
- Lynn HOLLIES, PPM
- Dr Jane KENGEYA-KAYONDE, IRM
- Dr Annette KUESEL, PDE
- Dr Janis LAZDINS, PDE
- Dr Ayo ODUOLA, SDR
- Dr Piero OLLIARO, PDE
- Dr Rosanna PEELING, PDE-Diagnostics
- Dr Hans REMME, SSK
- Dr Johannes SOMMERFELD, SEB
- Dr Bob TAYLOR, PDE
- Dr Yeya TOURE, SDR
- Dr Fabio ZICKER, RCS
- The ERC held two meetings with TDR staff collectively, one with the line managers, one with the whole staff in the absence of the management.

**Other UN Agencies**

- Marilyn DAWSON, Programme Officer, United Nations Fund for International Partnerships, UNFIP
- Amir A. DOSSAL, Executive Director, United Nations Fund for International Partnerships
- Traver MULLIGAN, Programme Officer, United Nations Fund for International Partnerships
- Angel SILVA, Financial Management and Budget Control, United Nations Fund for International Partnerships

**USAID:**

- Dr Dennis CARROLL, Senior Infectious Adviser, Bureau for Global Programmes, Field Support and Research, USAID
- John Paul CLARK, Senior Health Advisor, USAID
- Dr Sambe DUALE, Senior Research Manager, Support for Analysis and Research in Africa (SARA) Project, Academy for Educational Development

**NIH****National Institutes of Allergy and Infectious Diseases (NIAID):**

Group discussion with 12 professionals, mostly from international research or research on infectious diseases, including:

- Dr. Michael HOLLINGDALE, Deputy Director (ODA)

- Dr Karl A. WESTERN, Assistant Director for International Research, Director, Office of Global Affairs (OGA)
- Dr. Louis MILLER

#### **Fogarty International Center:**

- Dr Joel G. BREMAN, Senior Scientific Adviser, Division of International Epidemiology and Population Studies
- Dr Kenneth BRIDBORD, Director, Division of International Training and Research
- Dr Mark A. MILLER, Associate Director for Research, Director, Div. of Int'l Epidemiology and Population Studies
- Dr Joshua P. ROSENTHAL, Deputy Director, Division of International Training and Research

#### **INCLIN**

- Dr. Narendra ARORA, INCLIN Executive Director, INDIACLEN
- Dr. Rodolfo DENNIS, INCLIN Senior Adviser.

#### **Foundations**

- Charles A. GARDNER, Associate Director, Health Equity, The Rockefeller Foundation
- Dr A. David BRANDLING-BENNETT, Senior Program Officer, Infectious Diseases, Global Health Program, Bill & Melinda Gates Foundation, Seattle
- Dr Regina RABINOVICH, Director, Infectious Diseases, Global Health Program, Bill & Melinda Gates Foundation, Seattle

#### **PPPs**

- Dr Chris HENTSCHEL, Chief Executive Officer, Medicines for Malaria Venture (MMV), Geneva
- Dr Bernard PECOUL, Executive Director, Drugs for Neglected Diseases initiative (DNDi), Geneva
- Dr Mark D. PERKINS, Chief Scientific Officer, Foundation for Innovative New Diagnostics (FIND), Geneva

#### **Pharmaceutical industry**

- Alain AUMONIER, Associate Vice President, Relations with International Institutions, Solidarity Mission on access to medicine, Sanofi Aventis, Paris
- Harvey BALE, Director, International Federation of Pharmaceutical Manufacturers & Associations (IFPMA), Geneva
- Patrizia CARLEVARO, Eli Lilly, Chair, Partnership for Public Health and Advocacy, IFPMA Committee, Geneva
- Kuralay (Kuka) ELEMESOVA, Director, Partnerships and Advocacy, International Federation of Pharmaceutical Manufacturers & Associations (IFPMA), Geneva

- Matti OJANEN, Manager, Global Government Affairs & Policy, Corporate Affairs, AstraZeneca, London
- Jon PENDER, Director, Government Affairs, Access Issues & IP, GlaxoSmithKline, Brentford, UK

#### **OTHERS:**

- Dr Salah AL-AWAIDY, Director, Department of Surveillance & Disease Control, Directorate General of Health Affairs, MoH, Muscat, Sultanate of Oman
- Pr Barry BLOOM, Dean, Harvard School of Public Health, Boston, USA, former chair of STAC (1989-1995)
- Dr Richard FEACHEM, Executive Director, GFATM, Geneva
- Adrienne GERMAIN, Director International Women's Health Coalition, New-York
- Ahvie HERSKOWITZ, Institute for One World Health
- Pr Carel IJSSELMUIDEN, Director, COHRED, Geneva
- Pr Gerald KEUTSCH, Boston University, former Director Fogarty International Centre
- Pr Lenore MANDERSON, Director, Key Centre for Women's Health in Society, University of Melbourne (former member of SEB Steering Committee).
- Pr Steve MATLIN, Executive Director, GFHR, Geneva
- Dr. Niels ØRNBJERG CHRISTIANSEN, Director, Danish Bilharziasis Laboratory (former STAC member)
- Pr Judith A WHITWORTH, Director, The John Curtin School of Medical Research Building 54 The Australian National University, chair ACHR
- Kaspar WYSS, Project Manager, Swiss Centre for International Health, Swiss Tropical Institute, Basel

#### **Participants to the Scientific Working Group on Lymphatic Filariasis, 10-12 May 2005**

- Dr David G. ADDISS, Centers for Disease Control & Prevention, Division of Parasitic Diseases, Atlanta
- Dr Dominique KYELEM, Programme Manager LF, Ouagadougou
- Dr Patrick J. LAMMIE, Centers for Disease Control & Prevention, Division of Parasitic Diseases, Atlanta
- Dr Eric A. OTTESEN, Emory University, Emory Lymphatic Filariasis Support Center, Dept. of International Health, Atlanta
- Dr Kapa Dasaradha RAMAIAH, Vector Control Research Centre, Pondicherry

#### **Participant to the SEB Steering Committee, 31 May-3 June 2005. Geneva**

- Dr Jens AAGAARD-HANSEN, DBL-Institute for Health Research and Development, Charlottenlund
- Dr Roberto BRICENO-LEON, Director, Laboratorio de Ciencias Sociales (LACSO), Universidad Central de Venezuela, Caracas
- Dr Arachu CASTRO, Department of Social Medicine, Harvard Medical School, Boston

- Dr Layi ERINOSHO, Social Science Academy of Nigeria, Abuja
- Dr Kristian HEGGENHOUGEN, Profesor, Department of International Health, Boston University School of Public Health, Boston
- Dr Barbara McPAKE, Health Policy Unit, LSHTM, London
- Dr Susan ZIMICKI, Research Director, the CHANGE Project, Academy for Educational Development, Washington, DC
- Dr Anthony ZWI, Head and Professor, School of Public Health and Community Medicine, The University of New South Wales, Sydney

## **Interviews conducted at country level**

### **Africa**

- Dr Andrew KITUA, National Institute of Medical Research, Tanzania
- Dr. George KIVUMBI, Child Health and Development Centre, Makerere University
- Dr Davy KOECH, Kenya Medical Institute, Kenya
- Pr Abdel Karim KOUMARE, Hopital du Point G, School of Medicine, Bamako, Mali
- Dr Keith Mc ADAM, Head, Infectious Diseases Institute, Mulago Hospital Makerere, Uganda
- Pr Mutuma MUGAMBI, African Health Research Forum, Kenya
- Dr James MWANZIA, WHO, Zimbabwe
- Dr. Richard NDYOMUGYENYI, Director Division of Vector Control, Ministry of Health, Uganda
- Pr Raphael OWOR, Head, Uganda National Health Research Organization
- Dr Martyn SAMA, Director, Tropical Medicine Research Center, Cameroon Medical Research Institute, Cameroon
- Dr Nelson SSEWANKAMBO, Dean, Faculty of Medicine, Makerere University, Uganda
- Deputy Director, Ministry of Scientific Research and Innovation, Cameroon

### **China:**

- Dr Henk BEKDAM WHO Representative in Beijing, and his staffs;
- Dr Quingdong Qi, Director-General Bureau of Foreign Affairs, Ministry of Health, China;
- Dr Jun Xin Director, Division of International Organizations, Ministry of Health China;
- Dr Senhai Yu, former Director, Research Institute on Parasitic Diseases, Chinese Academy of Medical Sciences;
- Dr Zaixing Zhang, Director, Institute of Parasitic Disease Control and Prevention at Simao, Yunnan Province China;
- Dr Dongchuan Qiu, Director Institute of Parasitic Disease Control and Prevention CDC, Sichuan Province;
- Dr Sanqing Wang, Director Institute of Parasitic Disease Control and Prevention, CDC Hainan Province;
- Dr. Weiqing Pan, Professor of .the Second Military Medical University, Shanghai, China.

## ANNEX 4: INTERVIEW GUIDE FOR TDR'S 4TH EXTERNAL REVIEW

### **UNICEF/UNDP/WORLD BANK/WHO SPECIAL PROGRAMME FOR RESEARCH AND TRAINING IN TROPICAL DISEASES (TDR)**

---

1. What do you understand the mandate of TDR to be?
2. Has it been successful in discharging that mandate?
3. Is that mandate still relevant today, and will it be relevant 10 years from now?
4. What is your evaluation of the role that TDR has played in research capacity strengthening?
5. Do you think TDR is under any threats? If so, from where/whom?
6. What are the main comparative advantages, or added value, of TDR over other entities (e.g. PPPs, other university- or private sector-based research institutions, etc) that focus on some of the same diseases that TDR has traditionally focused on?
7. What are the core competencies of TDR that cannot be replicated by some of these other well funded emerging entities?
8. Could TDR do a better job than these other entities if it were better funded?
9. TDR deals with the whole spectrum from basic research to implementation research – where would you like TDR to be focused on along this spectrum?
10. In what ways, if any, should TDR change in the future in order to
  - (a) discharge its mandate better and
  - (b) be attractive to sponsors / resource contributors in a long term, sustainable way?
11. Should TDR seek a broader funding base? What would you suggest?
12. Should the relationship between TDR and WHO remain the same or evolve in a different way?
13. What are the strengths and weaknesses of TDR's
  - (a) Management
  - (b) Governance
  - (c) Leadership
14. Do you have any other questions you think we should ask in evaluating TDR?
15. Do you have any “out-of-the box” suggestions to make in relation to TDR's vision/mandate for the next 10 years?
16. (Question to sponsoring/funding agencies: Could you work with TDR as an implementation agency for some of your own needed research?)

## ANNEX 5: TDR'S MANDATE: A BRIEF HISTORY

### **UNICEF/UNDP/WORLD BANK/WHO SPECIAL PROGRAMME FOR RESEARCH AND TRAINING IN TROPICAL DISEASES (TDR)**

---

TDR was initiated by WHO in 1974. The World Health Assembly, realizing that national, regional or global programmes of tropical parasitic disease control could be implemented only if scientifically based methods and effective means for their control were available, recognized the urgent need for further development and intensification of research in this domain<sup>3</sup>.

The Member States thus created TDR "to intensify WHO activities in the field of research on the major tropical parasitic diseases (malaria, onchocerciasis, schistosomiasis, trypanosomiasis, etc.) taking into consideration that such activities be carried out in endemic areas whenever possible and feasible". Member States had already recognized "the importance of the medical, social and economic aspects of the major tropical parasitic diseases".

Member States were therefore requested "to intensify their efforts to develop effective, safe and practicable means of controlling tropical parasitic diseases"; and "the Director-General to undertake the measures needed to improve the system of coordinating the various programmes for the control of the tropical parasitic diseases and also the methods of carrying out these programmes".

To that end, the WHO Member States decided to develop a Special Programme for research and training in tropical diseases, and to implement other mechanisms for the promotion and coordination of biomedical research<sup>4</sup>, and also to develop to the fullest possible extent national research and training institutions and facilities in support of the programme. TDR was finally formalized in 1978 with the signing of the Memorandum of Understanding by the 3 initial cosponsors-UNDP, World Bank, and the World Health Organization.

In parallel with its focus on research TDR developed the second part of its mandate on strengthening research capacity of recipient implementing countries. This was not only to build up the needed capacity for researching and developing better tools for control programs but also, beyond the stage of proof of principle, to address the expanding need to perform field testing of products in DEC's.

TDR strategies to fulfil its mission evolved over time, as did the public health concepts and the views and expectations of the partners regarding the role of the programme in development. With these changing policy and strategic interests, TDR was increasingly

---

<sup>3</sup> WHA resolution 27.52, 1974

<sup>4</sup> WHA resolution 28.71, 1975

expected to provide global advocacy, stewardship, governance and to some extent coordination and agenda setting for health research of neglected diseases. It was also expected to develop global and in-country expertise in basic, clinical and interventional research, including clinical trials, and models for interventional control strategies.

Because of the global paucity of such services TDR has, until recently, had little competition with regard to investment preferences by governments, donors, philanthropies and other investors. Over the years TDR has been successful in fulfilling its mandates, as confirmed by 3 previous external reviews.

HRP<sup>5</sup> is the only other co-sponsored Special Programme hosted by WHO as an executing agency. TDR and HRP have been considered by many partners as being the health research "stars" in WHO. As a special programme, TDR was much appreciated by its donors for the relevance and quality of its work and its rather transparent and participative governance mechanisms. These donors proved their appreciation when, soon after Dr Bruntland took office as Director General of WHO, they strongly supported TDR and managed to ensure that it would keep its position of Special Programme instead of being fully incorporated into WHO.

The status and directorship of TDR have been stable: in its 30 year existence, it has had only 3 directors prior to the current director's appointment about two years ago.

---

<sup>5</sup> UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction

## ANNEX 6: ANALYSIS OF PREVIOUS EXTERNAL REVIEWS

### UNICEF/UNDP/WORLD BANK/WHO SPECIAL PROGRAMME FOR RESEARCH AND TRAINING IN TROPICAL DISEASES (TDR)

---

Three previous External Reviews have been undertaken since the creation of TDR. These took place in 1981-1982, 1986-1987, and 1997-1998. Each review had its own specific objectives, given the different stages of the programme and the different contexts in which it was operating.

The first one took place after only about 6 years of existence, and, considering that the first 3 years constituted a building-up period, covered only about 3 to 4 years of activity.

The second review was initiated shortly after a new Director of TDR was appointed and a number of senior staff had changed. Its focus was on aspects of TDR's mandate considered as most fundamental for its specific mission.

The 3<sup>rd</sup> review was undertaken, and its report drafted, just before the reorganization of WHO under the leadership of Dr Brundtland. It aimed to provide an overall assessment of fundamental questions regarding: TDR's continued existence; its disease portfolio; its contribution to the generation of scientific knowledge, the development of tools for disease control, the strengthening of research capacity in DEC's and the positioning of TDR for the future.

All the 3 reviews examined some common elements and their analyses generally concurred on a number of key issues:

- The **need for TDR** has been constantly reaffirmed, in spite of the changing context over its 30 years of existence. TDR's continued existence was justified on the basis that it must continue to develop new/improved tools for control of tropical diseases, including the initial exploration of the most appropriate means for implementation of available tools in the countries, and the demonstration of their utility. It was praised for enabling the mobilization of additional contributions for tropical diseases and for having a positive effect on the strength and quality of scientific efforts for tropical diseases.
- The **evolution from basic research to proof of principle to implementation research** has been approved over time by the 3 reviews. The need for more field research and a good balance between laboratory and field research was acknowledged since the 1<sup>st</sup> review. The 3<sup>rd</sup> ERC recommended the maintenance of a broad spectrum of strategic research to deal with future uncertainties and develop breakthroughs in product R&D. It considered that tool development should be the main focus. It also felt that the command of a critical mass of expertise in drug and vaccines development was essential and that it would require the expansion of the membership of the advisory bodies with representatives from industry. None of the reviews recommended a change in the number of diseases. The 3<sup>rd</sup> review indicated that this could be revised if additional resources would become available.

- On the other hand, it was also recognized that further **development of social and economic research** was needed, including health economics and development policy, as it was considered to be critical to the eventual control of tropical diseases.
- **The integration of research capacity strengthening (RCS) remained a continuous challenge.** Although the almost constant balance between research and development (R&D) and RCS was generally considered as acceptable (25% budget to RCS), *RCS often ended up being insufficiently staffed*, and left in a less powerful position than R&D within TDR. The need to obtain a balance between advances in disease control/fundamental studies and research capacity strengthening was constantly underlined. Particular efforts have been made after the 3<sup>rd</sup> review to increase the cooperation between the 2 different programme areas for greater integration of their activities, with a new Research Capacity Strengthening Strategy being adopted in 2000 and the implementation of RCS+ in TDR, aiming at linking RCS more closely to the programme needs in terms of product development.
- The 3<sup>rd</sup> external review took a closer look at RCS in DEC. It concluded that **more focused activities were needed in the least developed countries (LDCs)**. It recommended that TDR should facilitate the creation of networks of centres of excellence in countries/regions with the highest burdens of disease (BOD), and increase its focus on RCS to meet the needs of LDCs. It recommended that TDR should also foster South-South collaboration; and that TDR should assist in the development of specific regional and/or national research strategies, reflecting *not only TDR priorities but the needs of the regions*. TDR was also asked to work more closely with national training institutions, medical research councils (MRCs) and others, to determine RCS priorities. The review recommended also that TDR should strive for a more balanced approach between the training of individuals and the support provided to institutions for the purpose of sustainability, particularly critical in LDCs.
- **The relationship between research and control was always problematic** and the desirable balance and collaboration between TDR and the WHO control programmes was difficult to achieve, particularly in applied field research. The 3<sup>rd</sup> review, especially, underlined that there was a need for joint planning, priority setting and ownership of applied field research projects, as well as for a recognition of regional and country priorities in setting priorities for operational research. It was necessary to establish transparent linkages between research and control and surveillance programs.
- The 2<sup>nd</sup> and 3<sup>rd</sup> reviews highlighted **the importance of reaching an appropriate balance between TDR activities based in developed countries and those based in developing countries**, underlining the need for TDR to act as a catalyst in linking developed and developing countries' scientists. The 2<sup>nd</sup> review, especially, recommended a gradual shift to more research grants to DEC.
- TDR has a unique access to **an international network of experts and institutions**. Using these networks was endorsed as an appropriate mechanism to mobilize

worldwide scientific expertise, and to improve RCS in DEC's. But the reviewers recognized that it was extremely complex to administer, with a multiplication of meetings requiring staff time and high quality of leadership from TDR management staff. The Scientific Working Groups were appreciated as informal and flexible instruments. **It was noted that there was a need for vigilance about potential conflicts of interest.** Among other recommendations on this issue, it was recommended that SWG members be endorsed by STAC, for a membership of a maximum of 6 years.

- **Finances became of increasing concern** around the 3<sup>rd</sup> External Review, particularly with **the increase of designated funding.** The 2<sup>nd</sup> review recommended that the primary responsibility of developing TDR resources should rest with the JCB. The ERC thus recommended the establishment of an Ad Hoc Committee of the JCB to examine TDR financial prospects, which might exist on a continuing basis. This committee was never established, but, after the 3<sup>rd</sup> review had provided similar recommendations, TDR held its very first donors meeting in Paris. The need for TDR to develop **a more formal communication strategy** was stressed by both the 2<sup>nd</sup> and 3<sup>rd</sup> reviews.
- The governance and management of TDR were considered appropriate and well functioning, on the whole, by all previous reviews.
- The 3<sup>rd</sup> review recommended the **development of a long term vision and a strategic plan** that would set the overall context for TDR priorities, including specific challenges in the field of tropical diseases and its relation to other stakeholders and to country, regional, and global priorities. TDR therefore developed its first strategy for 2000-2005, which was implemented during the period covered by the 4<sup>th</sup> External Review.

The Management Review undertaken at the behest of the World Bank<sup>6</sup>, and the 4<sup>th</sup> External Review, undertaken respectively 5 and 6 years after the report of the 3<sup>rd</sup> External Review, thus **cover a period of considerable change in the strategy, programme and management of TDR.** Significant reforms have been implemented, with TDR adopting a **Disease Strategic Emphases Matrix**<sup>7</sup> based on a systematic priority setting process for each disease, together with reorganizing the Programme with a matrix structure, and going **from an inputs-based to a results-oriented approach.** During the same period, TDR developed and adopted its Strategy 2000-2005, and an RCS Strategy for the same period. All these changes required a lot of work and effort from TDR's top management and a lot of effort and flexibility from the TDR staff.

---

<sup>6</sup> Management Review of TDR. Final report. Dr. Paramjit Sachdeva. June 2004. Reference Document 1

<sup>7</sup> This matrix system, while looking great in theory, has not been managed successfully. The evidence we heard, particularly from TDR staff, was that it skewed budgetary processes, atomized the work of TDR and its communication, and particularly important, was applied in a mechanistic manner so that it came to supersede and substitute for leadership. The 4<sup>th</sup> ERC concluded that, as presented and experienced, it was doing more harm than good and that it might be better to get rid of it if it could not be managed much better in the future. There really is no substitute for good leadership. xxx

## ANNEX 7: LIST OF BACKGROUND DOCUMENTS FOR THE 4<sup>TH</sup> EXTERNAL REVIEW COMMITTEE

### **UNICEF/UNDP/WORLD BANK/WHO SPECIAL PROGRAMME FOR RESEARCH AND TRAINING IN TROPICAL DISEASES (TDR)**

---

#### ❖ **TDR documents<sup>8</sup>:**

First External Review Final Report

Second External Review Final Report

Third External Review Final Report of October 1998 (TDR/JCB (21)/98.5, 2., with 5 reference documents annexed:

- Ref.Doc.1: The burden of tropical disease among the poorest and richest 20% of the global population
- Ref.Doc.2: TDR's impact on science: a bibliometric study
- Ref. Doc.3: TDR's contribution to the development of Ivermectin for onchocerciasis
- Ref.Doc.4: TDR's contribution to the development of multidrug therapy for leprosy
- Ref.Doc.5: TDR's contribution to the development of the fumigant canister for controlling Chagas disease

Management Review of TDR, Final Report, June 2004

Reports of the consultations on governance: Report of the JCB working group, 2002-03; Draft Interim Report of the JCB Sub-Committee on the Review of TDR Governance, presented to JCB 27 in June 2004

TDR Strategy 2000-2005, October 2000

Research Capacity Strengthening Strategy 2002-2005, TDR/RCS/SP/02.1

TDR Organigram

Approved Programme Budget 2004-2005

Progress Reports 1999-2000, 2001-2002, 2003-2004

---

<sup>8</sup> All TDR public documents are posted on its web site, except the 3 first external review reports, which are available in printed form only

TDR Summary Report 2004 (including Indicators account report 2002-2003(CD))

High Impact Products for 2004-2005

TDR Basic Documents + Memorandum of Understanding update 2003

TDR General Operations Guide 2004-2005

TDR list of funded projects

TDR product portfolio

TDR Portfolio Reviews 2005 and 2006

Social Science Research on Tropical Diseases, 1979-2004, 25 years of TDR sponsored research (CD)

Disease Entry/Exit Strategy

Reports of the JCB, STAC and Standing Committee meetings from 2000 to 2006, including: Minutes and Report of the 28<sup>th</sup> session of the Joint Coordinating Board (JCB). Geneva, 23-24 June 2005. TDR/JCB (28)/05.3; Director's Report to JCB (28) of June 2005(TDR/JCB (28)/05.5); STAC 27 Strategic Summary. TDR/STAC-27/05.3a; Proposed TDR 10-year Vision and Strategy. Summary presented in February 2006 at the STAC meeting in Geneva.

TDR 4<sup>th</sup> External Review proposed final Terms of Reference, June 2004

Report of the TDR Steering Committee on Social Economic and Behavioural issues. TDR/SEB/SWG/00.1)

**❖ Documents relative to the cosponsors:**

**WHO:**

Organigram WHO/Organigram CDS

WHO Program Budget for the corresponding biennia of the review period

WHA Resolutions relative to;

- TDR creation: Resolutions WHA 27.52, 1974; WHA 28.51, WHA 28.70, WHA 28.71, 1975; WHA 30. 42,1977, and EB 57. R20

- health research in WHO: Resolution WHA 58.34: Ministerial Summit on Health Research. Resolution EB 117.R6: WHO's role and responsibilities in Health Research. EB117.R13: Global Framework on essential health research and development.

"Macroeconomics and Health: Investing in Health for Economic Development". The World Health Organization, December 20, 2001

World Report on Knowledge for Better Health: Strengthening Health Systems, WHO, 2004 (launched in Mexico)

The World Health Report: Working Together for Health, World Health Organization, April 2006 (<http://www.who.int/whr/2006/en/index.html> )

Health research in the context of MDGs, Cassels A., WHO/SDE

### **World Bank:**

"The World Bank's Approach to Global Programs: An Independent Evaluation of the World Bank's Approach to Global Programmes". Phase 1. The World Bank, Operations Policy and Country Services August, 2002

"Update on Management of Global Programs and Partnerships". The World Bank, Operations Policy and Country Services, February 28, 2003.

"Addressing the Challenges of Globalization. An independent Evaluation of the World Bank's Approach to Global Programmes", Phase 2, final report, The World Bank, Operations Evaluation Department, 2004.

### **❖ Other Publications and Reports**

Arens, Joachim "*Building science, technology and innovation policies*", Policy Briefs, SciDev.Net, May 2005

Bernard HR 1995. Research methods in Anthropology: Qualitative and Quantitative Approaches, 2<sup>nd</sup> Edition. Walnut Creek, CA: AltaMira Press

Disease Control Priorities in Developing Countries, 2<sup>nd</sup> edition, 2006.

Benatar SR, Daar AS, Singer PA. Global Health Ethics: The rationale for mutual caring. *International Affairs* 2003;79:107-38.

Blas E. (ed.) 2004. Health Sector Reform and Tropical Diseases: Opportunities and Threats. *International Journal of Health Planning and Management* 19:S1-S2  
Wired magazine, January 2006

Bloom and Knowles. 2005 Mobilizing social science research to improve health. IDS Policy Briefing. Issue 23.

---

<sup>9</sup> Operations Evaluation Department, World Bank, <http://www.worldbank.org>

Buse Kent and Walt Gill. The World Health Organization And Global Public-Private Health Partnerships: In Search Of “Good” Global Governance. Pages 169-195 in “Public-Private Partnerships for Public Health”

Edited By Michael R. Reich. Harvard Series On Population and International Health. Distributed by Harvard University Press and available online at

Crawford Michael et al., Review of World Bank Lending for Science and Technology, 1980-2004, World Bank, January 2006, p. 24.

Juma C, Yee-Cheong L, UN Millennium Project Task Force on Science, Technology and Innovation. eds. *Innovation: Applying Knowledge in Development. Achieving the Millennium Development Goals*. London: Earthscan, 2005. ISBN 1-84407-218-5

Mills EJ, Singh S, Singh JA, Orbinski JJ, Warren M, Upshur RE. Designing research in vulnerable populations: lessons from HIV prevention trials that stopped early. *BMJ*. 2005 Dec 10;331(7529):1403-6.

Moran Mary, Ropars Anne-Laure, Guzman Javier, Garrison Jose Diaz and Christopher. The New Landscape Of Neglected Disease Drug Development. Pharmaceutical R&D Policy Project. London School of Economics and Political Science. Published by the Wellcome Trust. See <http://www.lse.ac.uk/collections/LSEHealthAndSocialCare/documents/PRPP/TheNewLandscapeOfNeglectedDiseaseDrugDevelopment.pdf>

Morse JM & Field PA 1995. *Qualitative Research Methods for Health Professionals*, 2<sup>nd</sup> edition. Thousand Oaks, CA: Sage

Mugabe J., Health Innovation Systems in Developing Countries, Strategies for Building Scientific and Technological Capacities, July 2005

Newman Peter A, 2006. Towards a science of community engagement. *The Lancet*, 367: 302

Newman Peter A, 2006. Towards a science of community engagement. *The Lancet*, 367: 302

Nwaka, Solomon and. Ridley, Robert G. Virtual drug discovery and development for neglected diseases through public–private partnerships. *Nature Reviews Drug Discovery* (2003) **2**: 919-928

Rosenfield, P (1992) The potential of transdisciplinary research for sustaining and extending linkages between the health and social sciences. *Social Science and Medicine* **35**: 1343- 1357

Séguin B, State L, Singer PA, Daar AS. Scientific Diasporas as an Option for Brain Drain: Re-circulating Knowledge for Development. *International Journal of Biotechnology* 2006;8(1/2):78-90.

Stake RE 1995. *The Art of Case Study Research*. Thousand Oaks, CA: Sage

Taylor SJ & Bogandan R 1984. *Introduction to Qualitative Research Methods*. New York: John Wiley & Sons;

Trouiller P, Olliaro, P, Torreele E, Orbinski J, Laing R, Ford N. Drug development for neglected diseases: a deficient market and a public-health policy failure. *Lancet* **359**, 2188-2194 (2002)

Miltefosine—1200 patients in phase IV trial in India— next steps following registration of miltefosine. Geneva, UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases, 2002

UN Millennium Project Report

Bangkok Declaration of the International Conference on Health Research, 2000

Mexico Statement of the Ministerial Conference on Health Research, 2004

The Paris Declaration on Aid Effectiveness: *Ownership, Harmonisation, Alignment, Results and Mutual Accountability* - Febr/March 2005, OECD/DAC (Development Assistance Committee)

Global Task Team on improving AIDS coordination among multilateral institutions and international donors. *Global Task Team Final Report*, June 2005

“DNA for Peace: Reconciling Biodevelopment and Biosecurity” report at [http://www.utoronto.ca/jcb/home/documents/DNA\\_Peace.pdf](http://www.utoronto.ca/jcb/home/documents/DNA_Peace.pdf)

Report of a Meeting of Ministers of Health that was attended by 39 delegates from 11 African countries in Abuja, Nigeria in March 2006, [http://www.edctp.org/Newsletters/2/Nieuwsbrief\\_2.html#ber\\_11](http://www.edctp.org/Newsletters/2/Nieuwsbrief_2.html#ber_11)

[http://researchafrica.rti.org/index.cfm?fuseaction=home.project&p\\_id=613](http://researchafrica.rti.org/index.cfm?fuseaction=home.project&p_id=613)

Inclen Trust. See <http://www.inclentrust.org/InclenTrustFormation.htm>

## ANNEX 8: RECOMMENDATIONS OF THE THIRD EXTERNAL REVIEW

### **UNICEF/UNDP/WORLD BANK/WHO SPECIAL PROGRAMME FOR RESEARCH AND TRAINING IN TROPICAL DISEASES (TDR)**

---

Final Report 1998, TDR/JCB(21)/98.5

#### **Mandate and disease portfolio**

##### Recommendation:

1. TDR's activities and disease portfolio are still highly relevant to the health agenda of the coming decade. Given the importance of these diseases for the poorest populations, the unfinished research agenda, and the present financial situation of TDR, the External Review Committee feels that it would not be prudent at this time to suggest any additions to the portfolio. However, this decision could be revisited at a later date should additional resources become available to the Programme.

#### **Agenda for the future**

##### Recommendations:

2. Investments in strategic research need to be sustained over the long term before results can be translated into disease control tools. TDR will need to maintain a broad spectrum of strategic research, based on new molecular biology, to deal with future uncertainties and develop breakthroughs in product R&D.
3. Tool development should be a main focus for the future TDR. To carry out these activities, TDR needs to provide gap-filling investments, in partnership with other public agencies, to support early discovery and preclinical developments; provide the technical expertise and necessary infrastructure for clinical trials; and aggressively pursue collaborations with private industry, and play a strong advocacy role through targeted actions.
4. In this regard, the command of a critical mass of expertise in drug and vaccine development is essential as will the expansion of the membership of advisory bodies with representatives from the pharmaceutical industry.
5. As research progresses in the field of vaccine development, TDR also needs to explore ways of establishing more formal linkages with WHO's Global Programme for Vaccines and Immunization (GPV) to ensure access to the broad range of expertise and networks needed to carry these initial developments towards application.

#### **Research capacity strengthening**

6. The Committee feels that different strategies and more focused activities will increase the effectiveness of capacity development efforts, particularly in the least developed countries (LDCs). It therefore recommends the following:
7. TDR should facilitate and contribute to the creation of networks of centres of excellence in those countries and regions where the disease burden is heaviest with an increased focus on meeting the needs of the least developed countries.

These could become, as originally planned, the nuclei for future South-South collaboration.

8. In view of the diversity of situations existing the LDCs, TDR should assist in the development of specific regional and/or national strategies (e.g. sub-Saharan Africa, South America) which would reflect not only TDR priorities but the needs of the region as a whole. TDR should work more closely with national training institutions, medical or research councils, and other collaborating centres or networks to determine research capacity development priorities. This will ensure the long-term sustainability of these efforts and their full integration with national health services.
9. TDR needs to maintain a more balanced approach between the training of individuals and the support provided to institutions, particularly in the LDCs. The training of graduate and post-graduate scientists is important, but it is also critical to ensure that their home institutions have the resources and infrastructure necessary to sustain them upon re-entry. A balance should also be kept between training in biomedical fields and applied field research (epidemiology, entomology, social sciences) in LDCs.
10. TDR should maintain a comprehensive database on all TDR trainees and grantees, as they are an important resource for the creation of future networks of collaborating centres. Public recognition of achievements by TDR trainees and TDR-supported institutions should be encouraged.
11. Future strategy can then, with all the recognition for disease specific tool development needs, strengthen the community based attention to target diseases and integration with national health services.

### **Collaborations**

12. In future, full recognition must be given to the contributions (both in-kind and financial) made by all partners in the many collaborative projects and strategic alliances undertaken by TDR.
13. In collaboration with the Division of Emerging and other Communicable Diseases Surveillance and Control (EMC), TDR should support WHO's efforts to identify centres for disease control and surveillance in developing countries where the infrastructure is presently weak but the burden of communicable diseases heavy. TDR could then play a role in developing the research and control capacity of these centres to ensure that they can participate effectively in national, regional and global networks.

### **Management issues**

14. TDR should develop more specific strategies to ensure that financial support is available and directed towards those countries that bear the heaviest burden of endemic tropical diseases with a special emphasis on strengthening South-South linkages. The focus should be on institutions and collaborating centres where a strengthening of the research infrastructure would yield significant national and regional benefits.
15. In addition to the peer review process, which is well established in TDR, the Programme should examine the feasibility of conducting ex-post evaluations of

- different strategies, value-for-money audits and the development of performance frameworks which could serve as a basis for reporting to its governing bodies.
16. TDR should develop a more formal communications strategy that would allow the Programme to focus its efforts more effectively and identify significant gaps for advocacy purposes.
  17. TDR should develop a long-term vision and a strategic plan that would set the overall context for TDR's priorities. The strategic context for the setting of priorities will include the specific challenges in the field of endemic tropical diseases, the role of other stakeholders in the field, the "niche" filled by TDR, as well as country, regional and global priorities.

### **Organizational issues**

18. The relationship between research and control needs fundamental restructuring. The Committee believes that a significant part of the problem lies in the current approaches to priority setting and the parallel review mechanisms. Critical issues that need to be addressed include: the need for joint planning, priority setting, and ownership of applied field research projects; the recognition of regional and country priorities in setting priorities for operational research; the need to rationalize the current advisory structure (task force/steering committee/STAC) and the importance of establishing transparent linkages between research and control and surveillance programmes.
19. Two options are proposed for consideration. The first – which can be called the "Siamese twin option" – focuses on the interface between research and control. The two programmes remain as separate entities with different directors, advisory structures, financial systems, but are "joined" for one component, applied field research. The second option – the "umbrella option" proposes a single management structure for the two separate programmes with joint governance and advisory structures.

## **ANNEX 9: PERFORMANCE INDICATORS**

### **UNICEF/UNDP/WORLD BANK/WHO SPECIAL PROGRAMME FOR RESEARCH AND TRAINING IN TROPICAL DISEASES (TDR)**

---

EXPECTED RESULTS	OUTPUT AND PERFORMANCE INDICATORS - TARGETS FOR PERIOD 2000-2005
A. <i>New basic knowledge</i> about the biological, social, economic, health systems, and behavioural determinants, and other factors of importance for effective control of infectious diseases generated and accessible at national and international levels	<ul style="list-style-type: none"> <li>• 8 new, significant and relevant scientific advances (biomedical, social, economic, and public health sciences) in neglected tropical diseases</li> </ul>
B. New and improved tools for use in infectious disease prevention and control, e.g. drugs, vaccines, diagnostics, epidemiological tools, environmental tools, etc., developed	<ul style="list-style-type: none"> <li>• 6 new candidates (drugs, vaccines and diagnostics) ready to enter into development</li> <li>• 8 new or/and improved tools (drugs, vaccines and diagnostics) resulting in regulatory approval for the use in neglected tropical diseases</li> <li>• 5 new or/and improved epidemiological tools developed for the use in neglected tropical diseases</li> </ul>
C. New and improved <i>intervention methods</i> for applying existing and new tools at the clinical and community levels developed and validated	<ul style="list-style-type: none"> <li>• 11 new or improved intervention methods for the prevention, diagnosis, treatment, and rehabilitation of populations exposed to neglected tropical diseases, validated</li> </ul>
D. <i>New and improved policies</i> for large-scale implementation of existing and <i>new prevention and control strategies</i> developed, validated and guidance required for application in national control settings accessible	<ul style="list-style-type: none"> <li>• 3 currently used control policies and strategies for neglected tropical diseases improved</li> <li>• 5 new control policies and strategies for targeted neglected tropical diseases formulated, tested and validated</li> <li>• 6 new and improved tools brought into the control of neglected tropical diseases</li> </ul>
E. <i>Partnerships</i> established, and adequate support for research and product development capacity <i>building</i> in countries provided	<ul style="list-style-type: none"> <li>• 11 multi-institutional R&amp;D partners engaged</li> <li>• 400 individual/institutional R&amp;D partners engaged</li> <li>• 50 MSc, 100 PhD completed, and 250 trained in immunology</li> <li>• 13 institutions in least developed countries strengthened</li> <li>• 50% of centres and experts from disease-endemic countries out of the total number engaged in TDR research and product development</li> <li>• 15% of research findings, new and improved tools and intervention methods produced by institutions in DEC</li> </ul>
F. Adequate technical <i>information, research guidelines</i> and <i>instruments</i> , and <i>advice</i> accessible to partners and clients in countries	<ul style="list-style-type: none"> <li>• Number of R&amp;D initiatives in neglected tropical diseases using the instruments developed.</li> <li>• Number of requests for pages from TDR website from developing countries</li> <li>• Number of effective staff contacts with R&amp;D partners working in neglected tropical diseases</li> </ul> <p><i>Baselines and targets to be established for these indicators</i></p>
G. <i>Resources</i> for research, product development, and capacity building efficiently mobilized and managed	<ul style="list-style-type: none"> <li>• 60% increase in funding of TDR overall</li> <li>• 12 fold increase in contributions resulting from the participation of new groups of donors</li> <li>• 75% undesignated funding out of total funding received.</li> <li>• 70%, 20%, and 10% of funds, out of total, allocated to Operations, Personnel, and Operational Support respectively</li> </ul>