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31 May 2022

TDR Results
2021 Report

Agenda item:	5.
Action / Information:	JCB is invited to review and endorse the report
Purpose:	This document presents TDR's results during 2021.

TDR Results

2021 Report

1. Summary

In 2021, despite the slowdown in field activities caused by the COVID-19 pandemic, TDR made good progress in delivering towards the targets of the 2018–2023 strategy. In order to continue to support our projects, our trainees, grantees and networks, we evolved our capacities to conduct work remotely, to provide online training and manage projects through online platforms, as an adaptation to restrictions placed on travel and face-to-face meetings.

Hundreds of our trainees continue to use the skills learned to fight the pandemic, and through collaboration with institutions in low- and middle-income countries (LMICs), ministries of health, academia and nongovernmental organizations, we studied the impact of the pandemic on various aspects of public health. In addition, eleven studies were completed, looking at strategies to mitigate the impact of COVID-19 on tuberculosis (TB) control in West and Central Africa.

Thirty-five operational research studies on antimicrobial resistance published valuable evidence that will improve policy and practice in countries in Asia and Africa, while a new SORT IT training module was piloted to strengthen researchers' communication skills and enhance uptake of research findings to policy and practice. The social innovation monitoring and evaluation framework and social innovation research checklist tools were developed to guide and engage innovators, researchers and other stakeholders in social innovation research. Additional tools were created and are being used, such as a generic research package for promoting the calibration of computer-assisted detection software for TB screening, a guide for improving compliance with the good clinical practice and good data management practice of population- and facility-based TB surveys. To improve and enhance the training on medical entomology and innovative vector control tools, a new online directory of courses on medical entomology was launched through the Global Vector Hub platform.

Examples of utilization of tools piloted and adopted in countries, regions or globally, generated with TDR contribution, also include a first batch of students at the Wits School of Public Health who took the Gender-based analysis of infectious diseases and climate change course as part of the Bachelor of Health Sciences Honours in Public Health degree. Social Innovation in Health Initiative (SIHI) hubs have mapped and identified gender and equity dimensions of social innovation projects, showing that this area of work is gaining traction in LMICs. The results of this work will now contribute to ensuring gender responsiveness within the different social innovations, understanding and addressing inequity and gender dimensions that influence the effectiveness of social innovation processes. The *Women in Science* compendium featuring 15 women global health leaders from the TDR Global community was launched on International Women's Day.

We continue to build institutional and individual research capacity in LMICs, with more than 400 Master's students trained in Implementation Research (IR) since 2015, and seven universities selected for the second phase of our postgraduate training programme (2022–2026). For the first time, 46 students from French-speaking countries in West Africa were selected to study at Cheikh Anta Diop University in Dakar, Senegal, thus adding to TDR's postgraduate network the first non-anglophone university.

A new mechanism for funders has been developed through ESSENCE (the ESSENCE on Health Research initiative) to jointly review their investments in research capacity strengthening in LMICs and to enhance coordination. Also in 2021, we launched TDR's *Global Health Matters* podcast, showcasing 24 guests in ten episodes that explored how innovative and inspiring research contributes to achieving health for all. Our podcast reached over 10 000 listeners from 153 countries and received positive feedback, which allowed us to revamp the programme for its second season.

The dual budget scenario model used by TDR, complemented by strong financial management and a conservative income forecast, proved successful in 2021 and allowed mitigating a funding hit without impacting activities operations. Our teams were able to scale up project implementation and increase the value for money of our work by investing the funds saved on staff costs and operations support to increase operations activities beyond the US$ 40 million scenario.

Equity has remained at the core of our organizational values. TDR's focus on disease endemic countries (DECs)[1] resulted in 77% of 2021 publications being authored by researchers from these countries. We have also further mainstreamed gender in our work and disseminated training courses that address gender in health research. In 2021, 49% of our contracts and grants were awarded to women, the proportion of the funding amount decreasing slightly to 42% as compared to 2020.

[1] Low- and middle-income countries with significant burdens of disease

2. Expected results and overview of progress on key performance indicators

The 2021 Results Report measures a set of performance indicators against targets, in line with TDR's 2018–2023 Strategy and the TDR Performance Framework 2018–2023, for planning, monitoring and evaluation. Now that we have passed the midpoint of the 6-year strategic period, this report shows the progress made on various indicators related to three overarching categories: technical expected results, application of organizational core values and managerial performance. Ultimately, TDR's outputs and outcomes contribute to health impact, measured through the achievement of Sustainable Development Goal (SDG) targets and the World Health Organization's (WHO) Thirteenth General Programme of Work (GPW13) triple billion targets.

Given the adoption of the Sustainable Development Goals by the global community in 2015, TDR developed its 2018–2023 strategy to showcase the Programme's unique contribution, through research, capacity strengthening and global engagement, to improved health, quality education, enhanced partnerships and other relevant SDG targets guiding international development work until 2030. The Performance Framework (including a revised set of indicators), which is aligned with TDR's 2018–2023 strategy, the GPW13 strategic objectives and some SDG targets, has been in place since 2018.

As shown in Figure 1, TDR aims for a global impact to reduce the burden of infectious diseases of poverty. TDR's contribution is made possible by the overall outcome of the Programme, which is the translation of new knowledge, solutions and tools into policy and practice in disease endemic countries. These in turn are the result of three feeder outputs that support and complement each other, with the sustainability of research outputs being enhanced by the engagement of stakeholders and by the capacity built in countries.

Aligned with TDR's Strategy, the Performance Framework further demonstrates TDR's focus on health impact and value for money throughout the whole results chain, from using resources economically to building efficient processes, to quality of outputs and to partnering to enhance the sustainability of outcomes.

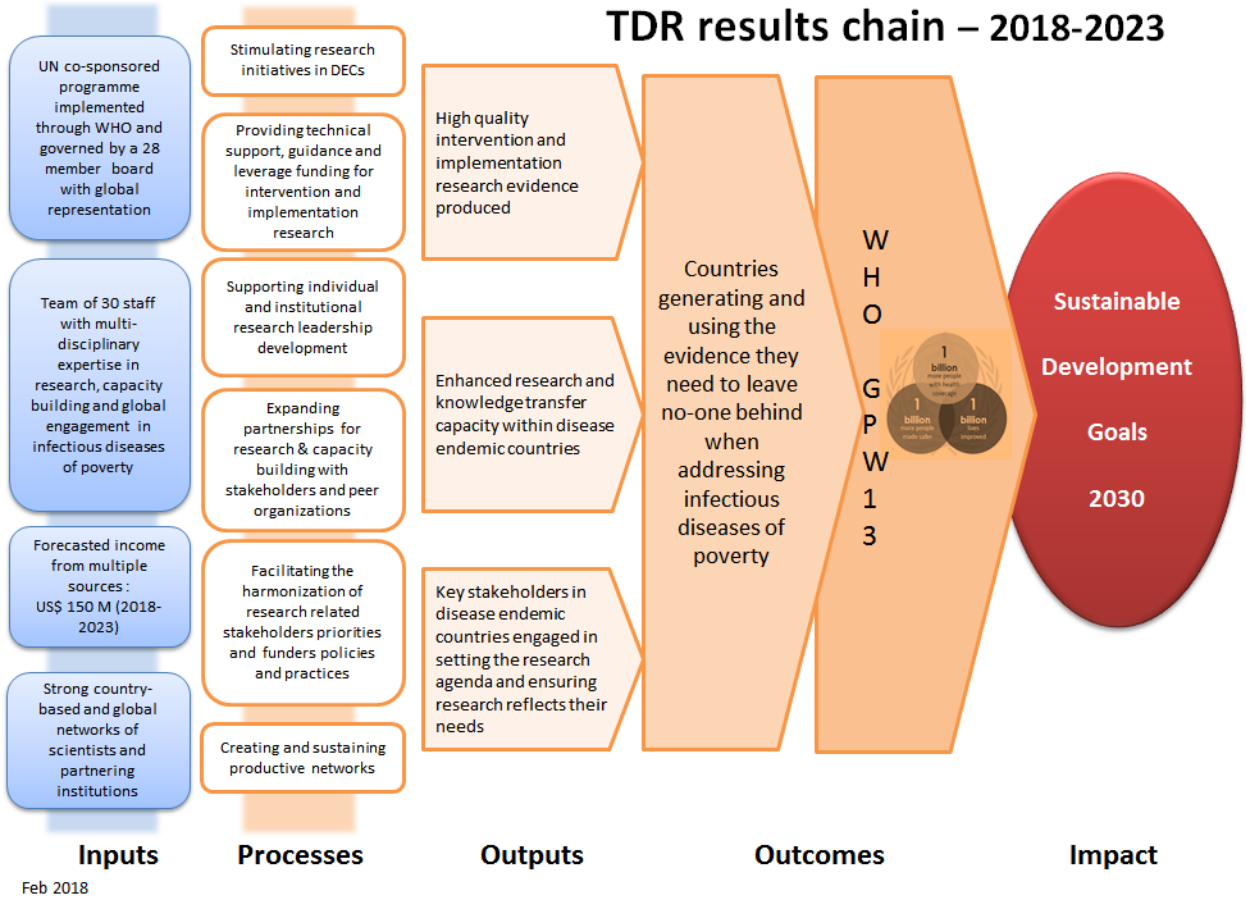

Figure 1. TDR results chain

TDR's work is contributing to the research accelerator of the Global Action Plan for Healthy Lives and Well-being for All[2] that aims to speed up progress towards the targets of SDG3 through a three-pronged approach: align, accelerate and account.

An overview of the progress made on each of TDR's key performance indicators is presented in the monitoring and evaluation matrix below (see Table 1), with further details being provided in the body of this report.

[2] See https://www.who.int/sdg/global-action-plan

Table 1- TDR's key performance indicators matrix 2018–2023

Expected results	Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2021)*	Frequency of measurement
Technical expected results	  				
<u>Impact:</u> **Countries generating and using the research evidence they need to leave no one behind when acting to reduce the burden of infectious diseases of poverty.** *SDG3-Good health and wellbeing* *SDG4-Quality education* *SDG5-Gender equality* *SDG6-Clean water and sanitation* *SDG9-Industry, innovation and infrastructure* *SDG10-Reduce inequalities* *SDG11-Sustainable cities and communities* *SDG13-Climate action* *SDG17-Partnerships for the goals*	i. SDG3-Goal 3.3: By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.			Evaluation demonstrating the link between outcomes and the progress made towards achieving the relevant SDG goals	
	ii. SDG 3-Goal 3.8: Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.				
	iii. SDG3-Goal 3.b: Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines (…)				
	iv. SDG3-Goal 3.d: Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.				
	v. SDG13-Goal 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries				
	vi. SDG9-Goal 9.5: Enhance scientific research, (…) encouraging innovation and substantially increasing the number of research and development workers per 1 million people (…)				

Expected results	Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2021)*	Frequency of measurement
Outcome: **Infectious disease knowledge, solutions and implementation strategies translated into policy and practice in disease endemic countries**[3]	1. Number and evidence when innovative knowledge or new/improved solutions/tools developed with TDR support are applied in disease endemic countries	0	100	84 *(+1)*	Measured annually, cumulative over 6 years
	2. Number and evidence when tools and reports are used to inform policy and/or practice of global/ regional stakeholders or major funding agencies	0	20	19 *(+2)*	Measured annually, cumulative over 6 years
	3. Evidence demonstrating the benefits of research on gender, on equity or on vulnerable groups, including people with disabilities, used to inform policy and/or practice	N/A	N/A	Evidence provided	Measured annually
Research outputs: **High quality intervention and implementation research evidence produced in response to global and country needs**	4. Number and evidence of innovative knowledge, new/improved solutions or implementation strategies developed in response to requests from WHO control programmes and/or diseases endemic countries and engaging disease endemic country stakeholders	0	25	56 *(+10)* 100%	Measured annually, cumulative over 6 years
	5. Number of research data sets/platforms that are i) open access or ii) with an access permission level	1	10	9 (i. 1, ii. 7) *(0)*	Measured annually, cumulative over 6 years
Capacity strengthening outputs: **Enhanced research and knowledge transfer capacity within disease endemic countries**	6. Number and evidence of DEC institutions and networks demonstrating expanded scope of activities or increased funding from alternative sources, or that have influenced research agenda, policy and practice, as a result of or related to TDR support[4]	0	5	17 *(+6)*	Measured annually, cumulative over 6 years
	7. Number of TDR grantees/trainees per year, and proportion demonstrating career progression and/or increased scientific productivity, disaggregated by gender	79 (2017) 85% (2014)	150 ≥80%	624* *(+173*)*	Measured on cohorts 3-5 years after training ended

[3] DEC: low- and middle-income countries where neglected diseases are prevalent / endemic

[4] TDR support may include financial, in-kind, facilitation and/or expert types of support

Expected results	Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2021)*	Frequency of measurement
Global engagement outputs: **Key stakeholders engaged in harmonizing agenda and practices and in new initiatives**	8. Number and evidence of research-related agendas, recommendations and practices agreed by stakeholders at global, regional or country level and facilitated by TDR	0	6	10 *(+4)*	Measured annually, cumulative over 6 years
	9. Evidence of stakeholder engagement in TDR joint initiatives aligned with TDR strategic objectives	N/A	N/A	Evidence provided	Measured annually
Application of core values					
Equity *Social and economic equity:*	10. Proportion of TDR grants/contracts awarded to institutions or individuals in DECs (total count and total amount)	62% (count) 74% (amount)	75% DEC	67% DEC (count) 79% DEC (amount)	Measured annually
	11. Proportion of experts from DECs on TDR external advisory committees	78%	>60%	64%	Measured annually
	12. Proportion of peer-reviewed publications supported by TDR with authors from DEC institutions (first author - FA, last author - LA, all authors - AA)	FA: 73% LA: 56% AA: N/A	≥67%	FA: 77% LA: 60% AA: N/A	Measured annually
Gender equity:	13. Number of peer-reviewed publications supported by TDR and percentage published in open/free access	200 88%	≥150/year 100%	176 95%	Measured annually
	14. Proportion of women among grantees/contract recipients (total count and total amount)	40% (count) 29% (amount)	50%	49% (count) 43% (amount)	Measured annually
	15. Proportion of women on TDR external advisory committees	50%	50%	62%	Measured annually
	16. Proportion of women authors of peer-reviewed publications supported by TDR (first author - FA, last author - LA)	FA: 38% LA: 24%	50%	FA: 40% LA: 29%	Measured annually
	17. Number and proportion of peer-reviewed publications explicitly considering: gender and women issues, vulnerable groups or people with disabilities	N/A	80%	Total: 69% Gender: 5% Vulnerable: 56% Disabilities: 9%	Measured annually

Expected results	Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2021)*	Frequency of measurement
Effective multisectoral partnerships	18. Resources leveraged as direct contributions (co-funding, services or in-kind) to TDR projects (examples)	$ 1:1 ($ TDR : $ partners) People 1:30 (TDR : in the field)	$ 1:1 ($ TDR : $ partners) People 1:30 (TDR : in the field)	< $ 2:1	$ 1:1.3 People 1:25 (TDR : in the field)
Value-for-money	19. Evidence demonstrating value-for-money, cost savings and/or enhanced efficiency or effectiveness	N/A	N/A	Evidence provided	Measured at the end of biennium
Quality of work	20. Proportion of project reports evaluated as satisfactory by external advisory committees	100%	>80%	100%	Measured annually
Sustainability of outcomes	21. Number of effective public health tools and strategies developed which have been in use for at least two years	0	40	22 *(+10)*	Measured at the end of biennium
Management performance					
Effective resource mobilization	22. Percentage of approved biennial budget successfully funded	*87.9% (US$ 39.5/45M)*	≥100%	Fully funded the US$ 40 million budget scenario	Measured at the end of biennium
	23. Percentage of income received from multi-year, unconditional donor agreements	*17.3% (US$ 6.8M/39.5M)*	70%	36%	Measured at the end of biennium
Effective management	24. Percentage of staff workplans and performance reviews (including personal development plan) completed on time	89%	≥90%	97%	Measured annually
	25. Proportion of expected results on track	89%	≥80%	78%	Measured annually
	26. Proportion of significant risk management action plans that are on track	100%	≥80%	88%	Measured annually

3. Achieving TDR's scientific and technical objectives

The indicators covering TDR's achievement of expected results measure the outcome level as well as the outputs generated which, once translated into policy and practice, will have an impact on the burden of disease in countries, thus directly contributing to the Sustainable Development Goal targets and to WHO's GPW13 triple billion objectives. Achievements are reported in the technical teams' annual reports and measured against biennial targets approved by the Joint Coordinating Board in the year preceding each WHO biennium (e.g. approved in 2019 for the biennium 2020–2021).

3.1 Impact: Countries generating and using the research evidence they need to leave no one behind when acting to reduce the burden of infectious diseases of poverty

TDR's Strategy 2018–2023 shows how activities and results are expected to contribute to the SDGs, particularly to SDG3, but also to others. The outcomes we plan to achieve are aligned with the strategic plans of our co-sponsors: the United Nations Children's Fund (UNICEF), the United Nations Development Programme (UNDP), the World Bank and WHO, all of which aim to advance sustainable development work, as illustrated in TDR's results chain. WHO's GPW13 prioritizes targets agreed at global level, with three areas taking centre stage: advancing universal health coverage, addressing health emergencies and promoting healthier populations. TDR's expected results contribute, either jointly or individually, to all of these strategic objectives.

The SDG indicators, together with baseline measures and targets, are being measured by WHO and other United Nations family agencies. Contributions that TDR outcomes are making towards achieving SDG and GPW13 targets are being assessed through external review of the Programme (every 5 or 6 years), and through evaluation of the strategic work areas of TDR, or of specific long-term projects, as appropriate.

3.2 Outcome: Infectious disease knowledge, solutions and implementation strategies translated into policy and practice in disease endemic countries

TDR works with partners in disease endemic countries (DECs) to generate essential knowledge and evidence for the prevention and control of infectious diseases of poverty, and to facilitate translation of the solutions into policy and improved health care in countries. TDR's approach leads to strengthening health systems operations and research systems in these countries, ultimately reducing the burden of infectious diseases of poverty.

This is done through three key mechanisms – the generation of new evidence and knowledge products, strengthening capacity in disease endemic countries to conduct good quality research, and building close working relationships with key policymakers and programme staff to ensure the country priorities are guiding research, and thus the translation of new knowledge into effective disease control efforts is facilitated.

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contribution 2021)*
1. Number and evidence when innovative knowledge or new/improved solutions/tools developed with TDR support are applied in disease endemic countries	0	100	84 *(+1)*
2. Number and evidence when tools and reports are used to inform policy and/or practice of global/regional stakeholders or major funding agencies	0	20	19 *(+2)*
3. Evidence demonstrating the benefits of research on gender, on equity or on vulnerable groups, including people with disabilities, used to inform policy and/or practice	N/A	N/A	Evidence provided

Indicator 1 - Number and evidence when innovative knowledge or new/improved solutions/tools developed with TDR support are applied in disease endemic countries

- ✓ The Wits School of Public Health initiated a new degree programme in 2021 – a Bachelor of Health Sciences Honours in Public Health. This is a one-year, full-time programme for students wanting to pursue postgraduate studies in public health. **The Gender-based analysis of infectious diseases and climate change course is one of the courses students can take as part of the new programme**. The first cohort of the Honours programme was enrolled in January 2021, with students undertaking the course in April–May 2021. While the original course included concepts and references with a binary gender identity categorization, the University of Witwatersrand, in collaboration with TDR, is developing an additional module to introduce and sensitize students to a broader spectrum of gender identities. The concept of gender identity is explained as well as its interactions with gender as a social construct and sex assigned at birth.

Indicator 2 - Number and evidence when tools and reports are used to inform policy and/or practice of global/regional stakeholders or major funding agencies

- ✓ A new **mechanism for funders to jointly review their investments in research capacity strengthening** in low- and middle-income countries (LMICs) and to enhance coordination has been developed through ESSENCE.
- ✓ **"Your Digital Mentor" podcast** was a finalist from a TDR Global crowdsourcing open call. The purpose of the podcast is to enhance mentorship, focusing on people in LMICs. The podcast now has over 5000 listeners in 93 countries. According to media analytics, it is now ranked in the top 5% most popular out of 2.5 million podcasts globally. Funds have been pledged from Wellcome Connecting Science to complete a third season in 2021–2022.

Indicator 3 - Evidence demonstrating the benefits of research on gender, on equity or on vulnerable groups, including people with disabilities, used to inform policy and/or practice

The University of the Witwatersrand in South Africa and the University of Ghana have now institutionalized the gender-based analysis training course for their Bachelor of Science in Health Sciences and Public Health Master's respectively, as part of their regular curricula offered annually**.**

Social Innovation in Health Initiative (SIHI) hubs have mapped and identified gender and equity dimensions of social innovation projects which shows this area of work is gaining traction in LMICs. The results of this work will now contribute to ensuring gender responsiveness within the different social innovations, understanding and addressing inequity and gender dimensions that influence the effectiveness of social innovation processes.

TDR and the WHO Department for the Control of Neglected Tropical Diseases (NTD) worked together to mentor a young group of students studying in the United Kingdom who are part of Polygeia – a non-partisan student-run think tank that aims to create collaborations between students and global health-focussed organizations. The result was a **report reviewing the literature to analyse the role of gender, health equity and human rights in the fight against neglected tropical diseases.** The report, published in January 2021, will feed into the new NTD Roadmap for tackling NTDs.

3.3 Research outputs: High quality intervention and implementation research evidence produced in response to global and country needs

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2021)*
4. Number and evidence of innovative knowledge, new/improved solutions or implementation strategies developed in response to requests from WHO control programmes and/or diseases endemic countries and engaging disease endemic country stakeholders	0	25	56 *(+10)* 100%
5. Number of research data sets/platforms that are i) open access or ii) with an access permission level	1	10	9 (i. 1, ii. 7) *(0)*

Indicator 4 - Number and evidence of innovative knowledge, new/improved solutions or implementation strategies developed in response to requests from WHO control programmes and/or diseases endemic countries and engaging disease endemic country stakeholders

In 2021, the following research outputs were delivered at the request of WHO control programmes and/or disease endemic countries, engaging DEC stakeholders. Note that some began to be used by stakeholders in countries, regions or globally, during the course of 2021, therefore becoming outcomes.

- ✓ To improve and enhance the training on medical entomology and innovative vector control tools, a new **online Directory of courses on medical entomology** was launched through the Global Vector Hub platform.[5]
- ✓ Democratizing research: **The social innovation monitoring and evaluation framework**[6] and **social innovation research checklist**[7]. These research tools were developed to guide and engage innovators, researchers and other stakeholders in social innovation research. They were released in May 2021 under the leadership of the SIHI China hub, SESH, and in close collaboration with TDR. They aim to generate evidence and provide guidance to embed research in social innovation to understand what works and what doesn't, and to show impact. They were designed using an inclusive approach (crowdsourcing, Delphi survey, literature review), targeting a large audience including innovators, researchers, government leaders, community-based organizations and implementers. The tools complement the TDR Massive Open Online Course on implementation research and other TDR implementation research tools.

5 See https://globalvectorhub.lshtm.ac.uk/menu

6 See https://socialinnovationinhealth.org/monitoring-evaluation-framework/

7 See https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7654927/

- ✓ **Insecticide resistance: In Madagascar**, the project supporting testing of insecticide resistance of fleas, the vectors of the plague disease, has been completed and shows the important and variable resistance of fleas to commonly used insecticides. This resistance strongly hampers the impact of vector control against fleas and consequently against plague.
- ✓ TDR contributed to the **One Health Handbook** through a collaborative effort. This is a comprehensive reference source of One Health framing and integration of its challenges, including the basis for its operationalization, making it widely available within WHO and other collaborating agencies and organizations (FAO, OIE and UNEP, among others) for their One Health programmes.[8]
- ✓ A generic research package for promoting the **calibration of computer-assisted detection software for TB screening** has been released.
- ✓ A **guide for improving compliance with the good clinical practice and good data management practice** of population- and facility-based TB surveys has been completed and is available in English and French.
- ✓ The **Women in Science compendium** was launched in March 2021. We created a collection of inspiring stories to showcase the incredible work of a range of women scientists. The vision of the TDR Global compendium is to motivate those working in the field by sharing success stories of women in research.
- ✓ A new module was added to AMR–SORT IT on **communicating research findings**. Plain language summaries have been created to communicate research findings in Ghana (4), Nepal (18), Sierra Leone (4) and Uganda (4).[9]
- ✓ In 2020, TDR led a WHO working group to create a guidance document for WHO in setting research priorities: *World Health Organization. A systematic approach for undertaking a research priority-setting exercise: guidance for WHO staff*.[10] TDR has provided technical advice on the use of this guide to create the following research agenda: Calleja N et al. **A Public Health Research Agenda for Managing Infodemics**: Methods and Results of the First WHO Infodemiology Conference JMIR Infodemiology 2021;1(1):e30979.[11]

Indicator 5 - Number of research data sets/platforms that are: i) open access; or ii) with an access permission level

Unchanged since last year.

Safety first: TDR brings safety to the fore as an essential element of evidence-based decision-making. Three initiatives continue from previous years which will gradually be transitioned to be hosted and managed by other stakeholders:

- ✓ Database for countries to share **safety data on drug exposures during pregnancy** (in collaboration with the WHO HIV Department) (Gated access)
- ✓ Database on **novel treatments for multidrug-resistant TB** (in collaboration with the WHO Global TB Programme) (Gated access)
- ✓ The **TB-Platform for Aggregation of Clinical TB Studies** (TB-PACTS) is a partnership among the institutions providing data: TDR, the TB Alliance, and St. George's School of Medicine at the University of London, with the platform developed by the Critical Path Institute (C-Path) (Gated access)

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8 B. A. Wilcox and J. A. Steele. ©The Editors and the World Health Organization, April 2021 R. Haring (ed.), Handbook of Global Health, https://doi.org/10.1007/978-3-030-05325-3_88-1

9 See https://tdr.who.int/activities/sort-it-operational-research-and-training/communicating-research-findings

10 See https://apps.who.int/iris/handle/10665/334408

11 See https://infodemiology.jmir.org/2021/1/e30979

These will generate evidence of drug safety in routine use that is needed to support treatment guidelines. TDR works with the **Infectious Diseases Data Observatory (IDDO)**[12], which includes the Worldwide Antimalarial Resistance Network[13] and the research community, to create efficient and ethical platforms for the sharing of research data in the areas of tuberculosis, malaria, Chagas disease, leishmaniasis, schistosomiasis and other soil transmitted helminths, and Ebola. The data on these platforms is available for use by researchers that apply for access with a protocol in line with a community-developed research agenda. In 2020, of the first 4 applications to the **Ebola Data Platform**, three were Principal Investigators from Ebola endemic countries.

TDR provides input to the development of the governance procedures and provides the chair for the Data Access Committees for these resources, as well as a for a new partnership between IDDO and ISARIC for the COVID-19 database. TDR has also been active in the **Data Sharing Working Group of the COVID-19 Clinical Research Coalition**, supporting a number of research projects to investigate how best to support researchers from LMICs to access, use and share COVID-19 data.

3.4 Capacity strengthening outputs: Enhanced research and knowledge transfer capacity within disease endemic countries

The generation of new research evidence comes as a result of research and capacity strengthening projects and grants, as well as convening and priority setting activities that TDR funds.

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2021)*
6. Number and evidence of DEC institutions and networks demonstrating expanded scope of activities or increased funding from alternative sources, or that have influenced research agenda, policy and practice, as a result or related to TDR support	0	5	17 *(+6)*
7. Number of TDR grantees/trainees per year, and proportion demonstrating career progression and/or increased scientific productivity, disaggregated by gender	79* (2017) 85% (2014)	150* ≥80%	624* *(+173*)*

** Only counting trainees and recipients of individual training grants, excluding MOOC and RTC trainees, and excluding other TDR grantees.*

Indicator 6 - Number and evidence of DEC institutions and networks demonstrating expanded scope of activities or increased funding from alternative sources, or that have influenced research agenda, policy and practice, as a result or related to TDR support

- ✓ **CaribVecNet led by CARPHA**. This network has expanded to around 25 DECs and territories in the Caribbean, having now five working groups. Their capacity has been strengthened through the establishment of a Scientific Committee and additional funds received from the European Union, the United States Centers for Disease Control and Prevention and Agence Française de Développement.
- ✓ **Global vector hub.** Hosting the directory of courses on medical entomology that is being accessed by more than 50 DECs, and currently expanding the number of courses to cover more DECs.

[12] See IDDO https://www.iddo.org/

[13] See WWARN https://www.wwarn.org/

- ✓ **The network of universities supporting TDR's Postgraduate Training Scheme** expanded, thanks to additional funding, to support 46 students from French-speaking west Africa.
- ✓ In Zimbabwe, technical support provided by TDR resulted in the **successful incorporation and approval of a 4-module SORT IT course in the 2021–2023 Global Fund to Fight AIDS, Tuberculosis and Malaria application process**, in the amount of US$ 125 000.
- ✓ **Two additional self-reliant SIHI hubs** came into existence, one in India (supported by the Derbi Foundation) and the other in Sweden (hosted at Upsala University, in collaboration with Karolinska Institute and MAD).

Indicator 7 - Number of TDR grantees/trainees per year, and proportion demonstrating career progression and/or increased scientific productivity, disaggregated by gender

In 2021, TDR funded **173 trainees across the postgraduate training scheme on implementation research** at the seven universities supported by TDR in the WHO regions, as well the **Clinical Research and Development Fellowship** scheme, the regional office small grants scheme and SORT IT.

TDR's Regional Training Centres adopted virtual trainings due to the COVID-19 situation.

The trainings, including various MOOC sessions held in different languages, attracted 6095 participants.

3.5 Global engagement outputs: Key stakeholders engaged in harmonizing agenda and practices and in new initiatives

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2021)*
8. Number and evidence of research-related agendas, recommendations and practices agreed by stakeholders at global, regional or country level and facilitated by TDR	0	6	10 *(+4)*
9. Evidence of stakeholder engagement in TDR joint initiatives aligned with TDR strategic objectives	N/A	N/A	Evidence provided

Indicator 8 - Number and evidence of research-related agendas, recommendations and practices agreed by stakeholders at global, regional or country level and facilitated by TDR

- ✓ TDR supported the National Institute for Medical Research (NIMR) in the **United Republic of Tanzania to develop a draft neglected tropical disease control programme** master plan which is aligned with the WHO NTD roadmap 2021–2030.
- ✓ Using the MOOC as a training tool, TDR-supported the **Gambian Ministry of Health to develop a strategy to control schistosomiasis**.
- ✓ TDR supported Universitas Gadjah Mada, Yogyakarta, and the Indonesian Ministry of Health's Directorate of Disease Prevention and Control in the development of the **Indonesian National NTD Roadmap 2021–2025**, which outlines the implementation research gaps that hinder the effectiveness of NTD interventions in Indonesia.
- ✓ The Malawian Ministry of Health was supported to identify barriers that render proven NTD interventions ineffective in Malawi, focusing on **schistosomiasis and snakebite envenoming**, using the TDR IR toolkit and the consolidated framework for IR.

Indicator 9 - Evidence of stakeholder engagement in TDR joint initiatives aligned with TDR strategic objectives

In 2020–2021, TDR engaged with a large number of stakeholders, partners and project implementers (grantees and trainees). We worked closely with WHO special programmes and the Science Division, with disease control and other departments, to address strategic priorities, needs and gaps at global, regional and country levels.

We worked with ministries of health and disease control programmes in countries to strengthen their capacity for conducting implementation and operation research, and to help build resilience during the COVID-19 pandemic, to mitigate the impact on health systems.

We worked through regional training centres, universities in LMICs, networks such as ESSENCE, SIHI, CARPHA, Global Vector Hub, TDR Global, SIDCER-FERCAP, PABIN, One-Health Network, etc., to promote LMIC leadership in health research, innovation and good practices.

Details of collaboration can be found in the annual report published for each TDR Strategic Priority Area, i.e. Research for implementation, Research capacity strengthening and Global engagement.

4. Application of core values

4.1 Socio-economic and gender equity

TDR is a Research Fairness Initiative reporting organization and has been externally evaluated as an organization that can use the RFI logo, demonstrating its fairness in:

- Opportunities: involvement of all stakeholders in our work to ensure impact at country level.
- Processes: measures our commitment to equity in how our programmes are implemented.
- Benefits: fairness in the sharing of costs and outcomes in our research and seeking to apply best practices in our research collaborations and partnerships.

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2020)*
10. Proportion of TDR grants/contracts awarded to institutions or individuals in DECs (total count and total amount)	62% (count) 74% (amount)	75% DEC	67% DEC (count) 79% DEC (amount)
11. Proportion of experts from DECs on TDR external advisory committees	78%	>60%	64%
12. Proportion of peer-reviewed publications supported by TDR with authors from DEC institutions (first author - FA, last author - LA, all authors - AA)	FA: 73% LA: 56% AA: N/A	≥67%	FA: 77% LA: 60% AA: N/A
13. Number of peer-reviewed publications supported by TDR and percentage published in open/free access	200 88%	≥150/year 100%	176 95%
14. Proportion of women among grantees/contract recipients (total count and total amount)	40% (count) 29% (amount)	50%	49% (count) 43% (amount)
15. Proportion of women on TDR external advisory committees	50%	50%	62%

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2020)*
16. Proportion of women authors of peer-reviewed publications supported by TDR (first author - FA, last author - LA)	FA: 38% LA: 24%	50%	FA: 40% LA: 29%
17. Number and proportion of peer-reviewed publications explicitly considering: gender and women issues, vulnerable groups or people with disabilities	N/A	80%	Total: 69% Gender: 5% Vulnerable: 56% Disabilities: 9%

Indicator 10 - Proportion of TDR grants/contracts awarded to institutions or individuals in DECs (total count and total amount)

In 2021, the total dollar amount of grants and contracts awarded to institutions and researchers in DECs (US$ 8.9 million) was 79% of the total, a clear increase from 71% in 2020. When counting these contracts, 67% were with institutions and individuals in DECs, up from 64% in 2020 and 62% in 2019. The average amount of a contract/grant continued to remain higher for DECs than non-DECs.

The proportion of funds awarded to institutions and researchers from DECs over the course of the 2020–2021 biennium was 75%, in line with the target.

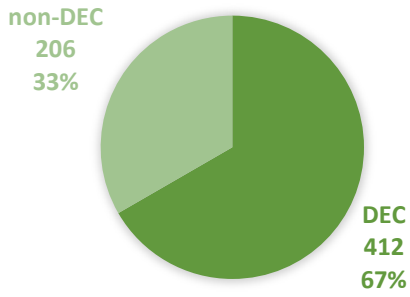

Figure 2. GRANTS/CONTRACTS: Proportion awarded to disease endemic countries (% count) in 2021

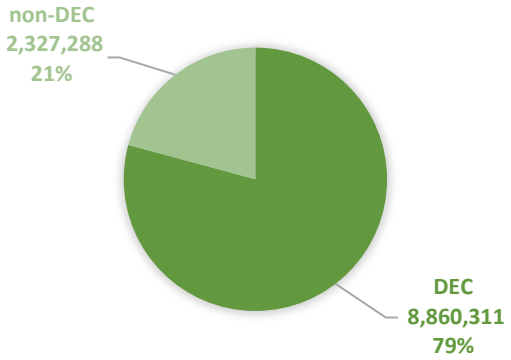

Figure 3. GRANTS/CONTRACTS: Proportion awarded to disease endemic countries (% amount) in 2021

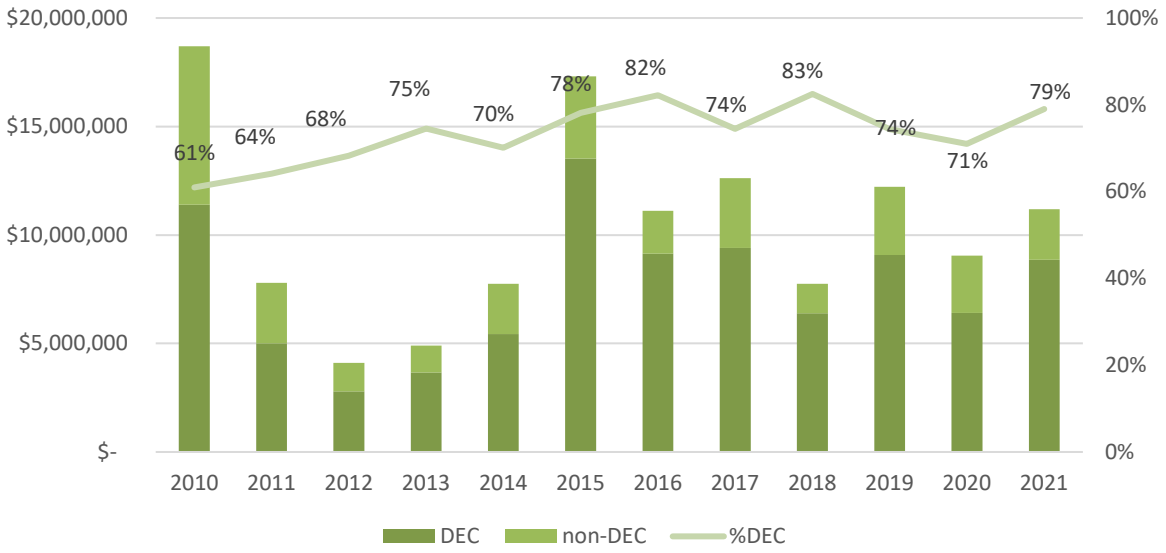

Figure 4. GRANTS/CONTRACTS: Yearly progress in amounts and proportion awarded to DECs (US dollars)

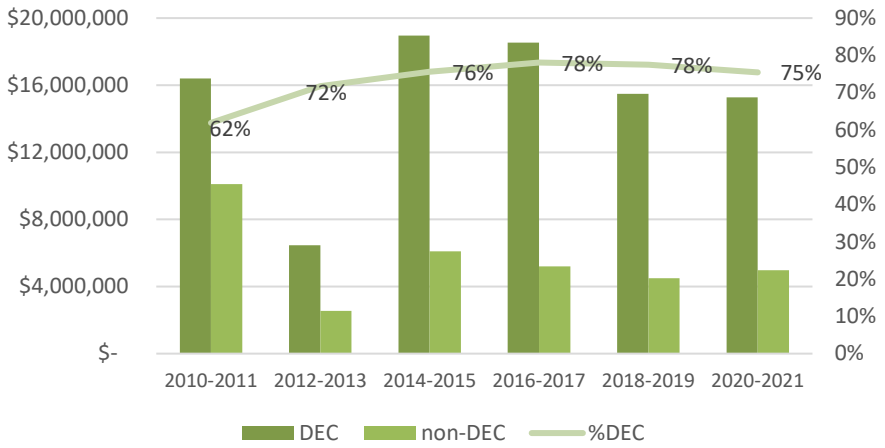

Figure 5. GRANTS/CONTRACTS: Biennium amounts and proportion awarded to DECs (US dollars)

Indicator 11 - Proportion of experts from DECs on TDR external advisory committees

In 2021, the proportion of TDR advisers originating from low- and middle-income disease endemic countries was 64%, above the target of 60%.

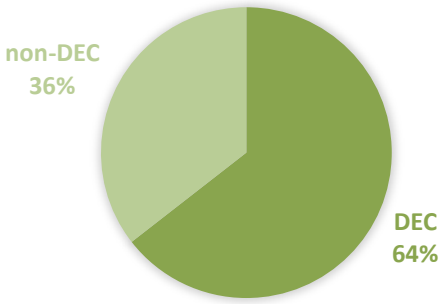

Figure 6. EQUITY: Proportion of advisers from disease endemic countries, 2021

Indicator 12 - Proportion of peer-reviewed publications supported by TDR with authors from DEC institutions (first author, last author)

There were 176 TDR-supported peer reviewed publications in 2021. Among the authors of these publications, the proportion of first authors from DECs was 77%, remaining well above the 67% target. This reflects TDR's continued focus on building capacity and leadership for health research in low- and middle-income countries.

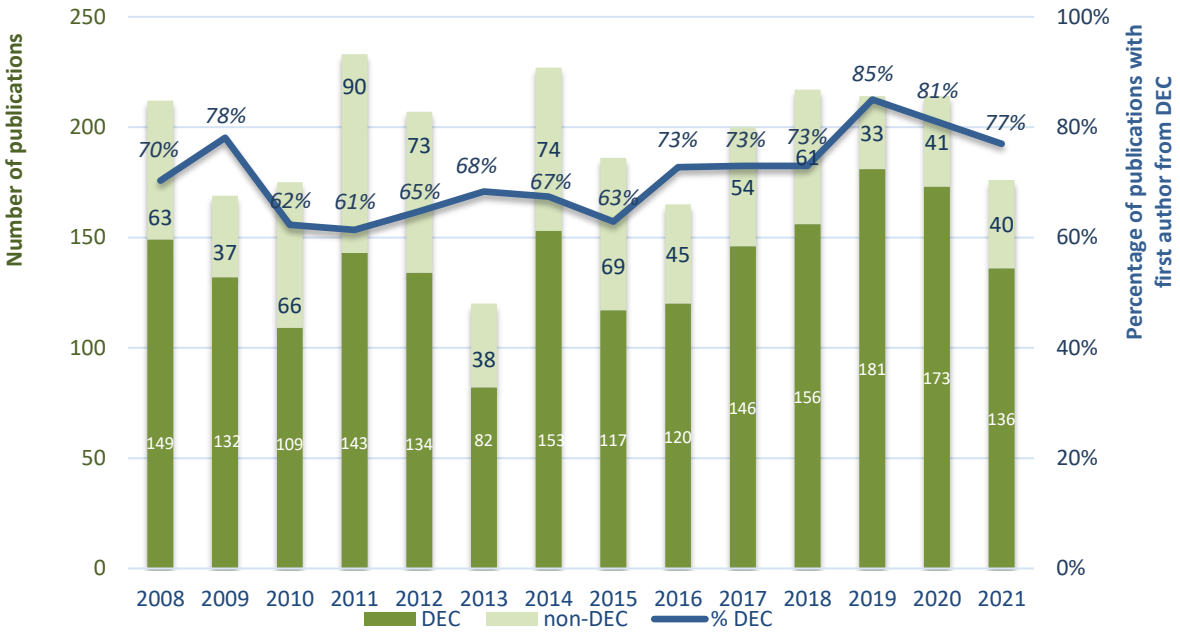

Figure 7. EQUITY: Proportion of first authors from DECs, yearly progress 2008 to 2021

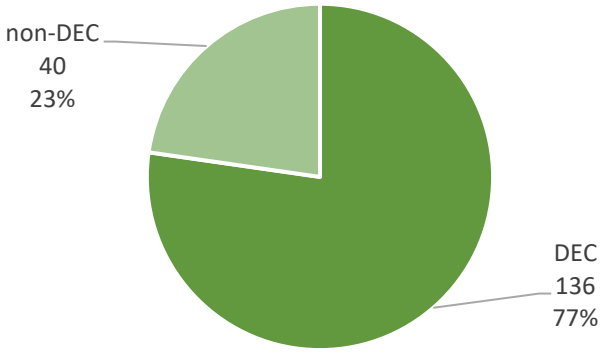

Figure 8. EQUITY: Proportion of first authors from DECs, 2021

The graphs below show the relative distribution of first authors by gender and country of origin (women, men, DEC, non-DEC) in 2018 and 2021.

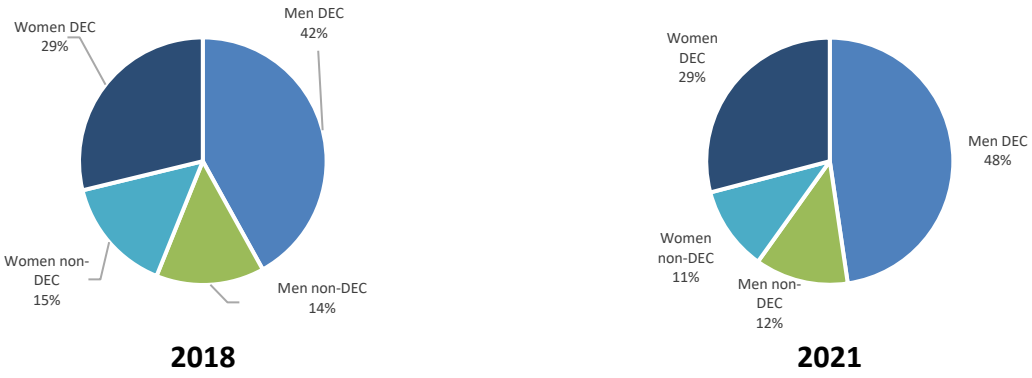

Figure 9. EQUITY: Distribution of first authors by gender and DECs, 2018 and 2021

At the same time, we measured the proportion of last authors from DECs, which was 60% in 2021, a decrease compared to 2020 (67%) and at the same level as in 2018, above the baseline established in 2017 (56%).

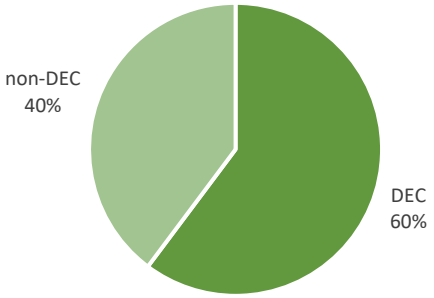

Figure 10. EQUITY: Proportion of last authors from DECs, 2021

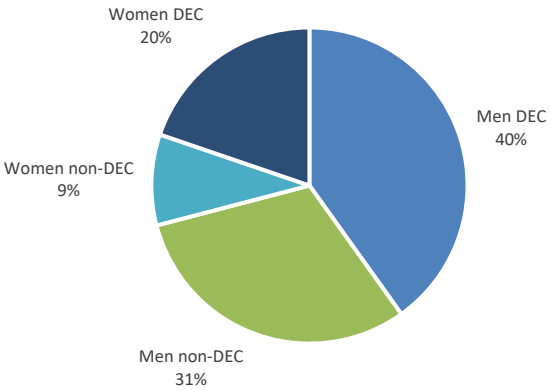

Figure 11. EQUITY: Distribution of last authors by gender and DECs, 2021

We also continue to measure the proportion of authors from DECs among corresponding authors of a publication. In 2021, 79% of corresponding authors were from DECs.

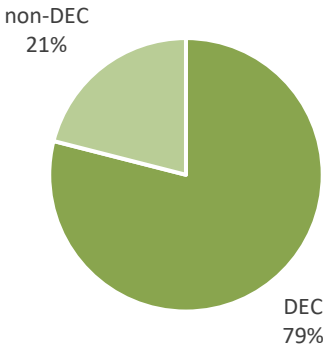

Figure 12. EQUITY: Proportion of authors from DECs among corresponding authors, 2021

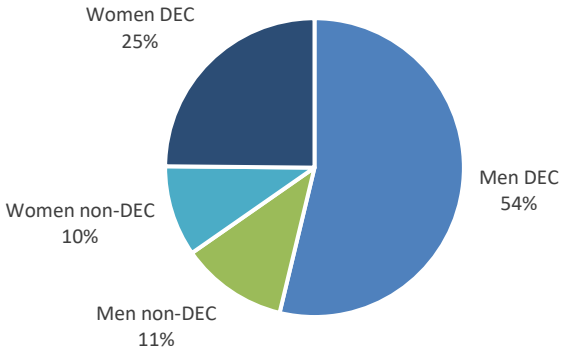

Figure 13. EQUITY: Distribution of corresponding authors by gender and DECs, 2021

We analysed a random sample (10%) of all authors of TDR-supported publications to determine the proportion of authors from DECs. The measurement showed that the average number of authors per publication is approximately ten. On the sample analysed, 59% of authors were from institutions in DECs, while 41% were from non-DEC institutions.

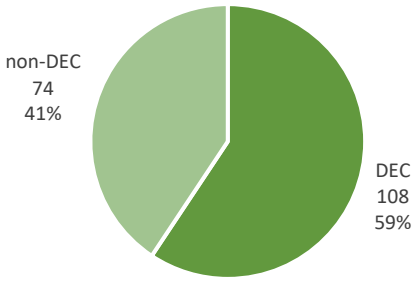

Figure 14. EQUITY: Proportion of authors from DECs among all authors (on a 10% sample), 2021

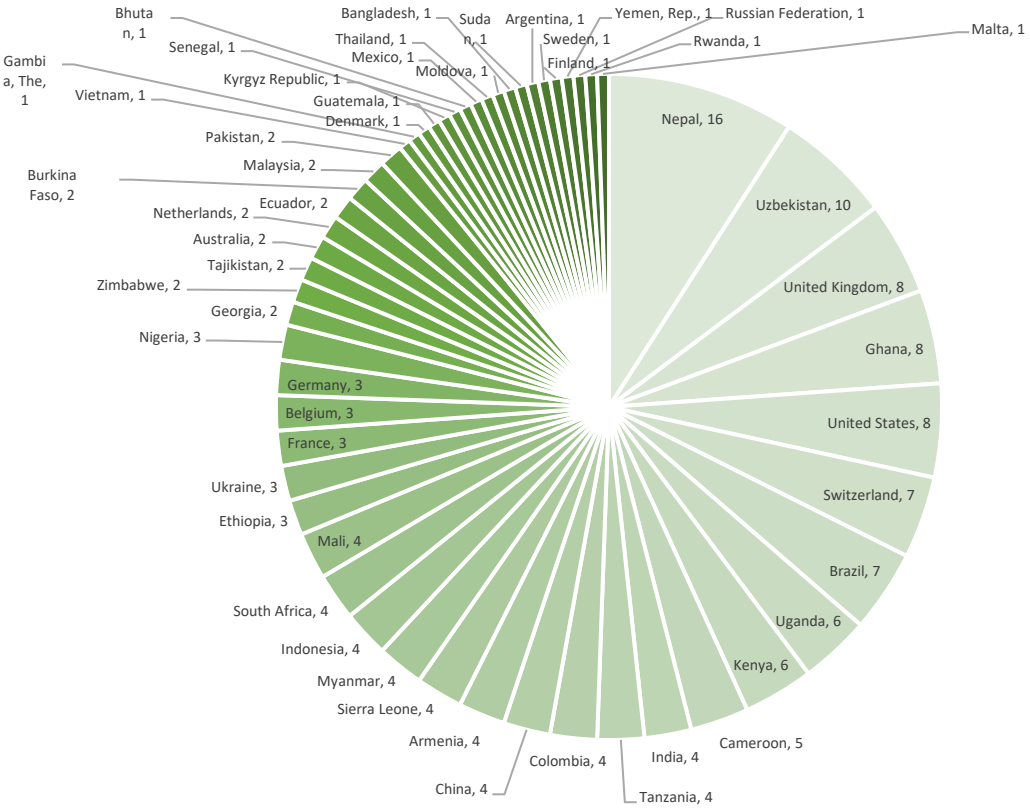

Figure 15. EQUITY: First author country representation, 2021

The distribution of countries of last authors of publications supported by TDR in 2021 is shown below. The ranking shows that the top five countries for last authors are all non-DEC, which is unusual since we started mapping this aspect.

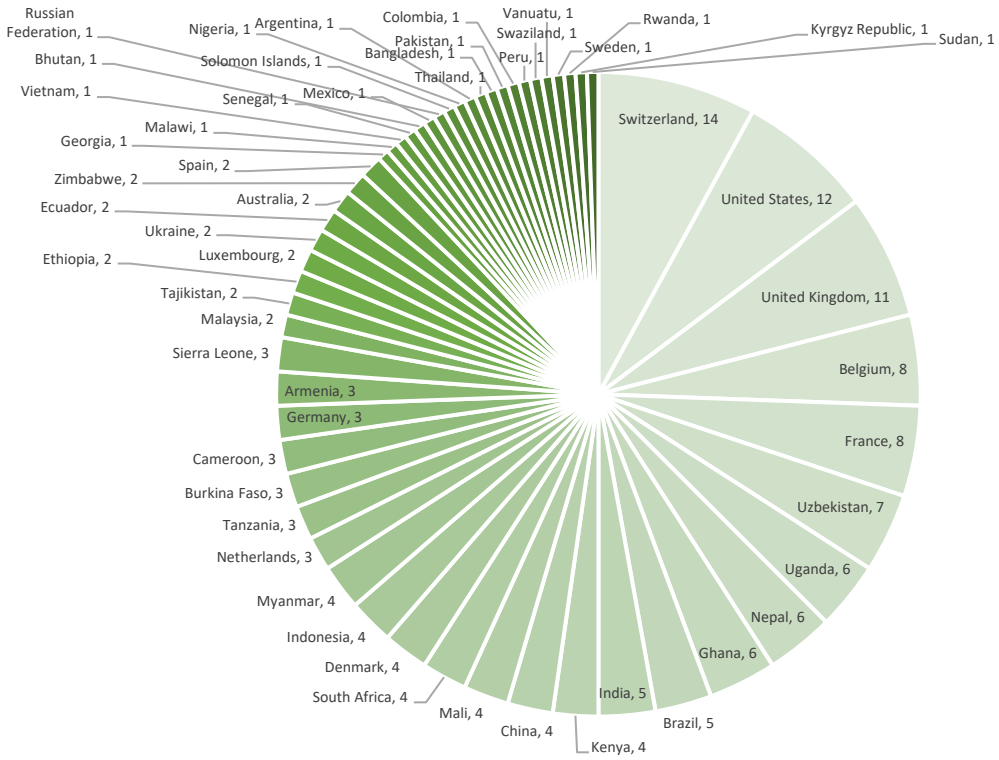

Figure 16. Distribution of last authors of publications by country, 2021

Indicator 13 - Number of peer-reviewed publications supported by TDR and percentage published in open/free access

The number of peer-reviewed publications supported by TDR in 2021 was 176, which is less than in 2020. A complete list is attached in Annex 1. It provides the names of the author(s), the publication title and the peer-reviewed journal in which the article or publication appears.

Open access

In 2021, 95% of TDR-supported publications were published in open or free access, the highest percentage ever. The trend points towards getting closer to 100% open access in a few years from now.

In order to promote and enhance the translation of research into practice, free access to research publications is key. To measure the extent to which TDR-supported publications responded to the open access concept, the percentage of publications electronically accessible (full text) via Web of Science were counted. In general, users can access articles free of charge either because they are published in an open access journal (such as PLoS or BioMed Central) or they are stored in a free access repository (such as PubMed Central) at the request of one of the research funders. Other scenarios that guarantee free access are TDR-funded journal supplements or special agreements between authors and publishers to make access to specific articles free of charge for the reader.

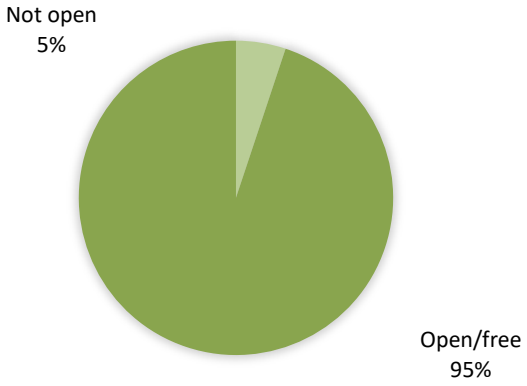

Figure 17. EQUITY: Proportion of publications in open/free access, 2021

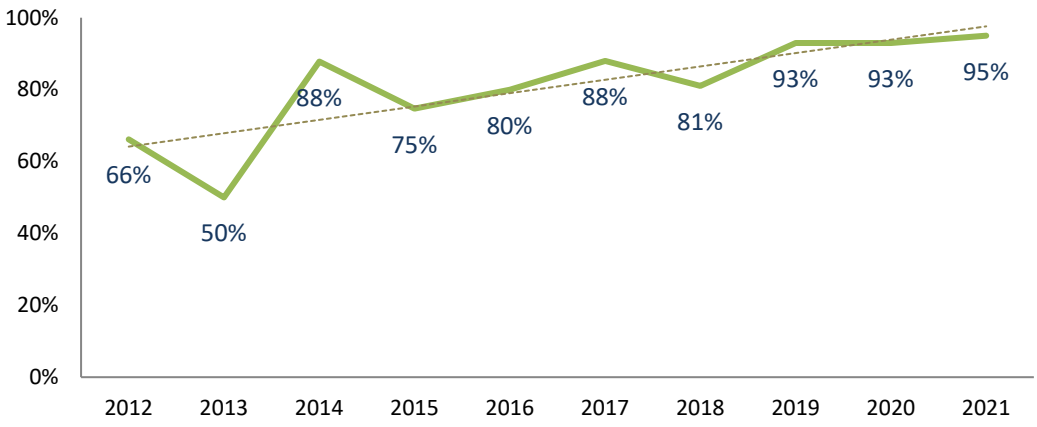

Figure 18. EQUITY: Proportion of publications in open/free access, yearly progress 2012 to 2021

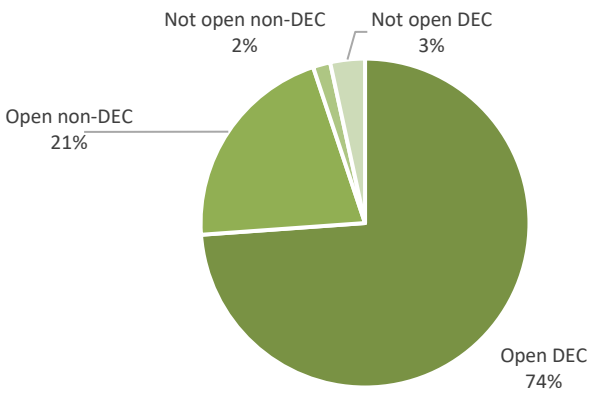

Figure 19. EQUITY: Proportion of publications in open/free access, by DEC/non-DEC status of first author, 2021

The nine publications that were not in open/free access had first and last authors from the following countries: Bhutan, Colombia, Ecuador, Germany, Mali, Uganda, the United Republic of Tanzania and the United States of America. We plan to explore the causes that prevented them from applying TDR's open access policy.

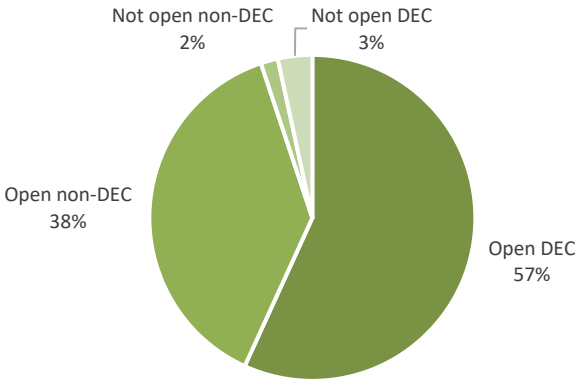

Figure 20. EQUITY: Proportion of publications in open/free access, by DEC/ non-DEC status of last author, 2021

Indicator 14 - Proportion of women among grantees/contract recipients (total count and total amount)

The provisional analysis of 2021 shows that 49% of contracts or grants were awarded to women, which is an increase from 46% in 2020. The amount awarded to women, however, decreased to 43%, compared to 49% in 2020 (approximately US$ 4.4 million).

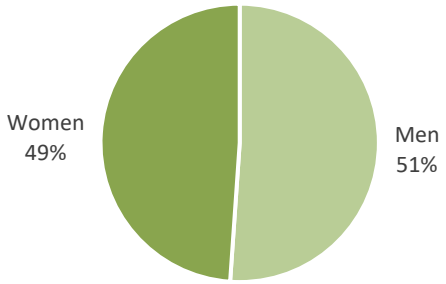

Figure 21. GENDER: Proportion of grants and contracts awarded to women (% count), 2021

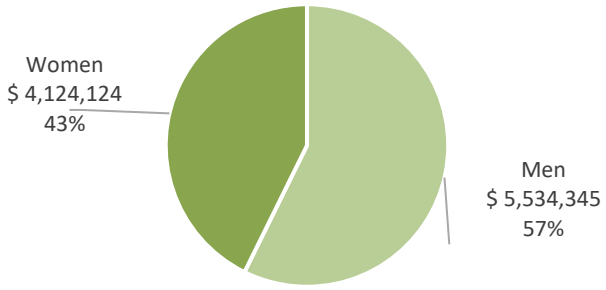

Figure 22. GENDER: Proportion of grants and contracts awarded to women (% amount), 2021

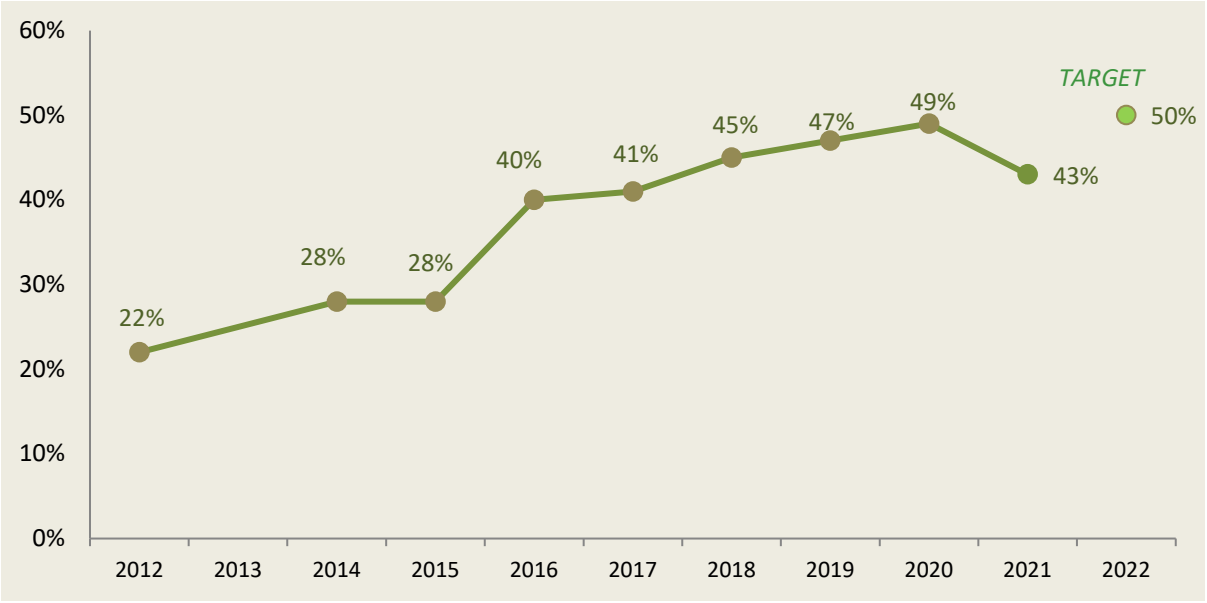

Figure 23. GENDER: Proportion of grants and contracts awarded to women, yearly progress 2012 to 2021 (% amount)

Figure 25 shows the ratio of men and women among grantees from DECs and non-DECs. Both men and women from DECs received a higher share of the contracts in 2021 compared to 2020.

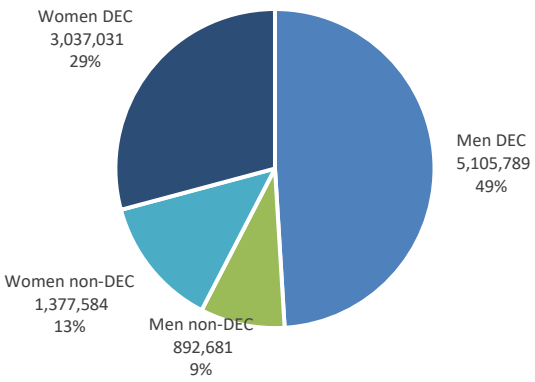

Figure 24. GENDER: Proportion and value of grants and contracts awarded to men and women in DECs vs non-DECs (% amount), 2021

Indicator 15 - Proportion of women on TDR external advisory committees

In 2021, women made up 62% of the membership of TDR's external advisory committees. This new record reflects our continuing drive to involve women in higher advisory roles, and the general effort by TDR towards gender equity. This dwarfs the proportion of women initially measured in 2012, which stood at only 28%.

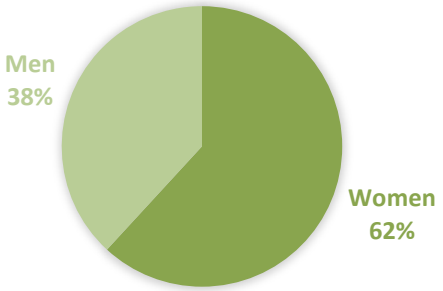

Figure 25. EQUITY: Gender distribution of external expert advisers, 2021

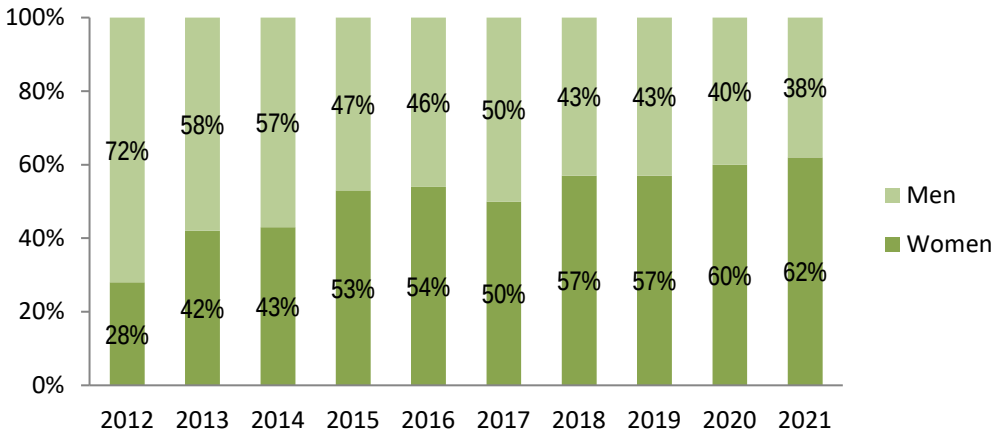

Figure 26. EQUITY: Yearly gender distribution of external expert advisers, 2012 to 2021

Indicator 16 - Proportion of women authors of peer-reviewed publications supported by TDR (first author, last author)

In 2021, 40% of first authors of TDR-supported publications were women. This result is lower than the 2020 values (45%) but still stands higher than the baseline (2017, 38%).

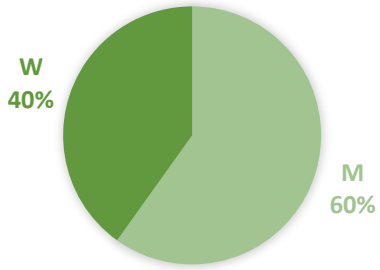

Figure 27. TDR-SUPPORTED PUBLICATIONS: Gender distribution of first authors, 2021

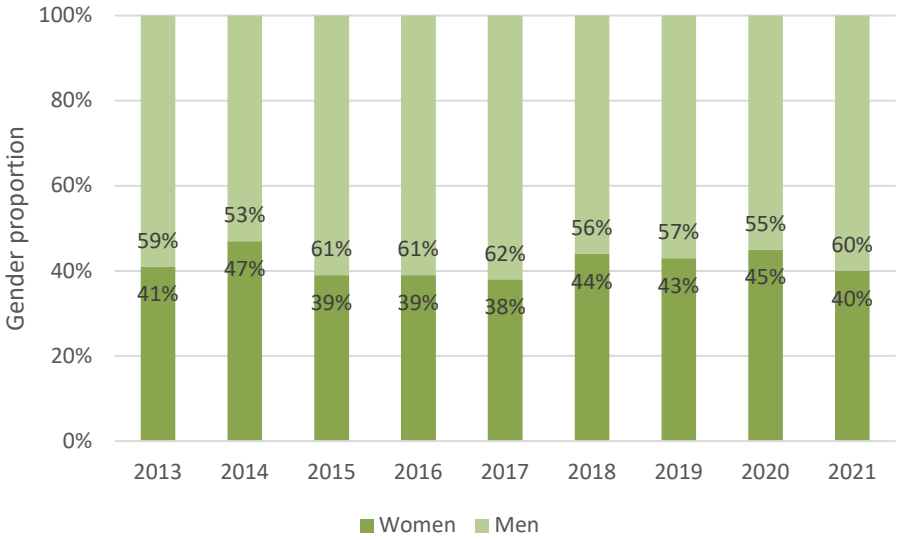

Figure 28. TDR-SUPPORTED PUBLICATIONS: Gender distribution of first authors year-to-year, 2013 to 2021

In 2021, 29% of last authors of TDR-supported publications were women, slightly lower than in 2020 (30%). Compared to the baseline measured in 2017 (24%), the current values show improvement.

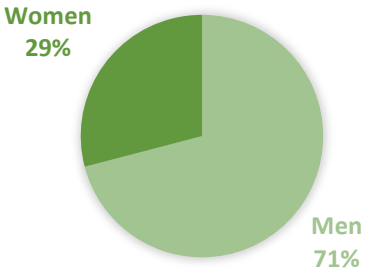

Figure 29. TDR-SUPPORTED PUBLICATIONS: Gender distribution of last authors, 2021

At the request of STAC, we also measured the gender distribution of corresponding authors in 2021. The analysis shows that 35% of corresponding authors of TDR-supported publications were women, less than in previous years – which reflects the fact that the majority of corresponding authors are either first or last authors of publications.

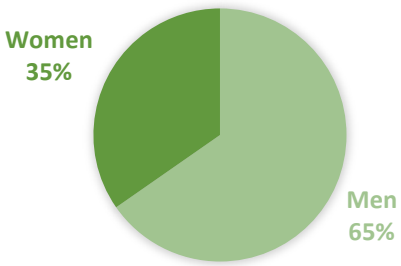

Figure 30. TDR-SUPPORTED PUBLICATIONS: Gender distribution of corresponding authors, 2021

Indicator 17 - Number and proportion of peer-reviewed publications explicitly considering gender and women issues, vulnerable groups or people with disabilities

Of the total number of peer-reviewed publications supported by TDR in 2021, we identified 121 (69%) that addressed at least one of the three categories below:

- 9 articles (5%) that addressed the topic of gender or sex in health research or health care
- 98 articles (56%) related to research or capacity strengthening in the context of vulnerable populations, while all the articles published link to disease endemic countries which are low- or middle-income
- 16 publications (9%) that address populations with disabilities (people suffering from river blindness, leprosy, severe leishmaniasis, lymphatic filariasis, severe tuberculosis, etc.)

4.2 Effective multisectoral partnerships

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2020)*
18. Resources leveraged as direct contributions (co-funding, services or in-kind) to TDR projects (examples)	$ 1:1 ($ TDR : $ partners) People 1:30 (TDR : in the field)	< $ 2:1	$ 1:1.3 People 1:25 (TDR : in the field)

Indicator 18 - Resources leveraged as direct contributions (co-funding, services or in-kind) to TDR projects (examples)

During 2020–2021, it is estimated that TDR leveraged close to US$ 50 million in co-funding of projects, technical contribution, in-kind support, meetings, facilities use, laboratory work, training, site co-funding, network development, etc. For each dollar invested by TDR, $1.30 was leveraged from other sources. This is a rough estimate, due to the difficulty of quantifying the various contributions. The same period saw an estimated 750 people in the field working on TDR projects, either as principal investigator, co-investigator, grantee, trainee conducting some form of research or capacity strengthening activities, consultant, etc. This means that the number of people who worked on TDR projects in the field was 25 times higher than the TDR secretariat head count.

The list by TDR expected result appears in Annex 3.

4.3 Value for money

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2020)*
19. Evidence demonstrating value-for-money, cost savings and/or enhanced efficiency or effectiveness	N/A	N/A	Evidence provided

Indicator 19 - Evidence demonstrating value-for-money, cost savings and/or enhanced efficiency or effectiveness

Thanks to sound management systems and a conservative income forecast, we managed to save US$ 3 million on operations support and staff costs, re-orienting some of this to operations activities, thus further improving the Programme's efficiency. Detailed information is available in TDR's 2020–2021 Financial Report.

4.4 Quality of work

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2020)*
20. Proportion of project reports evaluated as satisfactory by external advisory committees	100%	>80%	100%

Indicator 20 - Proportion of project reports evaluated as satisfactory by external advisory committees

All project progress reports submitted to external advisory committees for review in 2020–2021 were approved, some following minor changes.

4.5 Sustainability of outcomes

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2020)*
21. Number of effective public health tools and strategies developed which have been in use for at least two years	0	40	22 *(+10)*

Indicator 21 - Number of effective public health tools and strategies developed which have been in use for at least two years

Ten new tools and strategies developed in 2018–2019 have been added to the panoply of public health tools that have been in use for at least two years, which brings the number of new tools for the period 2018–2021 to 22. The complete list is available in Annex 2.

5. Management performance

5.1 Effective resource mobilization

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2020)*
22. Percentage of approved biennial budget successfully funded	*87.9% (US$ 39.5/45M)*	≥100%	Fully funded the US$ 40 million budget scenario
23. Percentage of income received from multi-year, unconditional donor agreements	*17.3% (US$ 6.8M/39.5 M)*	70%	36%

Indicator 22 - Percentage of approved biennial budget successfully funded

We started the 2020–2021 biennium with two approved budget and workplan scenarios: the starting level at US$ 40 million and the higher level, conditional on further available funding, at US$ 50 million. Revenue in 2020–2021 amounted to US$ 44.1 million, including US$ 28.2 million undesignated funds and US$ 15.9 million designated funds (some of the designated funds recognized in 2020−2021 are intended to fund activities in 2022−2023).

Planned costs were revised three times during the biennium; firstly, increasing to US$ 44.8 million in September 2020 (reductions in staff costs and operations support offset by increased activities targets), then gradually reducing to US$ 41 million (September 2021) based on capacity to implement in the field under the constraints of COVID 19, along with further reductions in operations support and staff costs.

As at 31 December 2021, US$ 37.7 million had been spent or committed through legal agreements (commitments of US$ 2.3 million), for an implementation rate of 92% (against revised planned costs) and 94% (against the US$ 40 million budget scenario).

Indicator 23 - Percentage of income received from multi-year, unconditional donor agreements

Income from contribution agreements that were unconditional and lasting three years or longer increased to 36% (up from 1% in 2018–2019). A higher proportion would give TDR the opportunity to better plan for medium- and long-term results.

5.2 Effective management

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2021)*
24. Percentage of staff workplans and performance reviews (including personal development plan) completed on time	89%	≥90%	97%
25. Proportion of expected results on track	89%	≥80%	78%
26. Proportion of significant risk management action plans that are on track	100%	≥80%	88%

Indicator 24 - Percentage of staff workplans and performance reviews (including personal development plan) completed on time

TDR's compliance rate with staff workplans and performance reviews done before WHO's deadline was 97% in 2021. The only non-compliant case was beyond TDR's control.

For comparison, for this same indicator WHO's overall compliance rate was 61%, WHO headquarters was 50% and the Science Division was 59%.

Indicator 25 - Proportion of expected results on track

At 31 December 2021, 18 of the 23 expected results in TDR's portfolio showed their activities as being on track, while five were delayed. Due to various situations, such as the COVID-19 pandemic that required a lot of effort from TDR grantees in the field and also imposed travel restrictions, some activities had to be postponed, some were moved to online, while others may need to be replanned or redesigned. Some delays in fundraising from project-specific donors have also led to delays in initiating the calls for proposals and projects.

The summary status of expected results at 31 December 2021 was:

- 18 on track
- 4 with minor delays (some activities have been delayed)
- 1 with major delays (outputs have been delayed)

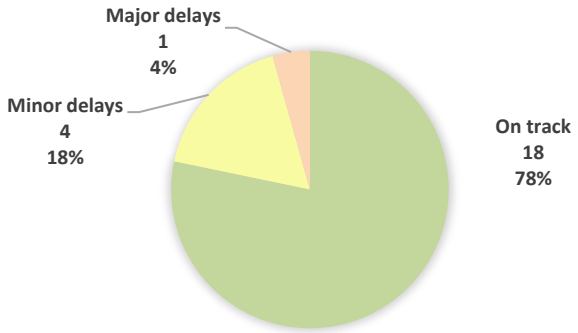

Figure 31. Status of expected results as at 31 December 2021

Indicator 26 - Proportion of significant risk management action plans that are on track

At the end of 2021, for the nine Programme-level risks that were open, there were 19 action items that were on track (five new action items opened in 2021), one delayed (staff retreat) and one on hold (related to WHO's mobility policy). At the same time, the number of completed actions for open risks reached 32 (three actions were completed in 2021). Two action items were added in 2022, to address the new proposed Risk 20 (Timely replacement of key personnel).

The proportion of actions on track and completed was 88%, above the 80% minimum threshold. However, some risks have components that are outside of TDR's control, and the fact that action plans are on track does not mean the risks are totally under control.

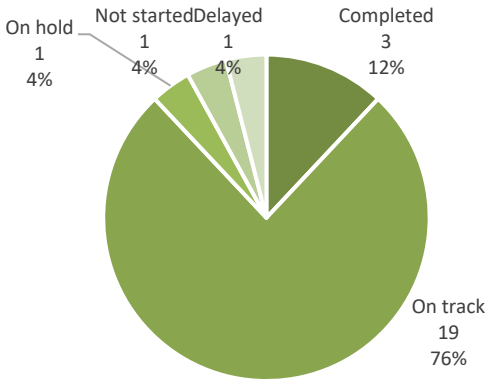

Figure 34 - Status of action items as at 31 December 2021

6. Lessons learnt

- **Conservative planning and forecasting allowed continued implementation of activities** despite a significant hit in income as a result of a major donor having reduced their contribution. We followed a recommendation of the TDR Joint Coordinating Board (JCB) to only conservatively scale up implementation of operations activities beyond the US$ 40 million budget scenario, given the volatile funding environment as a result of the pandemic and other crises. Thanks to this and to sound management systems, we were able to absorb the impact and maintain the increased funding going to operations activities, while saving on salary and operation support costs. Regarding plans for 2022–2023 and beyond, we were able to immediately draft a balanced contingency plan that was endorsed by our governing bodies, and which would have been applied if additional funds were not identified. Thanks to savings in the last biennium and to donors who increased their contribution to help us fill the gap, we were able to start the 2022–2023 biennium at the US$ 40 million budget scenario level. However, to preserve the Programme's sustainability beyond 2023, we proactively instituted a freeze on some fixed-term technical positions that became vacant, and will be filling them through short-term contracts if they are fully funded by designated funds.

- **Succession planning policy and standard operating procedures developed.** Through systematic consultations with staff as part of TDR's risk management processes, we identified the fact that the next three years will include a number of positions in TDR becoming vacant through age limit retirement. As recruitment processes in WHO can be lengthy (6, 9, 12 months), we considered the need for a standard process that would help us proactively identify the needs, timely plan the recruitment of new staff and ensure a smooth handover and transition that would preserve both institutional memory and continuity of operations. We will use this as an opportunity to revamp job descriptions so that they are even more in line with TDR's strategy and objectives, and create a pool of talented professionals to take forward TDR's current and future strategy.

- **Strengthening capacity in training entomologists.** To address the JCB recommendation on promoting and advocating for governments to recruit more entomologists or technicians in the areas of vector control and vector-borne diseases, we entered a collaboration with the Global Vector Hub to host the Global Directory of Medical Entomology courses. Its usefulness is proven by the fact that it has been accessed from more than 50 DECs, and we are currently working to increase the number of courses and to cover more countries.

- **Adding a demographic analysis of the TDR Secretariat** to the scope of the Seventh External Review of the Programme. At the recommendation of the JCB, a specific item on demographic evaluation of the TDR Secretariat, i.e. staff diversity, gender balance, geographical representation, was included in the 7th External Review of the Programme. The external review team assessed this aspect, identified opportunities for improvement and wrote their recommendations in their report. The secretariat is planning to implement the recommendations.

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7. Annexes

Annex 1. List of TDR-supported peer-reviewed publications 2021

(The list includes publications retrieved from Web of Science on 2 January 2022, SORT IT publications not indexed by the Web of Science and publications from the F1000 TDR platform.)

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Annex 2. List of tools generated with TDR support that have been in use for at least two years at 31 December 2021

#	Year	Tools / strategies / solutions
1.	**1981**	*Leprosy - WHO recommendation for use of multidrug therapy (MDT) for leprosy following its registration in 1980 by Ciba-Geigy.*
2.	**1983**	*Schistosomiasis* - Diagnostic urine-filtration technique in disease control use
3.	**1983**	*African trypanosomiasis* - Card agglutination diagnostic test for trypanosomiasis (CATT) in disease control use.
4.	**1989**	*Onchocerciasis* – Ivermectin is shown to be safe and efficacious during community studies opening the path to mass drug administration with ivermectin provided via the Mectizan Donation Programme
5.	**1989**	*Chagas disease* - Improved agglutination blood test for rapid screening of transfusion blood in disease control use.
6.	**1990**	*African trypanosomiasis* - Eflornithine® registered by Marion Merrell Dow.
7.	**1993**	*Onchocerciasis* - Rapid epidemiological mapping of onchocerciasis (REMO) in disease control use.
8.	**1994**	*Filariasis* - Single-dose treatment with DEC or ivermectin is shown to be an appropriate treatment regimen, providing the basis for a new global control strategy based on mass drug administration.
9.	**1994**	*Leishmaniasis - Direct agglutination diagnostic test (DAT) and standard leishmania skin test antigen in disease control use.*
10.	**1994**	*Chagas disease, sleeping sickness and leishmaniasis* - Parasite genome sequencing project launched in meeting in Brazil, co-sponsored by TDR and FIOCRUZ. Sequences published in 2005.
11.	**1994**	*Onchocerciasis* - Effectiveness of mass drug administration with ivermectin in preventing posterior segment eye disease, visual impairment and blindness demonstrated in longitudinal studies in Africa.
12.	**1994**	*Visceral leishmaniasis* - Liposomal amphotericin B registered by NeXstar.
13.	**1995**	*Schistosomiasis* - Method for rapid identification of urinary schistosomiasis in highly endemic communities validated and in control use.
14.	**1995**	*Onchocerciasis* - Importance of onchocercal skin disease determined, providing the basis for extending onchocerciasis control to forest areas in Africa.
15.	**1996**	*Lymphatic filariasis* - Drug delivery strategies developed for lymphatic filariasis elimination in Africa.
16.	**1996**	*Schistosomiasis* - Guidelines for diagnosis of female genital schistosomiasis completed.
17.	**1996**	*Malaria* - Final results of large field trials of insecticide-treated bednets involving 400 000 people in Ghana, Burkina Faso, Kenya and The Gambia demonstrate that insecticide-treated bednets could reduce overall childhood mortality by around 20%.

#	Year	Tools / strategies / solutions
18.	**1996**	*Onchocerciasis* - Community-directed treatment (ComDT) with ivermectin (CDTI) becomes the APOC mass drug administration delivery strategy following multi-country field studies showing that community direction results in better population participation than 'health system direction.
19.	**1997**	*Leprosy* - Improved multidrug therapy based on rifampicin, ofloxacin and minocycline (ROM) used for leprosy control.
20.	**1997**	*Malaria* - A TDR-supported pan-African conference on research in Dakar, Senegal decides to create the Multilateral Initiative on Malaria.
21.	**1998**	*Malaria* - Home management of malaria approach adopted as a strategy by WHO.
22.	**1998**	*Lymphatic filariasis* - Safety demonstrated for albendazole as treatment.
23.	**2000**	*Lymphatic filariasis* - Rapid mapping of filariasis in control use.
24.	**2000**	HINARI, a partnership for Health InterNetwork Access to Research Initiative, is launched with TDR as part of the partnership in the area of research capacity building.
25.	**2000**	*Malaria* - Germline transformation of *Anopheles* mosquitoes.
26.	**2000**	WHO published the Operational guidelines for ethics committees that review biomedical research
27.	**2001**	TDR initiates several partnerships for developing capacity in bioinformatics.
28.	**2001**	*Malaria* - Evidence for policy – Reducing potential for artemisinins resistance via use of artemisinins combination therapy (ACT) in uncomplicated malaria
29.	**2001**	*Good laboratory practice:* Quality practices for regulated non-clinical research and development
30.	**2002**	*Malaria* - Genome sequencing of *Anopheles gambiae* activity completed through TDR-initiated consortium.
31.	**2002**	*Visceral leishmaniasis* – Miltefosine registration as first oral therapy against VL
32.	**2002**	The Strategic Initiative for Developing Capacity in Ethical Review (SIDCER) is inaugurated.
33.	**2002**	*Workbook for Investigators*
34.	**2003**	*Malaria* – Unit-dose packaging of Coartem® to ensure adherence and suitability for home management of malaria in collaboration with Novartis.
35.	**2003**	*Lymphatic filariasis* - Longitudinal studies produce evidence that mass drug administration would be required for more than 4–6 years in most places to eliminate lymphatic filariasis.
36.	**2003**	*Sexually transmitted diseases* - TDR-led evaluation of rapid syphilis diagnostic tests led to those with acceptable performance being placed on the WHO procurement list at negotiated pricing for Member States.
37.	**2004**	*Malaria* - Regulatory label extension is obtained for the use of Coartem® (oral treatment of artemether + lumefantrine) in infants and young children above 5 kg in weight.
38.	**2004**	*Human African Trypanosomiasis* – Framework for clinical product development (in collaboration with NTD)

#	Year	Tools / strategies / solutions
39.	**2005**	*Visceral leishmaniasis* - The health ministers of India, Nepal and Bangladesh sign a Memorandum of Understanding pledging to eliminate kala azar (visceral leishmaniasis) from their countries by 2015.
40.	**2005**	*Visceral leishmaniasis* - Validation of RK39 as a diagnostic for use in India but not in Africa, incorporated into visceral leishmaniasis elimination programme.
41.	**2005**	*Onchocerciasis, lymphatic filariasis* - RAPLOA (rapid assessment procedure for determining areas of *Loa loa* endemicity) developed, validated and incorporated into disease control use.
42.	**2005**	*Malaria* - Results from studies in Ghana indicate that the proportion of caregivers using ACTs correctly in terms of promptness, dosage and number of days is more than 90%, leading to reduced delay in seeking treatment.
43.	**2005**	WHO published the Operational Guidelines for the Establishment and Functioning of Data and Safety Monitoring Boards
44.	**2005**	*Effective project planning and evaluation for biomedical and health research* – Planning for success training programme launched
45.	**2006**	*Malaria* - Evidence for pre-referral treatment use provided in WHO Malaria Treatment Guidelines
46.	**2006**	*Dengue* - Multi-country studies validating pupal productivity survey methods for dengue vector control are published, demonstrating method effectiveness.
47.	**2004**	*Human African Trypanosomiasis* – Clinical product development approaches (in collaboration with NTD)
48.	**2007**	*Leishmaniasis* - Paromomycin is registered for use in India through the Institute for One World Health.
49.	**2007**	*Tuberculosis* - WHO Policy recommending reduction of the number of smears for the diagnosis of tuberculosis and defining a new sputum smear-positive case
50.	**2008**	*Community-directed interventions* (CDI), an integrated approach for improved access to vital drugs and preventive measures, including for malaria, in remote African communities.
51.	**2008**	*Schistosomiasis* - Evidence for dosage of Praziquantel for the control of schistosomiasis
52.	**2008**	*Malaria* - Mefloquine-artesunate combination drug has been developed for malaria treatment and introduced in Brazil.
53.	**2008**	*Dengue* - Dengue diagnostics tests tested and available
54.	**2008**	*Tuberculosis* - WHO Policy online probe assays and second-line drug susceptibility testing
55.	**2010**	*African trypanosomiasis* - the tsetse fly genome sequenced, assembled and annotated by the International Glossina Genomics Initiative (IGGI) Consortium
56.	**2010**	WHO guidelines recommend *rectal artesunate* in paediatric populations with severe malaria living in remote locations in rural Africa and Asia
57.	**2010**	WHO recommendation against the use of *immunodiagnostics tests for active or latent TB* infection

#	Year	Tools / strategies / solutions
58.	**2010**	*TB fluorescence microscopy*. Research results informed the introduction of LED-FM in high burden countries in Nov 2010
59.	**2010**	A simplified, revised and evidence-based *disease classification system for dengue* adopted in Latin-American and Asian countries
60.	**2010**	*Visceral Leishmaniasis (VL) active case detection* methods applied at large scale by control programmes in the Indian subcontinent
61.	**2011**	*Malaria rapid diagnostics tests* evaluation rounds have led to quality improvements and the RDTs have become part of the overall strategy for malaria: Test, Treat, Track.
62.	**2011**	*An evidence-based strategy to support the elimination of visceral leishmaniasis* is being used in the Indian subcontinent
63.	**2011**	*New synthetic routes for enantiomerically-pure L-praziquantel* identified in collaboration with the Australian Research Council; used to develop a new paediatric formulation.
64.	**2012**	*ESSENCE good practice document: Five keys to improving research costing in low- and middle-income countries*
65.	**2012**	*Optimized and standardized trapping and bait technology for relevant vectors of HAT*
66.	**2012**	*HAT-Trick*, a decision support system for improved vector control intervention methods of human African trypanosomiasis (HAT)
67.	**2012**	*Framework for the introduction of rapid tests on sexually transmitted infections into country programmes*
68.	**2012**	*Dengue vector control methods and strategies*, combining targeted breeding containers and insecticide-treated materials in Asia
69.	**2012**	Evidence contributing to the WHO and UNICEF *Integrated Community Case Management (iCCM) strategy to reduce childhood mortality* through community case management of malaria, pneumonia and diarrhoea (updated in 2016)
70.	**2012**	*T3: Test. Treat. Track.* Evidence on feasibility and costs of universal coverage diagnostic, testing and antimalarial treatment
71.	**2012**	Guidance framework developed for *testing efficacy and safety of genetically-modified mosquitoes* for malaria and dengue control
72.	**2012**	*The Global Report for research on infectious diseases of poverty* is used to inform EC's strategic direction in addressing neglected diseases of poverty
73.	**2013**	*Evidence from clinical trials of the efficacy and safety of multiple-dose and single-dose regimens with liposomal Amphotericin B* informed policy decisions in Bangladesh and Nepal.
74.	**2013**	*The Report on Priorities for Tuberculosis Research*, from the disease reference group on tuberculosis, leprosy and Buruli ulcer.
75.	**2013**	*The Report on Research Priorities for the Environment, Agriculture and Infectious Diseases of Poverty*, from the thematic working group comprising international experts convened by TDR.

#	Year	Tools / strategies / solutions
76.	**2013**	*ESSENCE good practice document: Framework for planning, Monitoring and Evaluation for research capacity strengthening* has been adopted by several funding agencies and initiatives and revised in 2016
77.	**2014**	*The eco-health approach* to improve and innovate the routine Chagas disease and Dengue fever vector control interventions in Latin-America
78.	**2014**	*Implementation Research Toolkit* to strengthen country capacity to conduct implementation research embedded in disease control programmes
79.	**2015**	*West African Regional Network for TB control (WARN-TB),* grouping sixteen countries and national TB control programmes, was created with TDR facilitation
80.	**2015**	*SORT IT, The Structured Operational/Implementation Research and Training Initiative* that trains national programme officers in conducting operational research and using evidence to solve implementation bottlenecks and optimize health interventions
81.	**2015**	ESSENCE good practice document: *Seven principles for strengthening research capacity in LMICs*
82.	**2015**	*Caribbean network on vector control*, initiated by TDR, officially launched and self-sustainable, active in outbreak prevention and detection
83.	**2015**	*Malaria and NTDs - VBD-environment.org*, a web-based knowledge sharing platform resulting from the research on population resilience to climate change in Africa and currently presenting in more details all ex-VES research projects.
84.	**2015**	*Arboviral diseases (Dengue, Zika, Chikungunya) - Worldwide Insecticide Resistance Network (WIN),* initiated by TDR, focuses on surveillance of insecticide resistance and alternative methods of vector control
85.	**2015**	*The TB-Platform for Aggregation of Clinical TB Studies (TB-PACTS)* a partnership-based data sharing platform aggregating the REMoxTB, RIFAQUIN, and OFLOTUB studies
86.	**2015**	*WHO Central registry for the epidemiological surveillance of drug safety in pregnancy* established
87.	**2015**	*WHO global aDSM database,* for TB active drug safety monitoring and management
88.	**2015**	*Enhanced, user-centred informed consent form and process*, developed through SIDCER for clinical trials
89.	**2016**	*EWARS: Preparedness for early identification and response to dengue outbreaks*. A 'Model Contingency Plan' was developed and published together with a how-to guide
90.	**2016**	*Guidance on reporting implementation research*
91.	**2016**	*The Six Practices to Strengthen Evaluation of Global Health Research for Development* published by ESSENCE on Health Research initiative of funders
92.	**2016**	*A short training course on the principles of Implementation Research* for use at the Regional Training Centres.
93.	**2017**	*Massive Open Online Course on implementation research*
94.	**2017**	*TDR's Regional Training Centres* located in each WHO region, training local researchers on a range of good research practices and project management
95.	**2017**	*The Clinical REsearch During Outbreaks (CREDO)* training curriculum has been granted accredited status by the African Academy of Sciences

#	Year	Tools / strategies / solutions
96.	**2017**	*Global Vector Control Response*, developed jointly with the WHO Global Malaria Programme and the Control of Neglected Tropical Disease Department
97.	**2017**	*SIHI country hubs,* a new approach to advance social innovation in health through research, advocacy and capacity strengthening
98.	**2018**	Moxidectin for the treatment of onchocerciasis
99.	**2018**	*Practical guide for crowdsourcing to engage communities in research*
100.	**2018**	Decision support processes and tools to increase population resilience to climate change were developed, e.g. Climate Data Library, online map rooms, data analysis tools, smartphone applications
101.	**2018**	*A digital application for core competencies in clinical research*
102.	**2019**	Online course aimed at developing skills in gender-based analysis (GBA) for vector-borne diseases and climate change research
103.	**2019**	A research package for facilitating the use of a new all-oral DR-TB treatment regimen by the countries (ShORTT)
104.	**2019**	Training course on the ethics of implementation research
105.	**2019**	*Health Product Profile Directory,* online database describing eight to ten key characteristics of product profiles for populations in low- and middle-income countries
106.	**2019**	Portfolio-to-impact (P2I) tool, used to analyse portfolios of PDPs and commercial partners
107.	**2019**	The Western African Network against Arboviruses, initiated with TDR support

Annex 3. Leverage estimate in 2020–2021

	Partners' contribution			
TDR Expected Result	Partners and collaborations	2020–2021 contribution (US$)	Approx. number working on the project in the field[14]	Contribution type
TOTAL		**49 127 000**	**740**	
Research for implementation		**39 077 000**	**344**	
Population health vulnerabilities to VBDs: increasing resilience under climate change conditions in Africa	WHO Regional Office for Africa (AFRO); Fondation Mérieux; United Nations Environment Programme (UNEP); OIE-Africa (World Organization for Animal Health); FAO-Africa (Food and Agriculture Organization); PAMCA (Pan Africa Mosquito Control Association) and the Global Health Group International (GHGI).	30 000	5	Leverage is expected through voluntary participation of experts and partners in programme implementation (particularly in technical implementation and training). Additional leverage is expected through technical/funding support from other colleagues in AFRO, partners in the regions, UNEP and Fondation Mérieux.
Urban health interventions for the prevention and control of vector-borne and other infectious diseases of poverty, and new vector control technologies to prevent and control emerging arboviruses	NTD, IAEA	100 000	35	Funds leveraged by the first activity on the new vector control technologies were in the context of the development of the Guidance Document for SIT against Aedes, for which US$ 50 000 each came from TDR, NTD and IAEA.
Multisectoral approach for the prevention and control of malaria and emerging arboviral diseases	Swiss Development Cooperation (SDC). The initial partnership was with SDC, IDRC and STPH. A new partnership was established in 2019 with the WHO WASH group and Sida (the Swedish International Development Cooperation Agency). A supplementary partnership was established on the multi-sectoral approach (MSA) in malaria with the WHO Global Malaria Programme and China CDC.	1 000 000	100	Implementation of MSA in countries.
Strategies to promote gender-responsive health interventions on prevention and control of infectious diseases of poverty and a training course	Makerere University; HERD International; University of Nairobi; Kenya Medical Research Institute; University of Malawi; University of Ghana; University of the Witwatersrand; South African Human Sciences Research Council; icddr,b (Bangladesh); Faculty of Public Health (Bhutan); Ministry of Health (Bhutan); Institute of Health Partners (Bhutan); SIHI Network and hubs.	400 000	10	Leverage is expected through funding support from WHO partners working on gender equality and environmental health.
Strategies to achieve and sustain disease elimination	Noguchi Memorial Institute for Medical Research, Ghana; Onchocerciasis Elimination Programme Laboratory Ethiopia; La Trobe University, Australia; University of Antwerp, Belgium; Division Provinciale de la Santé, Democratic Republic of the Congo; Medicines Development for Global Health, United Kingdom and Australia; Eglise du Christ au Congo, Democratic Republic of the Congo; European and Developing Countries Clinical Trials Partnership; Erasmus University, Netherlands; Imperial College, United Kingdom; Luxembourg Institute of Health, Luxembourg;	5 322 000	10	A USA National Institutes of Health (NIH) grant of US$ 3.488 million to La Trobe University and their USA collaborator. The funded work contributes to ER 1.2.1's objective of developing tools for elimination programmes to support decisions to stop ivermectin mass drug administration. An EDCTP grant of €2.834 million (US$ 3.358 million) for the development of a paediatric formulation of moxidectin to a consortium including: MDGH, Australia and the United Kingdom; Luxembourg Institute of Health; University of Health and Allied Sciences, Ghana; Centre for Research on

[14] Part time or full time

	Partners' contribution			
TDR Expected Result	Partners and collaborations	2020–2021 contribution (US$)	Approx. number working on the project in the field[14]	Contribution type
	Royal Veterinary College, United Kingdom; University of Health and Allied Sciences, Ghana; Centre for Research on Filariasis and other Tropical Diseases, Cameroon; Institut de Recherche pour le Développement, France.			Filariasis and other Tropical Diseases, Cameroon; University Hospital Bonn, Germany; University of Strathclyde, United Kingdom.
Antimicrobial resistance and Structured Operational Research and Training Initiative (SORT IT)	Implementing partners include seven WHO country offices and 60 SORT IT partners (disease control programmes, academia and nongovernmental ogranizations).	10 000 000	130	Technical support, staff time, support for research, data management, meetings, co-funding of projects and publications, national programme funding, improvements in efficiencies in disease control programmes.
Support adequate country response to epidemic challenges: evidence-based guidance for outbreak detection and response - EWARS	Ministries of health and/or national institutes of health in Brazil, Colombia, Dominican Republic, India, Malaysia, Mexico, Sri Lanka, Thailand. AFRO, ministries of health of the 16 West African countries, WAHO, the WHO country offices of all countries in Central, East and southern Africa, NTD, WHO–PHE and the WHO Emerging Diseases and Zoonoses Unit.	4 125 000	10	- US$ 75 000 from PHE to expand the use of EWARS to new countries they are supporting - US$ 50,000 from NTD to replicate the situation analysis in West Africa for the central and south-eastern African regions - US$ 4 million for full integration of EWARS into the national surveillance platform: Mexico (with 137 disease-endemic municipalities), Dominican Republic and Malaysia, and piloting in another 12 countries
Strengthen evidence base for policy decisions	The Bill & Melinda Gates Foundation, research institutes and WHO control programmes, Wellcome Trust	3 000 000	2	Funds were essentially leveraged for the conduct of operational research in the target countries using their grants from the Global Fund to Fight AIDS, Tuberculosis and Malaria (in particular for the purchase of all study drugs and funding for the laboratory tests).
Maximized utilization of safety information for public health decision-making	- WHO control programmes at headquarters: in particular, HIV and the Global TB Programme. - Countries involved in safety data collection which are contributing data to the central databases. - UNDP, WHO (strengthening regulatory capacity) and PATH are all partners of the Access and Delivery Partnership (ADP).	100 000	30	Leverage is expected through voluntarily participation of collaborators, experts and partners and by countries directly financing projects.
Optimized approaches for effective delivery and impact assessment of public health interventions	WHO Global TB programme; WHO regional offices; WHO—WCA; WHO Health Information Systems; GFTAM; The Union; the Damien Foundation; West African Health Organization (WAHO); Expertise France; Agency for International Development (USAID); LSHTM; McGill University; Action contre la Faim, France; Institut de Recherche pour le Développement, France; Université de Reims, Faculté de Médecine, France; Université Abomey Calavi, Benin; Université Cheikh Anta Diop and Université of Thies, Senegal; Institut de Santé Publique et Centre Muraz, Burkina Faso; Université Gamal Abdel Nasse, Faculté de Médecine, Guinea Conakry; NTPs of the WARN and CARN-TB countries; NTPs of Bolivia, Cambodia, Colombia, Ecuador, Guatemala, Haiti, Lao, Mexico, Mozambique, Nicaragua, Pakistan, Peru, Vietnam, Zimbabwe; FIND (DIAMA	3 000 000	2	Raised: MDR-TB (GTB US$ 700 000); USAID (US$ 700 000), e-health (GTB US$ 100 000), TB survey and GCPs (GTB US$ 200 000) German Federal Ministry of Health (€982 576,00)

	Partners' contribution			
TDR Expected Result	Partners and collaborations	2020–2021 contribution (US$)	Approx. number working on the project in the field[14]	Contribution type
	project); Genoscreen, France; MOLBIO Diagnostics, India; Institute of Tropical Medicine of Antwerp, Belgium; National Reference Laboratory, Rwanda; Jimma University, Ethiopia, Robert Koch Institute, University of Oslo			
Testing of innovative strategies for vector control	- Collaboration and a Memorandum of Understanding (MoU) were developed and signed with IAEA and the joint IAEA/FAO Team. Activities will be undertaken in partnership with NTD and WHO regional offices, as well as several countries. - A new partnership will be established with the Arboviral Diseases Division of CDC in Fort Collins, USA, through a funding agreement and MoU. - A partnership was established with the ARCTEC Innovation company managing the Global Vector Hub Platform, where the directory of courses on medical entomology is currently located. - A partnership has been established with SUPSI in Switzerland and ECOSUR in Mexico for the surveillance tool on Aedes eggs.	2 000 000	10	Countries will adopt the SIT technology to be integrated into their vector control activities.
Research capacity strengthening		**5 900 000**	**108**	
Regional Training Centres (RTCs)	In WHO regions, the training centres supported by TDR	200 000	18	The RTC in the WHO Region of the Americas is developing a new collaboration with the Fogarty International Center at NIH, USA. In 2021, a web-based postgraduate training course was organized within the framework of the Fogarty Global Infectious Disease (GID) research training programme for students enrolled in postgraduate basic biomedical, public health and health sciences programmes in Colombia. The course builds upon, and utilizes components of, the TDR MOOC on IR, and includes the participation as facilitators of members of the RTCs in the WHO regions of Africa and South-East Asia.
Postgraduate training grants	Host Institutions: J.P. Grant School of Public Health, BRAC University (Bangladesh); Universidad de Antioquia (Colombia); University of Ghana (Ghana); Univesitas Gadja Mada (Indonesia); American University of Beirut (Lebanon); University of The Witwatersrand (South Africa); University of Zambia (Zambia).	1 000 000	50	In all of the participating universities, the main leverage is in-kind contributions made by the faculty and personnel based at the collaborating institutions in terms of staff time and research resources. Further, the collaborating institutions have the opportunity to utilise the research findings as evidence to influence practice and policy or as a basis for further research. As a result of participation in the TDR postgraduate scheme, the University of Witwatersrand has successfully renewed its grant with NIH Fogarty to train PhD candidates of southern Africa origin. The scheme has also gained visibility among CARTA fellows as they participate in the implementation science courses offered by the University.

	Partners' contribution			
TDR Expected Result	Partners and collaborations	2020–2021 contribution (US$)	Approx. number working on the project in the field[14]	Contribution type
Advanced training in clinical product development (Career Development Fellowship grants)	GSK Biologicals, Belgium; Janssen Pharmaceutica, Belgium; Novartis Institutes for BioMedical Research; Novartis AG and Takeda Pharmaceuticals International AG, Switzerland; partner institutions in South Africa; Foundation for Innovative New Diagnostics (FIND), Switzerland; European Vaccine Initiative (EVI), Germany; Infectious Diseases Research Institute (IDRI), USA; the International Vaccine Institute (IVI), South Korea; Institute for Health, Luxembourg; Barcelona Institute for Global Health (IS Global), Spain; the Infectious Diseases Data Observatory (IDDO) at the Centre for Tropical Medicine and Global Health, Oxford, United Kingdom; Pasteur International Network Association, Madagascar; FIOCRUZ, Brazil; and the Swiss Tropical and Public Health Institute (STPHI), Switzerland.	2 400 000	30	Based on the documentation received from two pharmaceutical companies, the estimated in-kind contribution for a one year assignment for one fellow is around US$ 65 000. This includes: mentoring time; conference attendance; relocation agency; two monitoring trips (calculated as cost to monitor sites in Africa); public transport; travel to Geneva for mentoring; insurance (site) and miscellaneous costs depending on the location. The total for 30 fellows is US$ 1 950 000.
UNDP structured capacity building in implementation research to improve access and delivery of health technologies in low- and middle-income countries	ADP partners, UNDP and PATH, are part of the project implementation team at country level, in addition to their specific roles in the Access and Delivery Partnership. UNDP country focal points provide both on- and off-line support to research and training teams.	2 300 000	10	This ER facilitated development of IR capacity for an integrated roll-out plan for the new RTS,S/ AS01 (RTS,S) malaria vaccine across 275 districts in Ghana. The plan involved a multisectoral working group comprised of the University of Health and Allied Sciences, the Ministry of Health, Ghana National Drugs Programme and the Ghana FDA. A €2.3 million grant was awarded to The University of Health and Allied Sciences, Ho, Ghana.
Global engagement		**4 150 000**	**288**	
Harmonized stakeholder-endorsed research agenda and research-to-policy	Duke University, USA; Policy Cures Research, Australia; Polygeia, United Kingdom; Digital Sciences, United Kingdom	50 000	10	The Polygeia project was completed by volunteers.
WHO regional office collaboration and small grants	All WHO regional offices plus EDCTP, HRP and AHPSR and the SORT IT AMR programme, WHO health and migration and emergencies programmes.	1 000 000	21	Technical support, staff time of regional office focal points, reviewers from regions and meetings, matching funds.
Social innovation in health care delivery	Ahimsa Fund; the Bertha Centre; Fondation Mérieux; LSHTM; PAHO; the Schwab Foundation for Social Entrepreneurship (Switzerland); UNAIDS; UNDP; UNICEF; Derbi Foundation; Zuellig Family Foundation; MAD group	2 200 000	60	i) Established academic centres whose regular activities focus on social innovation (e.g. the self-funded hubs in India, South Africa and Sweden); ii) global partners who dedicated time to support SIHI and embed social innovation in their programmes (e.g. LSHTM, Fondation Mérieux, the Ahimsa Fund, UNAIDS, MAD); iii) experts (meetings, external review, strategic support); and iv) SIHI country hub partners (including ministries of health, universities, advisory experts and other stakeholders). Community engagement in social innovation research team also contributes time and expertise to five research projects.
ESSENCE for Health Research - Collaborative networks and Global Health Initiatives (GHIs)	Wellcome Trust, ESSENCE members, NIH/FIC, IDRC and the African Academy of Science	300 000	152	ESSENCE member funding agencies will support specific areas of joint interest to the agency and the network. GHIs will be requested to co-fund some of the activities.

	Partners' contribution			
TDR Expected Result	Partners and collaborations	2020–2021 contribution (US$)	Approx. number working on the project in the field[14]	Contribution type
TDR Global - the community of trainees, grantees and experts	AHRI, advisers, experts, regional training centres, SESH, mentorship contests, communications professionals, champions in institutions	300 000	25	Leverage is expected through: (i) voluntarily participation of experts and partners in the development of the system; and (ii) contribution from TDR alumni and other experts in providing technical support to TDR activities.
Effective incorporation of intersectional gender analysis in research and training on infectious diseases	HRP, TDR Regional Training Centres, TDR Postgraduate Training Scheme, SIHI country hubs, HRP Alliance Hubs, the Gender and Health Hub at the United Nations University International Institute for Global Health	300 000	20	TDR's intersectional gender research strategy is expected to continue to be a vehicle to sustain and increase funding support across TDR core areas and programmes, to ensure gender responsive research and training activities and projects.

Annex 4. Progress on the TDR's current portfolio of expected results Status update as at 31 December 2021

Expected Result Title	*ER Status 31 Dec 2021*
Country preparedness for disease outbreaks	On track
Country resilience to the threat of drug-resistant infections	Minor delays
Directions for development and accelerated access to new tools and strategies	On track
Maximized utilization of data for public health decision making	On track
Maximized utilisation of safety information for public health decision making	On track
Strategies to achieve and sustain disease elimination	On track
Optimized approaches for effective delivery and impact assessment of public health interventions	On track
Population health vulnerabilities to VBDs: increasing resilience under climate change conditions in Africa	On track
Advancing social innovation in health care delivery through research, capacity strengthening and advocacy	On track
Evaluation and improvement of malaria control policies through study of LLINs and IRS efficacy, and of the burden and causes of residual malaria	On track
Multi-Sectoral Approach (MSA) for Prevention and Control of Malaria and Emerging Arboviral Diseases	On track
Urban health interventions for the prevention and control of vector-borne and other infectious diseases of poverty, and new vector control technologies to prevent and control emerging arboviruses	On track
Strategies to promote gender-responsive health interventions on prevention and control of VBDs and other infectious diseases of poverty	On track
Testing of innovative strategies for vector control	Major delays
Strategic support to WHO regional activities: the regional training centres	On track
WHO Regional Office collaboration and small grants	On track
Targeted research training grants in low-and middle-income countries	On track
UNDP Structured capacity Building in Implementation Research to improve access and delivery of health technologies in LMICs	Minor delays
Advanced training in Clinical Product Development (Career Research and Development Fellowship grants)	Minor delays
Knowledge Management shaping the research agenda	On track
Capacity strengthening to bring research evidence into policy	On track
Collaborative networks and Global Health Initiatives (GHIs)	On track
TDR Global - the community of former trainees, grantees and experts	Minor delays

Annex 5. TDR 2021 revenue

Core contributions	Amount (US$)
Sweden	4 804 002
Switzerland	1 925 255
United Kingdom of Great Britain and Northern Ireland	1 662 159
Germany	1 659 850
Luxembourg	1 331 719
Nigeria [1]	1 097 398
Belgium	675 676
Norway	349 365
China [2]	165 000
Spain	112 613
India	55 000
Japan	50 000
Thailand	49 751
Malaysia	25 000
Panama	14 000
Mexico	10 000
Miscellaneous	518
World Health Organization [3]	
Subtotal	**13 987 305**
Contributors providing project-specific funding	**Amount (US$)**
National Institute of Health Research (NIHR), United Kingdom	2 546 199
United Nations Development Programme (UNDP)	1 352 000
Sweden	1 190 970
Bill & Melinda Gates Foundation	1 133 360
United States Agency for International Development (USAID)	987 274
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) [4]	814 387
World Health Organization [5]	706 895
Luxembourg	404 030
Medicines Development for Global Health Limited (MDGH)	93 041
Robert Koch Institute (RKI)	58 048
Subtotal	**9 286 203**
Total contributions	**23 273 508**

1. *The contribution from the Government of Nigeria for the period 2015 to 2020 will be reported in the certified financial statement in 2022 due to the timing of its receipt in TDR.*
2. *The 2020 contribution from the Government of the People's Republic of China will be reported in the certified financial statement in 2021. The contribution for the year 2021 will be reported in 2022. This is a result of timing of receipt in TDR.*
3. *The 2020-2021 core contribution from WHO was received in full in 2020.*
4. *The 2021 designated contribution from GIZ includes funding from BMBF.*
5. *The 2021 designated contribution from WHO includes funding from UNPDF (the United Nations Peace and Development Trust Fund) for joint TDR/Global Malaria Programme activities.*

Thank you to our core contributors who provided **overall Programme** support in 2021.

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** Listed in order of level of contribution*