TDR For research on diseases of poverty

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TDR JOINT COORDINATING BOARD
46th Session
Agenda item 4.4

TDR/STRA/23.2
13 May 2023

TDR Results

2022 Report

Agenda item:	4.4
Action / Information:	JCB is invited to review and approve the report
Purpose:	This document presents TDR's results during 2022.

TDR Results

2022 Report

List of figures and tables

1. Summary

In 2022, TDR made significant progress on the 2018–2023 strategy, reaching or surpassing nearly all targets set for 2023, for annually measured output and outcome indicators. Importantly, TDR's contribution to translating innovation to health impact for the benefit of those burdened by infectious diseases of poverty was demonstrated by the significant number of tools and resources that were applied and/or informed policy and practice in disease endemic countries.

In particular, the key performance indicator (KPI) measuring when innovative knowledge, solutions or tools developed with TDR support were applied in disease endemic countries, was shown in 31 instances in 2022, reaching a total of 115 since 2017, and surpassing the cumulative objective of 100 set for the end of 2023.

An important contribution to this KPI comes from the Structured Operational Research and Training Initiative dedicated to antimicrobial resistance (AMR–SORT IT) introduced in 2019. Of the 36 AMR–SORT IT studies from Asia and Africa that were assessed in 2022, twelve months after completion, 25 influenced changes in policy and/or practice, 15 having led to actions implemented in 2022. Other examples include a TB diagnostic calibration toolkit used by six national TB programmes, or an innovative self-diagnosis and treatment kit for malaria validated in hard-to-reach communities integrated into the national programme in Suriname. A survey assessed the capacity of the 47 countries of the WHO African Region to prevent, detect and respond to arboviral disease outbreaks, informing future strategies and actions.

In 2022, we continued to build institutional and individual research capacity in low- and middle-income countries (LMICs): 153 fellows representing 49 countries started a postgraduate training, and all eight universities pursued virtual trainings to ensure smooth continuation, despite the COVID-19 restrictions. The impact of the Clinical Research Development Fellowship (CRDF) scheme was assessed and showed a positive trend in the fellows' involvement in both product development and health systems research in LMICs. A total of 215 individuals from various institutions benefited from the newly developed training module on 'effective communication of research findings' and 423 participants were trained via regional training centres on good research practices. A new Massive Open Online Course (MOOC) on gender and intersectionality in implementation research (IR) enrolled a total of 650 students and a new IR Toolkit module was used to guide researchers and health practitioners to develop IR proposals incorporating an intersectional gender lens.

In terms of global engagement for health research, TDR took a leading role in developing the World Health Organization (WHO) guidance document intended to clarify the policy and practice on the reuse and onward sharing for research purposes of health data collected under the auspices of WHO technical programmes. The HERMES practical guide to build mentorship capacity in LMICs was launched, as well as the equitable research partnerships good practice document published by ESSENCE in collaboration with UKCDR.

Regarding application of core values, the key performance indicator measuring the proportion of grant and contract funds awarded to women for the first time reached above the 50% target. At the same time, a continued progression was noted on contracts and grants awarded to disease endemic countries[1], which scored well above the target.

The conclusions and recommendations of the Seventh External Review of the Programme, conducted in 2022, represent an important source for ideas to improve current processes and to organize a broad consultation with stakeholders as part of the development of the TDR strategy 2024–2029.

[1] Disease endemic countries (DECs) are low- and middle-income countries with a burden of infectious diseases of poverty.

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

The 2022 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. 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 Thirteenth General Programme of Work (GPW13) triple billion targets[2].

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 TDR Performance Framework, which is aligned with TDR's 2018–2023 strategy, the GPW13 strategic objectives and relevant SDG targets (Fig. 2), has been in place since 2018. It will be updated to be aligned with the 2024-2029 strategy once endorsed by JCB.

Fig. 1. TDR contribution to the Sustainable Development Goals

As shown in Fig. 2, 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.

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

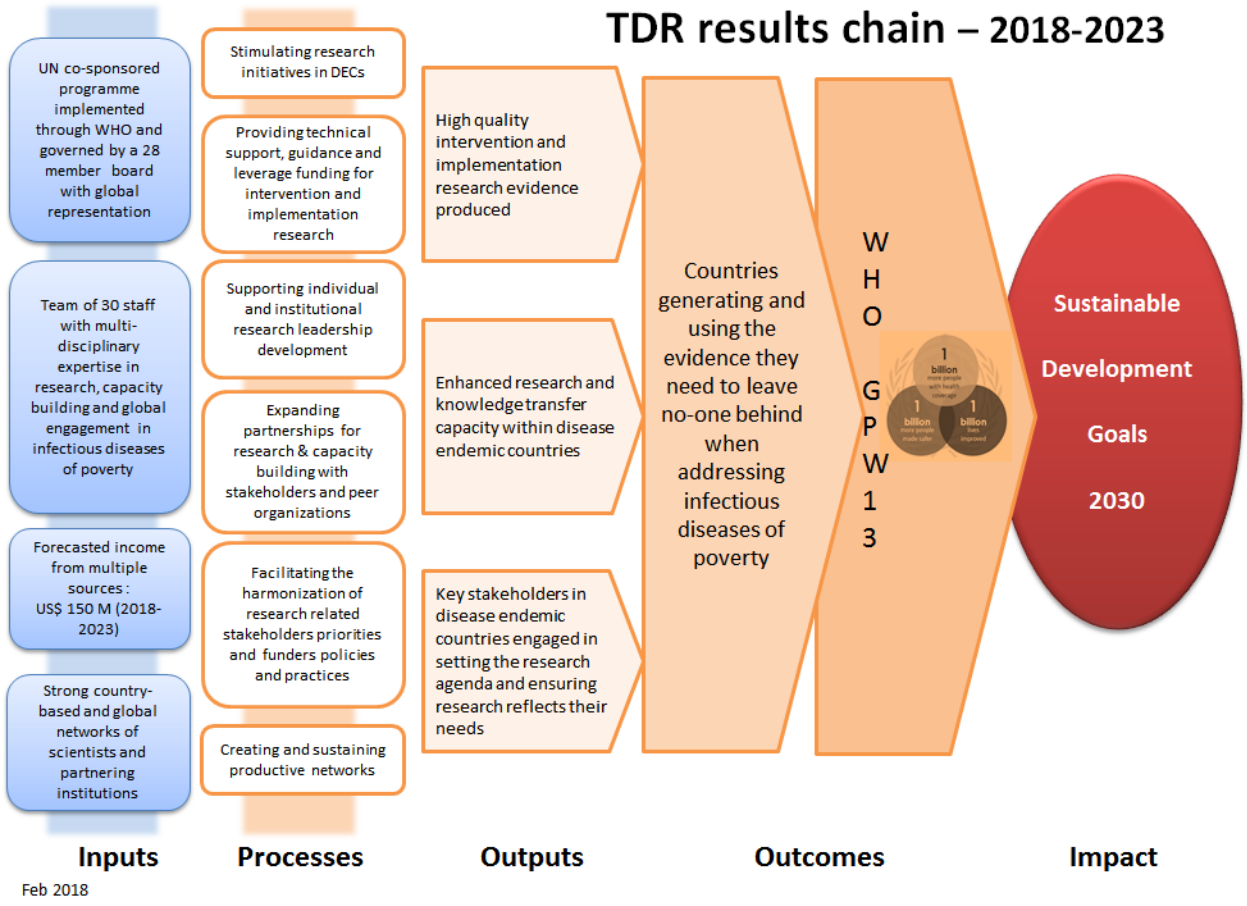


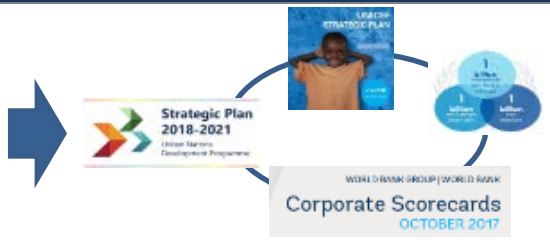
Fig. 2. TDR results chain

TDR's work is contributing to the research accelerator of the Global Action Plan for Healthy Lives and Well-being for All[3] 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.

[3] 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. 2022)*	Frequency of measurement
Technical expected results	  				
<u>Impact:</u> Evidence of progress made towards achieving the relevant SDG goals *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. 2022)*	Frequency of measurement
Outcome: **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.**	1. Number and evidence when innovative knowledge or new/improved solutions/tools developed with TDR support are applied in disease endemic countries	0	100	115 *(+31)*	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	23 *(+4)*	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	NA	NA	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	62 *(+6)* 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	20 *(+3)*	Measured annually, cumulative over i)6 years
	7. i) Number of TDR grantees/trainees per year (disaggregated by gender W/M) ii) Proportion demonstrating career progression and/or increased scientific productivity disaggregated by gender	79 (2017) 85% (2014)	150 ≥80%	850* *i) +226 (48%/52%)*	i) Measured annually ii) Measured on cohorts 3-5 years after training ended

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

* Only counting trainees and recipients of individual training grants (PG Training Scheme, CRDF, SORT IT trainees, Impact Grants for regional priorities) excluding MOOC, RTC trainees and other TDR grantees.

Expected results	Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2022)*	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	13 *(+3)*	Measured annually, cumulative over 6 years
	9. Evidence of stakeholder engagement in TDR joint initiatives aligned with TDR strategic objectives	NA	NA	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	80% DEC (count) 87% DEC (amount)	Measured annually
	11. Proportion of experts from DECs on TDR external advisory committees	78%	>60%	63%	Measured annually
	12. Proportion of peer-reviewed publications supported by TDR with authors from DEC institutions (first author - FA, last author - LA, corresponding author - CA, all authors –AA)	FA: 73% LA: 56% AA: NA	≥67%	FA: 76% LA: 57% CA: 75%	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%	159 95%	Measured annually
	14. Proportion of women among grantees/contract recipients (total count and total amount)	40% (count) 29% (amount)	50%	52% (count) 52% (amount)	Measured annually
	15. Proportion of women on TDR external advisory committees	50%	50%	69%	Measured annually
	16. Proportion of women authors of peer-reviewed publications supported by TDR (first author - FA, last author – LA, corresponding author –.CA)	FA: 38% LA: 24%	50%	FA: 45% LA: 37% CA: 44%	Measured annually
	17. Number and proportion of peer-reviewed publications explicitly considering vulnerable groups: i) gender and women issues; ii) people with disabilities	NA	80%	Total: 88 (58%) i) 9 (6%) ii) 13 (9%)	Measured annually

Expected results	Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2022)*	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)	*To be measured at biennium end*	Measured at the end of biennium
Value-for-money	19. Evidence demonstrating value-for-money, cost savings and/or enhanced efficiency or effectiveness	NA	NA	*To be measured at biennium end*	Measured at the end of biennium
Quality of work	20. Proportion of project reports evaluated as satisfactory by external advisory committees	100%	>80%	*To be measured at biennium end*	Measured at the end of biennium
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	*To be measured at biennium end*	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%	*To be measured at biennium end*	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%	*To be measured at biennium end*	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%	96%	Measured annually
	25. Proportion of expected results on track	89%	≥80%	71%	Measured annually
	26. Proportion of significant risk management action plans that are on track or completed	100%	≥80%	97%	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 2023 for the biennium 2024–2025).

3.1 Impact: Evidence of progress made towards achieving the relevant SDG goals

TDR's Strategy 2018–2023 shows how activities and results are expected to contribute to the SDGs, particularly to SDG3, but also to others (Fig. 1). 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 (Fig. 2). 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 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 (done every 5 or 6 years, the last was in May 2022), and through evaluation of the strategic work areas of TDR, or of specific long-term projects, as appropriate.

3.2 Outcome: 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 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 co-generation of new evidence and knowledge products guided by locally defined priorities, strengthening capacity in disease endemic countries to conduct good quality research and building close working relationships with key policy-makers to facilitate translation of new knowledge into effective disease control efforts.

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contribution 2022)*
1. Number and evidence when innovative knowledge or new/improved solutions/tools developed with TDR support are applied in disease endemic countries	0	100	115 *(+31)*
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	23 *(+4)*
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

- ✓ **Operational research on AMR demonstrates impact on policy and practice.**[5, 6] Of the 36 AMR–SORT IT studies from Asia and Africa that were assessed in 2022, 12 months after completion, 25 influenced changes in policy and/or practice. Of the latter, 10 have informed decisions to move research findings to actions and 15 have already led to actions implemented in 2022. Three examples worth highlighting are:
    - **Use of wastewater for agriculture. How safe is it in Accra, Ghana?** The wastewater from a major sewage treatment plant was found to be rendered safe enough after treatment for being re-utilized for fish farming.[7]
    - **Improving antimicrobial resistance surveillance in Nepal using operational research.** The study led to Standard Operating Procedures being established and major infrastructure enhancements to improve reporting. AMR surveillance was scaled up from 14 to 21 sites nationally and data quality improved.[8]
    - **Reporting on antimicrobial use in livestock in Sierra Leone: challenges, actions and impact.** The study led to the introduction of mandatory country-wide reporting on antibiotic use in livestock, training and the mobilization of significant resources (32 computer tablets and 30 motorbikes). All 15 districts in the country now report on livestock data and 88% of weekly reports are received.[9]

The results of this survey are consistent with those from the 12-month follow-up survey covering the 628 papers published from the first 65 SORT IT courses starting in 2009, of which 420 (67%) were shown to make a difference in policy and practice.

5 For impact on career progression and/or increased scientific productivity, disaggregated by gender see indicator 7.

6 See https://tdr.who.int/newsroom/news/item/06-02-2023-communicating-research-findings-to-tackle-antimicrobial-resistance-in-Ghana-Nepal-and-Sierra-Leone

7 Adomako, L. A. B et al. Reduced Bacterial Counts from a Sewage Treatment Plant but Increased Counts and Antibiotic Resistance in the Recipient Stream in Accra, Ghana—A Cross-Sectional Study. Tropical Medicine and Infectious Disease. 2021;6(2), 79. https://doi.org/10.3390/tropicalmed6020079

8 Acharya, J et al. Quality assessment of an antimicrobial resistance surveillance system in a province of Nepal. Tropical Medicine and Infectious Disease. 2021;6(2):60.

9 Leno, A et al. Veterinary Healthcare Provision and Quality of Reported Data on Antimicrobial Use in the Treatment of Livestock in Sierra Leone, 2016–2019. Tropical Medicine and Infectious Disease. 2021;6(2):73.

- ✓ **TB detection calibration toolkit** (CAD calibration research package[10]) developed in collaboration with the WHO Global Tuberculosis Programme (GTB) **is used by the national TB programme in Ghana and five countries in the WHO European Region** (Armenia, Georgia, Republic of Moldova, Romania and Ukraine).
- ✓ **An innovative self-diagnosis and treatment kit for malaria (Malakit) validated in hard-to-reach communities is integrated into the national programme in Suriname.**[11] The kit brings together rapid diagnostic tests and a full course of adequate antimalarial treatment and is easy to use, as proven by community-based studies previously conducted by TDR. The target groups are remote populations and migrant communities not covered by the health systems of endemic countries. A documentary presenting this work won the Health Innovation Special Mention at the WHO 3rd Health for All Film Festival.[12] The kit is now being tested in two other countries (Brazil and French Guiana).
- ✓ **Research for tools for onchocerciasis elimination programmes in Africa to support decisions to stop ivermectin mass drug administration.** As per WHO guidelines,[13] countries need to conduct the evaluations to decide whether criteria for stopping ivermectin mass drug administration has been met in each area that constitutes a 'transmission zone'. However, no objective criteria to delineate transmission zones exists.
    - o **Ethiopia:** The TDR-funded research notably on vectors in Ethiopia and the evaluation of the results by the Ethiopian Onchocerciasis Elimination Expert Advisory Committee, led the Ethiopian national onchocerciasis elimination programme to include genetic criteria into the definition of transmission zones.
- ✓ **Government approved multisectoral approach (MSA) committees to control vector-borne diseases (VBDs) established in Burkina Faso, Ecuador, Mali and Nigeria**. Following the TDR developed guidance framework "Multisectoral approach to the prevention and control of vector-borne diseases",[14] TDR and the WHO Water and Sanitation group conducted case studies and strengthened country capacity on the multisectoral approach against VBDs, with a focus on the WASH sector in 12 low- and middle-income countries.[15]
- ✓ **Integrating community engagement (CE) in implementation research (IR) and social innovation in health (SIH).** Following the TDR, Social Innovation in Health Initiative (SIHI) and WHO regional offices joint call for proposals to identify good practices in CE in IR and SIH, of the 10 highest rated projects selected for funding in 2021, three showed an impact on policies and/or practice in 2022 (Ethiopia, Guatemala, Philippines).[16]
    - **Ethiopia:** Development of a National guideline on CE in the research process is under way. The two national research institutes and two universities committed to revise their policy and integrate CE into their research guidelines, as well as to build the capacity of researchers and research managers.
    - **Guatemala:** Development of a guide to promote best practices in community participation for vector-borne and congenital Chagas disease prevention and control finalized. Approval by the Ministry of Health pending.

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10 See https://tdr.who.int/activities/calibrating-computer-aided-detection-for-tb

11 See https://tdr.who.int/newsroom/news/item/23-04-2022-sharing-knowledge-on-controlling-and-eliminating-malaria-in-remote-populations

12 See https://www.who.int/news/item/13-05-2022-who-announces-winners-at-the-awards-ceremony-of-the-3rd-health-for-all-film-festival-(haff)

13 World Health Organization. (2016). Guidelines for stopping mass drug administration and verifying elimination of human onchocerciasis: criteria and procedures. World Health Organization. https://apps.who.int/iris/handle/10665/204180

14 Multisectoral approach for the prevention and control of vector-borne diseases. Geneva: World Health Organization; 2020. Licence: CC BY-NC-SA 3.0 IGO.

15 See https://tdr.who.int/activities/multisectoral-approaches-for-controlling-and-preventing-vector-borne-diseases

16 See Indicator 8 for outputs

- **Philippines:** Research findings on enablers and barriers of community engagement and gender inclusivity in research contributed to the revision of a chapter in the Draft National Ethical Guidelines (2022 National Guidelines for Research involving Human Participants).

✓ **Using the TDR "Practical Guide on Crowdsourcing in Health and Health Research**",[17] published in collaboration with SIHI and TDR Global in 2021, SIHI China organized a global crowdsourcing open call (Go Youth!) focused on youth social innovation. The Go Youth! Global Open Call 2022 successfully established a global and diverse steering committee. From 156 submissions and 99 eligible, 10 finalists received support to conduct research on their social innovations.[18]

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

✓ **Assessing arboviral disease surveillance capacity in the WHO African Region identifies opportunities for intervention.** TDR, in collaboration with the WHO Department of Control of Neglected Tropical Diseases (WHO/NTD) and the WHO Regional Office for Africa, conducted a survey in all 47 countries of the WHO African Region to assess health system capacity to prevent, detect and respond to arboviral disease outbreaks. The report: "Surveillance and control of arboviral diseases in the WHO African Region: assessment of country capacities", has been released.[19]

✓ **Lessons from the Indian subcontinent confirm critical role of implementation research in visceral leishmaniasis (VL) elimination, relevant in Africa.** In collaboration with WHO/NTD, consultative meetings and a stakeholder survey were conducted on prospects for VL elimination efforts in Eastern Africa and on generating lessons learned from TDR-supported implementation research conducted in Bangladesh and Nepal. A bi-regional strategic plan is being developed through WHO stewardship and TDR will contribute through support to selected implementation research priorities identified in the process.[20, 21]

✓ **A new version of the early warning system of climatosensitive diseases (EWARS) launched in 17 countries across the world.**[22] The updated tool (EWARS+) was developed to facilitate the calibration process. Virtual trainings and the engagement of a broader range of stakeholders (e.g. IT, data management personnel) facilitated the installation on national servers and promoted country ownership of the tool.

✓ **The implementation research toolkit for digital TB care (IR4DTB)**[23] **was translated into Russian and used to support an online workshop in the WHO European Region**. Six countries were selected to receive funding to conduct the IR proposals developed during the workshop and are currently being supported by mentors to develop study protocols for submission to local ethics committees.

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17 Public engagement and crowdfunding in health research: a practical guide. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO

18 See https://cn.seshglobal.org/%E4%BC%97%E5%8C%85/%E4%BC%97%E5%8C%85%E5%A4%A7%E8%B5%9B/go-youth-global-open-call-2022

19 Surveillance and control of arboviral diseases in the WHO African region: assessment of country capacities. Geneva: World Health Organization; 2022. Licence: CC BY-NC-SA 3.0 IGO. See https://tdr.who.int/publications/i/item/9789240052918

20 See https://tdr.who.int/our-work/research-for-implementation/neglected-tropical-diseases-research/visceral-leishmaniasis-research

21 See https://www.who.int/news-room/events/detail/2023/01/24/default-calendar/stakeholders-meeting-for-the-development-of-a-strategic-plan-for-the-elimination-of-visceral-leishmaniasis-in-east-africa

22 See https://www.gu.se/sites/default/files/2022-03/GHHG_PolicyBrief_EWARS-2022.pdf

23 See https://www.ir4dtb.org/en/

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

- ✓ **Investigators in LMICs demonstrate the critical need for gender-based analysis and intersectionality in infectious diseases research.** The research in Uganda used intersectional gender analysis to explore and explain dimensions of vulnerability to Schistosomiasis disease and its treatment and the influence of gender and other intersecting factors in TB care. The team in Nepal looked at gender and its intersection with social stratifiers influencing lymphatic filariasis prevention and care and assessed where Nepal is at regarding a gender inclusive health system, focusing on the TB case as an example. The studies further highlighted the importance of analysing how gender power relations intersect with other social stratifiers to understand how policies, services and programmes can help address these inequities. Study reports are available, and papers have been submitted for publication.
- ✓ **Role of the private health sector in providing healthcare for women and children in Ghana and the United Republic of Tanzania.**[24] A collaborative study between SIHI/TDR, UNICEF and UNDP on the role of the private sector in healthcare delivery in low- and middle-income countries has just been completed in Ghana and the United Republic of Tanzania. The study provides insights into how private sector engagement and interactions could be enhanced in order to improve quality of healthcare for women and children. Study findings were disseminated to and discussed with key target audiences, including ministries of health and their implementing partners. This dissemination has now been completed in both Ghana and the United Republic of Tanzania. Publications on the work have been prepared and are undergoing peer review.
- ✓ **Advancing the management of skin-related neglected tropical diseases in Ghana: exploration of gender-related factors and mobile technology.**[25] Through the ADP project and with the support of TDR, a team from the National Buruli Ulcer Control & Yaws Eradication and National Leprosy Control Programmes in Ghana explored gender-related factors affecting care of skin NTDs in three districts in the central region of Ghana. The learnings from this study call for a gender-based approach to healthcare provision and uptake. Plans are now to evaluate the use of a mobile phone application, the WHO SkinNTDs app, by frontline healthcare workers in Ghana to facilitate skin NTD diagnosis

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. 2022)*
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	62 *(+6)* 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)*

[24] See https://tdr.who.int/newsroom/news/item/13-12-2022-role-of-the-private-health-sector-in-providing-healthcare-for-women-and-children-in-Tanzania-and-Ghana

[25] See https://tdr.who.int/newsroom/news/item/14-12-2022-advancing-the-management-of-skin-related-neglected-tropical-diseases-in-ghana-exploration-of-gender-related-factors-and-mobile-technology

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 2022, 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 2022, therefore becoming outcomes.

- ✓ **Operationalising a One Health approach**[26] **to research on vector-borne diseases in the context of climate change in Africa.** Four pilot studies employing a transdisciplinary approach and holistic framing that TDR contributed to[27] were completed in 2022. Human and animal health and environmental integrity concerns were addressed, providing a more comprehensive understanding of the problems and potential solutions to diseases such as malaria, schistosomiasis, Rift Valley fever and human African trypanosomiasis (Côte d'Ivoire, [28] Kenya,[29] South Africa,[30] United Republic of Tanzania[31]).
- ✓ **TB and SARS-CoV2 bidirectional screening survey developed by TDR and GTB** following recommendations from the Global Fund to Fight AIDS, Tuberculosis and Malaria on dual TB and COVID-19 testing algorithms. The objective was to identify current approaches to test for both TB and SARS-CoV-2, criteria used, challenges encountered and results achieved. Thirty-one countries from all six WHO regions participated. A webinar was held in July 2022 to present preliminary results and a report is available.[32]
- ✓ **Innovative approaches for improving drug and vaccine safety shared during South-South webinars** organised by TDR in collaboration with the Regional Office for Africa. Learnings from implementation research studies conducted in Burkina Faso, Ghana, Malawi, Philippines and Uganda were shared with 199 attendees from 45 countries from all WHO regions (78% from the African region). A majority (64%) were representing a ministry of health or a government agencies.[33]
- ✓ **Special issue in GigaByte Journal** Vectors of human disease series[34] released in June. The special issue includes 11 papers with data on vectors that transmit vector-borne diseases, presenting over 500 000 occurrence records and 675 000 sampling events from more than 50 countries. The journal received the Association of Learned and Professional Society Publishers (ALPSP) innovation award for this publication.[35]
- ✓ **Development of an evidence-led essential research skills training curriculum.**[36] TDR, in partnership with the Global Health Network, developed this curriculum study with the objective of identifying what constitutes the minimum set of skills, knowledge and key principles that enable those with limited or no previous experience to undertake high-quality research for health. This comprehensive research study[37] has resulted in a set of modules as well as guidance for implementation. Any organization wanting to design or strengthen their training programmes or courses can benefit from these

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[26] See Wilcox, B.A., Steele, J.A. (2021). One Health and Emerging Zoonotic Diseases. In: Haring, R., Kickbusch, I., Ganten, D., Moeti, M. (eds) Handbook of Global Health. Springer, Cham. https://doi.org/10.1007/978-3-030-05325-3_88-1

[27] See https://tdr.who.int/newsroom/news/item/09-12-2021-one-health-handbook-published-for-tackling-vector-borne-diseases

[28] See https://tdr.who.int/activities/pilot-testing-the-one-health-framework-(côte-d-ivoire-and-mauritania)

[29] See https://tdr.who.int/activities/pilot-testing-the-one-health-framework-(kenya)

[30] See https://tdr.who.int/activities/pilot-testing-the-one-health-framework-(south-africa)

[31] See https://tdr.who.int/activities/pilot-testing-the-one-health-framework-(united-republic-of-tanzania)

[32] See https://tdr.who.int/docs/librariesprovider10/meeting-reports/dual-testing-for-tb-and-sars-cov-2-country-reports.pdf

[33] See https://tdr.who.int/activities/innovative-approaches-for-improving-drug-vaccine-safety

[34] See https://gigabytejournal.com/articles/series/GIGABYTE_SERIES_0002

[35] See https://www.alpsp.org/Awards

[36] See https://tdr.who.int/publications/i/item/9789240042896

[37] De la Horra A, Feune de Colombi N, Baker B, Dahal P, Launois P, Maher D, Lang T. Developing an evidence-led essential research skills training curriculum. Geneva: World Health Organization; 2022. Licence: CC BY-NC-SA 3.0 IGO

evidence-led recommendations and identify approaches that are most likely to be suitable for their specific context.

- ✓ **A new IR Toolkit module on Integrating an intersectional gender lens in implementation research** guides researchers and health practitioners to develop an IR proposal incorporating an intersectional gender lens.[38]

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

Safety first: TDR brings safety to the fore as an essential element of evidence-based decision-making. Two 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)
- ✓ 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)

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)**,[39] which includes the Worldwide Antimalarial Resistance Network[40] 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.

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38 See https://adphealth.org/irtoolkit/upload/download/module-8/intersectional-gender-lens.pdf?v=230213

39 See IDDO https://www.iddo.org/

40 See WWARN https://www.wwarn.org/

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. 2022)*
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	20 *(+3)*
7. i) Number of TDR grantees/trainees per year (disaggregated by gender W/M) ii) Proportion demonstrating career progression and/or increased scientific productivity by gender	79* (2017) 85% (2014)	150* ≥80%	850* i) +226 (48%/52%)

**Only counting trainees and recipients of individual training grants (PG Training Scheme, CRDF, SORT IT trainees, Impact Grants for regional priorities).*

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

- ✓ **A second Regional Training Centre (RTC) for French speaking countries in sub-Saharan Africa (SSA) selected.** After including the Université Cheikh Anta Diop in Dakar in 2021, the training scheme was expanded in 2022 to include the University of Sciences, Techniques and Technologies Bamako (USTTB), Mali to serve as a sub-Regional Training Centre for French-speaking countries in SSA.
- ✓ **RTC in Ghana developed a short course on the Principles of Implementation Research (PIR).** The School of Public Health in Ghana developed and ran an online version of the PIR for 25 participants in collaboration with the Kenyatta University School of Public Health in July 2022. The PIR training course is also now strategically implemented in other RTCs, such as CIDEIM in Latin America.
- ✓ **Two RTCs piloting a new MOOC grant scheme.** In 2022, five MOOC grants on infectious diseases of poverty were implemented with the Gadjah Mada University, Indonesia, and 10 grants with the Université Cheikh Anta Diop, Senegal. Selected trainees are offered a customised mentorship to enable them to rapidly apply the skills developed during the didactic component of the training, by incorporating a grant to complete an IR project. If the scheme is successful, TDR would like to link the MOOC grant scheme with each MOOC session.

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

- ✓ **Postgraduate training scheme**
  - In 2022, 153 fellows (76 women and 77 men) representing 49 countries started a postgraduate training in selected universities in Bangladesh (30), Ghana (25), India (14), Indonesia (15), Senegal (46), South Africa (10) and Zambia (13).
  - The School of Public Health, Indian Institute of Health Management (IIHM), India, and the Université Cheikh Anta Diop in Dakar, Senegal, had their first cohort commencing in 2022.
  - All universities pursued virtual trainings to ensure smooth continuation of the scheme, despite the COVID-19 restrictions.

- ✓ **TDR Clinical Research and Development Fellowship Scheme (CRDF)**
  - Of the 18 fellows placed in 2021, six have finished their placement in 2022 and developed their re-entry plan. Two reintegration projects are focused on project management skills and one on establishing a network of institutions working in clinical research in Argentina. Finally, one fellow also concentrated his efforts on pharmacovigilance. Re-entry plans for the other 12 fellows are expected to be completed in 2023.
  - **The impact of the CRDF scheme at the three levels** (individual, institutional and societal) **was assessed,** in collaboration with the Centre for Science and Technology Studies, Leiden University in the Netherlands. TDR reviewed the publications output of the fellows, pre- and post-grant, as a proxy of the impact of the fellowship on their career progress. Around 935 publications from 2000 to 2019, were retrieved from Web of Science and PubMed in which CRDF fellows were co-authors. There was a general increase in the fellows' publications output since their fellowship. This includes their involvement in both product development and health systems research.
- ✓ **Regional Training Centres**
  - In 2022, 423 participants were trained on good research practice via regional training centres, 68% of these were women. Beyond skills-building, RTCs have been empowered to serve as training hubs through train-the-trainer courses and workshops and utilizing existing expertise in disease endemic countries.
- ✓ **New MOOC on gender and intersectionality in IR**
  - In June 2022, TDR, in collaboration with the United Nations University in Malaysia, launched a new module of the Massive Open Online Course (MOOC) on incorporating an intersectional gender perspective in IR. The duration of the course is three weeks, with an estimated 2.5 hours per week of study time. The pilot course for this new module enrolled 450 students of which 284 completed their registration and 112 got the pass mark of 80% to receive a certificate. A second session, facilitated by the University of Ghana, included 200 participants, of whom 176 completed the course.
- ✓ **SORT IT: Operational research contributes to developing a critical mass of health workers at all levels of the heath system**
  - Overall, 53 trainees were enrolled in SORT IT in 2022, of which 22 (42%) were women.
  - A survey conducted in 2022, 12 months after completion of an AMR–SORT IT cycle, showed that of the 35 trainees from Asia and Africa, 23 (64%) completed a new research study, which demonstrates their acquired research capacity, and nine (25%) became mentors through a train-the-trainer programme. In practice, 31 (86%) were applying their skills to AMR and 20 (56%) to the COVID-19 response.
  - The results of this 12-month follow-up survey are consistent with those of the previous survey of the first 65 SORT IT courses since 2009. It shows that among the 606 respondents, 308 (51%) independently completed research projects after a SORT IT cycle, 223 (37%) published papers after the course and 151 (25%) facilitated at further operational research courses.
- ✓ **Effective communication of research findings:**
  - A total of 215 individuals from various institutions benefited from the newly developed training module (SORT IT module 4) on 'effective communication of research findings' to maximize the opportunities for research uptake.41 Three-minute lighting videos below the scientific abstracts were also successfully integrated on journal websites. This is a pioneering and unprecedented step in further enhancing research dissemination and research uptake through engagement with scientific journals.

[41] See video developed during Module 4 in Ghana https://youtu.be/y5DQLykpGbg

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. 2022)*
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	13 *(+3)*
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 assessment and dissemination of the survey results on arboviral disease surveillance capacity in 47 countries of the WHO African Region.** The report: "Surveillance and control of arboviral diseases in the WHO African Region: assessment of country capacities", has been released.[42]
- ✓ **TDR's leading role in developing guidance documents for WHO staff:**
  - In 2022, TDR used the guidance for WHO staff managing research priority setting[43] to provide technical assistance to three WHO-led priority setting exercises:
    - One Health research priorities to tackle AMR (ongoing)
    - Research priorities to investigate the barriers to implementing known interventions in human health to tackle AMR (ongoing)
    - Priorities for research within the NTD Roadmap (ongoing)
  - In 2022, TDR took a leading role in developing the WHO guidance document intended to clarify the policy and practice on the reuse and onward sharing for research purposes of health data collected under the auspices of WHO technical programmes.[44]

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

- ✓ **Strategic directions for potential collaboration with African health research funding agencies identified** at the annual Southern African Research and Innovation Management Association (SARIMA) conference through a policy dialogue led by members of the ESSENCE on Health Research initiative.
- ✓ **Equitable research partnerships good practice document published by ESSENCE in collaboration with UKCDR.** The new good practice document was launched at the UNGA77 Science Summit.
- ✓ **Launch of HERMES, the TDR practical guide to build mentorship capacity and support mentorship institutionalization in LMICs**. The Ethiopia (AHRI) and China (SESH) nodes, together with the three TDR Global regional nodes, played a pivotal role in researching the evidence,

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42 Surveillance and control of arboviral diseases in the WHO African region: assessment of country capacities. Geneva: World Health Organization; 2022. Licence: CC BY-NC-SA 3.0 IGO. See https://tdr.who.int/publications/i/item/9789240052918

43 A systematic approach for undertaking a research priority-setting exercise. Guidance for WHO staff. Geneva: World Health Organization; 2020. Licence: CC BY-NC-SA 3.0 IGO. See https://www.who.int/publications/i/item/9789240009622

44 Sharing and reuse of health-related data for research purposes: WHO policy and implementation guidance. Geneva: World Health Organization; 2022. Licence: CC BY-NC-SA 3.0 IGO. See https://www.who.int/publications/i/item/9789240044968

analysing the data and compiling the results from scoping reviews and a global crowdsourcing contest.[45] The guide is specifically designed for LMIC institutions with limited resources.

- ✓ **SIHI in 2022, an increasingly country-led network:** System change through institutionalization of social innovation: A growing number of universities and institutions (SIHI hubs) in LMICs promote social innovation and have institutionalized social innovation in their organization and in their country policy systems.
  - o Governments have started to embed social innovation research and develop specific centres and programmes: Malawi, Nigeria, Philippines
  - o New formal partnerships were formed with governments: Malawi, Uganda
  - o Social innovation in health course integrated in academic curricula: Columbia, Honduras, Malawi, Philippines, Uganda

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. 2022)*
10. Proportion of TDR grants/contracts awarded to institutions or individuals in DECs (total count and total amount)	62% (count) 74% (amount)	75% DEC	80% DEC (count) 87% DEC (amount)
11. Proportion of experts from DECs on TDR external advisory committees	78%	>60%	63%
12. Proportion of peer-reviewed publications supported by TDR with authors from DEC institutions (first author - FA, last author - LA, corresponding author - CA, all authors –AA)	FA: 73% LA: 56% AA: N/A	≥67%	FA: 76% LA: 57% CA: 75% AA:
13. Number of peer-reviewed publications supported by TDR and percentage published in open/free access	200 88%	≥150/year 100%	159 95%
14. Proportion of women among grantees/contract recipients (total count and total amount)	40% (count) 29% (amount)	50%	52% (count) 52% (amount)
15. Proportion of women on TDR external advisory committees	50%	50%	69%
16. Proportion of women authors of peer-reviewed publications supported by TDR (first author - FA, last author - LA)	FA: 38% LA: 24%	50%	FA: 45% LA: 37% CA: 44%
17. Number and proportion of peer-reviewed publications explicitly considering vulnerable groups: i) gender and women issues; ii) people with disabilities	N/A	80%	Total: 88 (58%) i) 9 (6%) ii) 13 (9%)

[45] See https://tdr.who.int/publications/i/item/9789240058675

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

In 2022, 514 grants/contracts were awarded for a total of US$ 9.7 million. Of all the grants, 80% were awarded to DECs, demonstrating a continuous increase from 62% in 2019, 64% in 2020 and 67% in 2021. Similarly, the percentage of the amount awarded to DECs in 2022 (87%) was higher than the last three years.

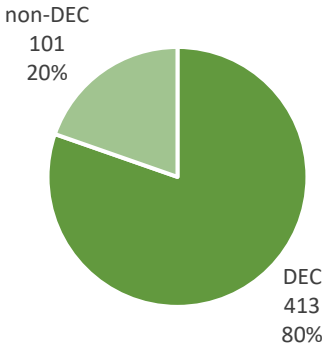

Fig. 3. GRANTS/CONTRACTS: Proportion awarded to disease endemic countries (count) in 2022

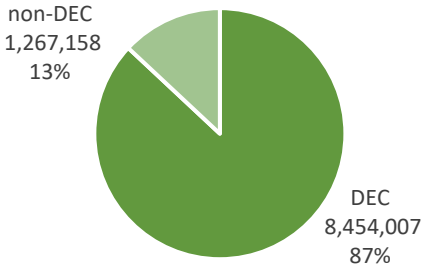

Fig. 4. GRANTS/CONTRACTS: Proportion awarded to disease endemic countries (amount US$) in 2022

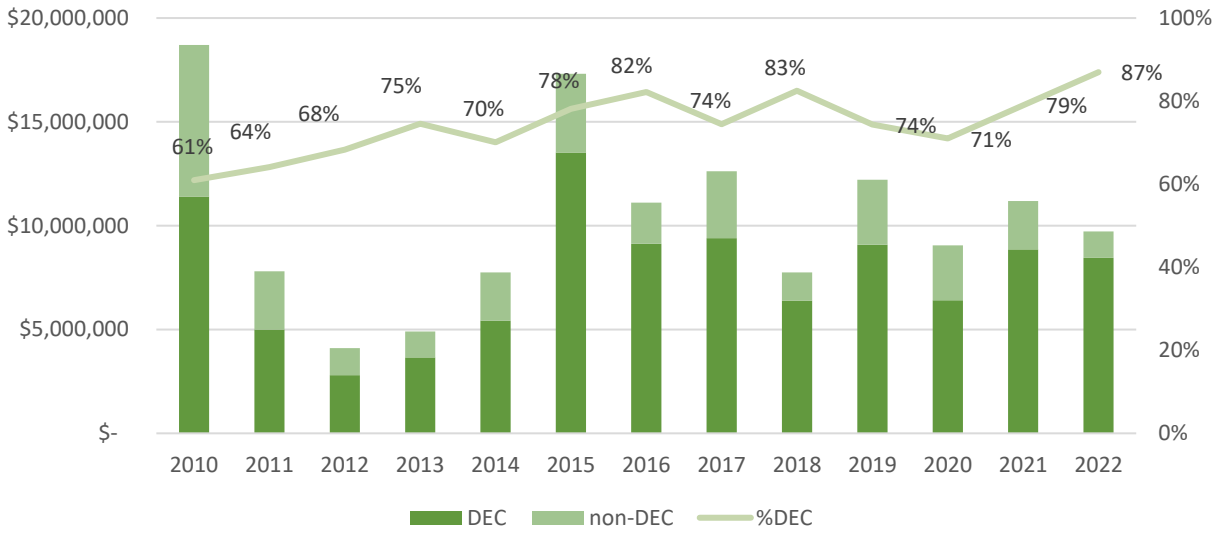

Fig. 5. GRANTS/CONTRACTS: Yearly progress in amounts (US$ and %) awarded to DECs

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

In 2022, the proportion of TDR advisers originating from low- and middle-income disease endemic countries was at 63%, stable compared to 2021, and above the target of 60%.

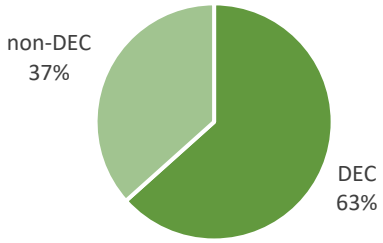

Fig. 6. EQUITY: Proportion of advisers from disease endemic countries, 2022

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

There were 159 TDR-supported peer reviewed publications in 2022. Among the authors of these publications,[46] the proportion of first authors from DECs was 76%, 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.

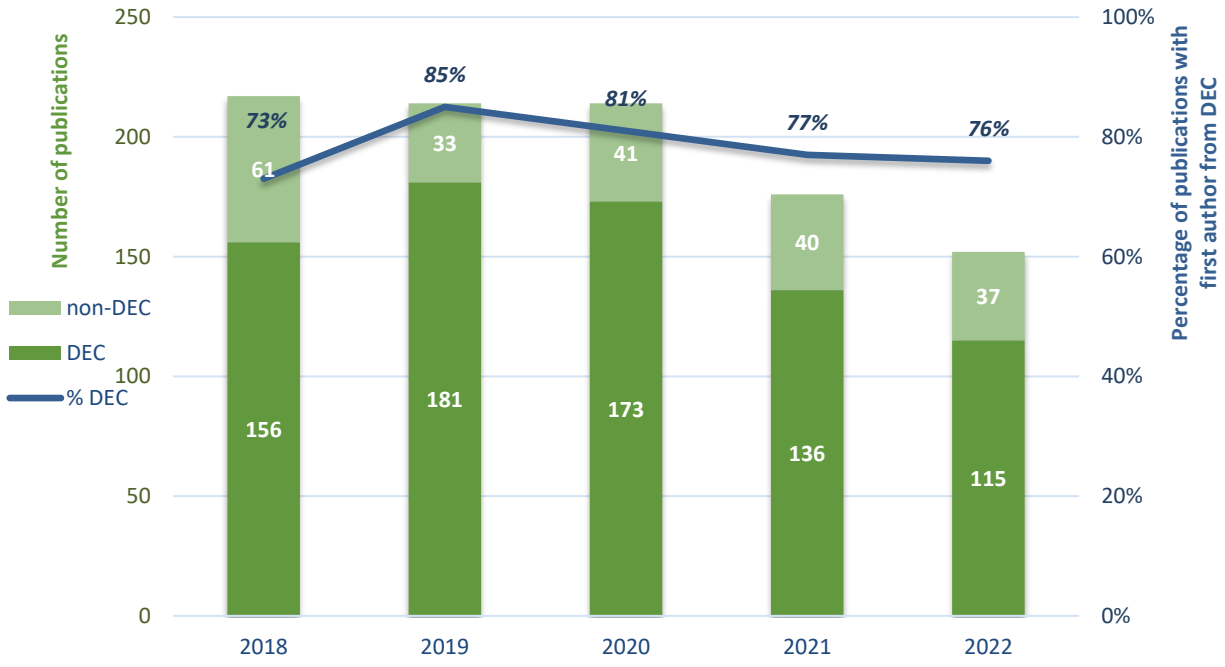

Fig. 7. EQUITY: Proportion of first authors from DECs, yearly progress 2018 to 2022

[46] Analysis performed on 152

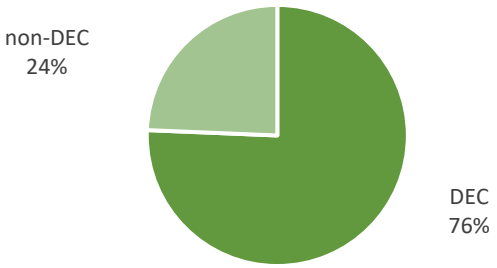

Fig. 8. EQUITY: Proportion of first authors from DECs, 2022

The proportion of last authors from DECs, while still above the baseline established in 2017 (56%), has continued to decrease from 68% in 2020, 60% in 2021 to 57% in 2022.

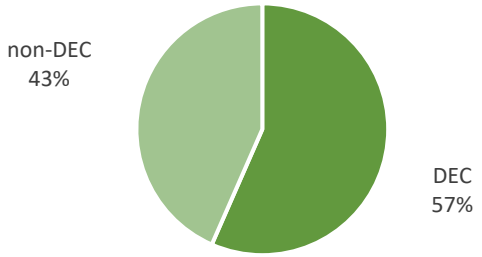

Fig. 9. EQUITY: Proportion of last authors from DECs, 2022

Similarly, the proportion of corresponding authors from DECs has dropped slightly from 79% in 2021 to 75% in 2022.

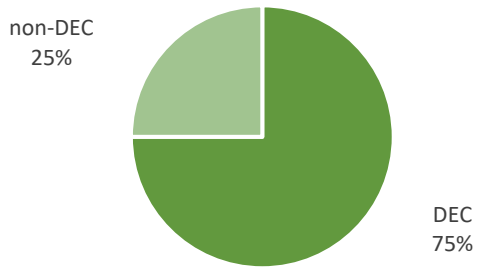

Fig. 10. EQUITY: Proportion of corresponding authors from DECs, 2022

The distribution of TDR-supported publications by country of first authors in 2022 is shown below. The ranking shows that the top four are from a DEC.

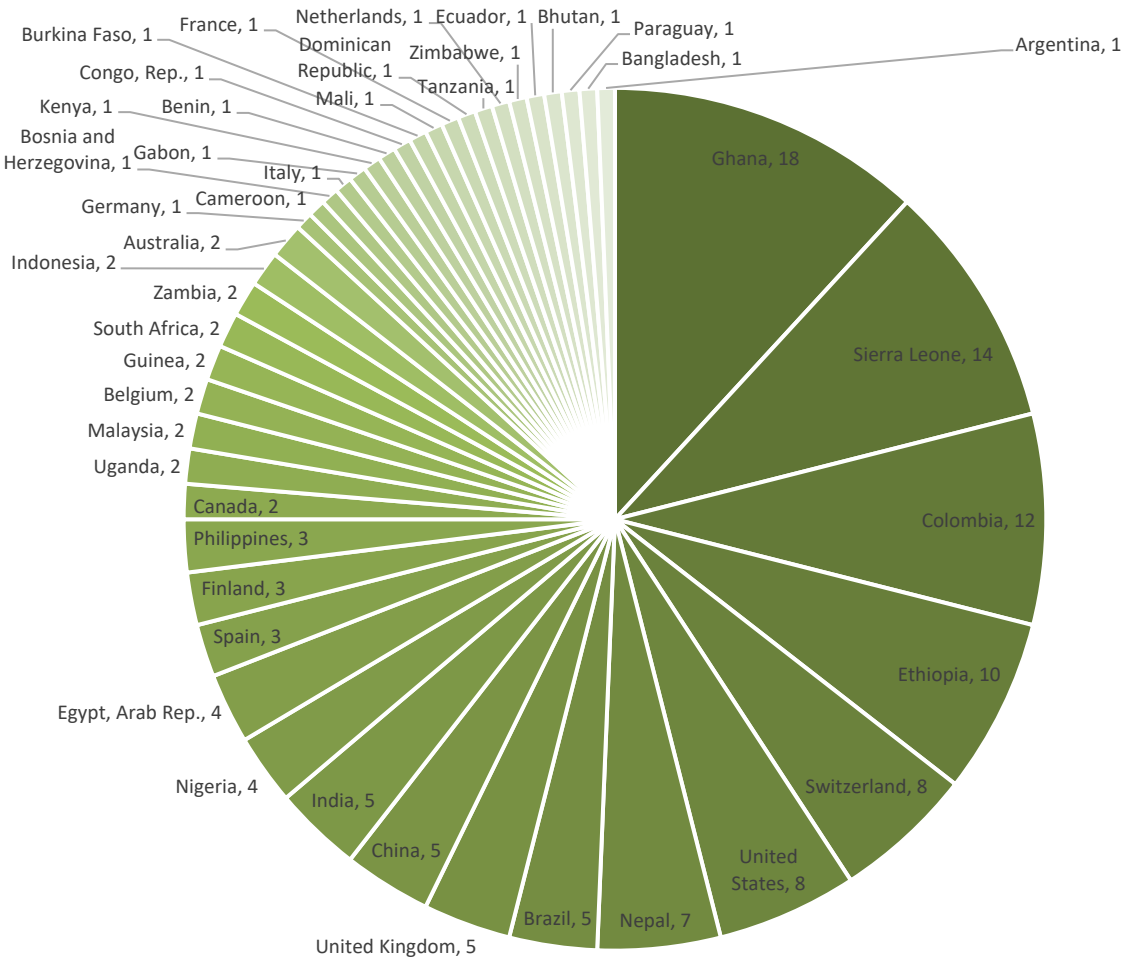

Fig. 11. EQUITY: First author country representation, 2022

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 2022 was 158, which is less than in 2021. A complete list is included 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 2022, 95% of TDR-supported publications were published in open or free access, this is similar to 2021.

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. We are currently doing a survey and will analyse the reasons why authors choose not to publish in open access.

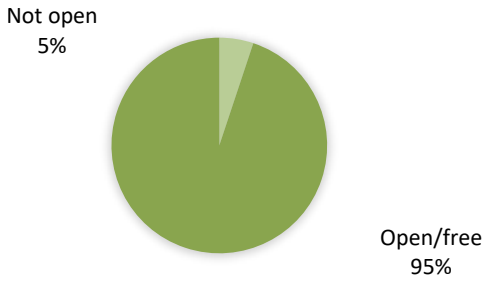

Fig. 12. EQUITY: Proportion of publications in open/free access, 2022

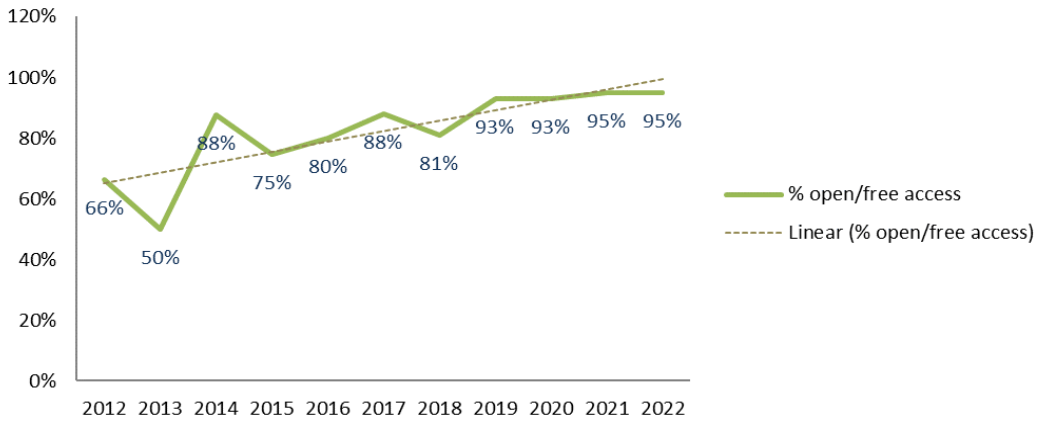

Fig. 13. EQUITY: Proportion of publications in open/free access, yearly progress 2012 to 2022

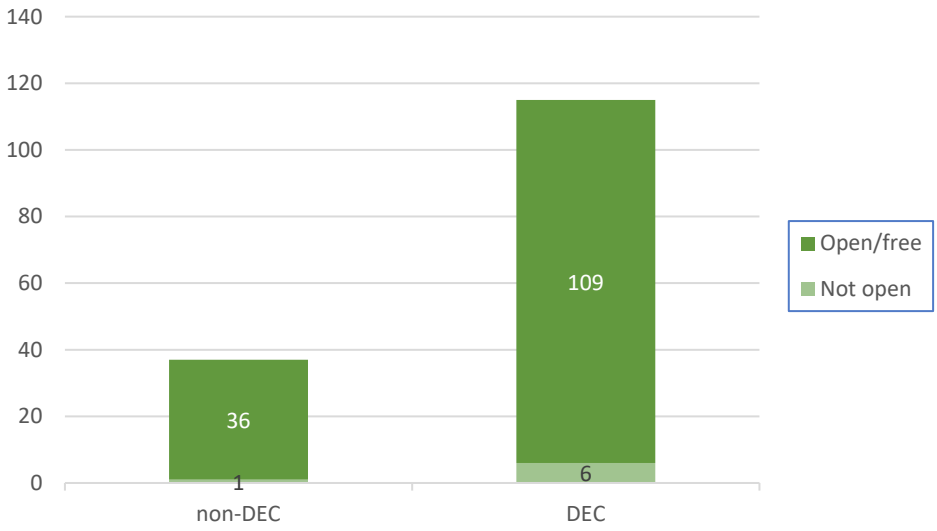

Fig. 14. EQUITY: Proportion of publications in open/free access, by DEC/non-DEC status of first author, 2022

The seven publications that were not in open/free access had first authors from the following countries: China, Colombia, Ecuador, Gabon, Ghana, Indonesia, Switzerland.

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

In 2022, 52% of contracts or grants were awarded to women. This represents a continuous positive trend from 2020 (46%) and 2021 (49%). Importantly, the share of the amount awarded to women reached 52% in 2022, thus above the 50% target.

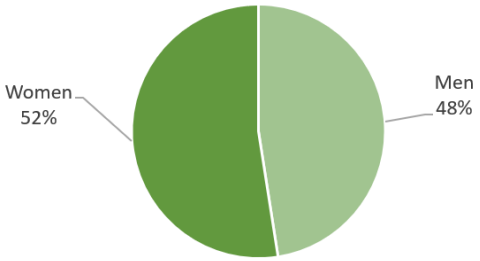

Fig. 15. GENDER: Proportion of grants and contracts awarded to women (% count), 2022

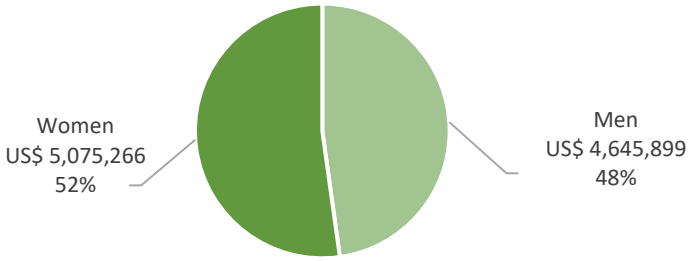

Fig. 16. GENDER: Proportion of grants and contracts awarded to women (amount US$) in 2022)

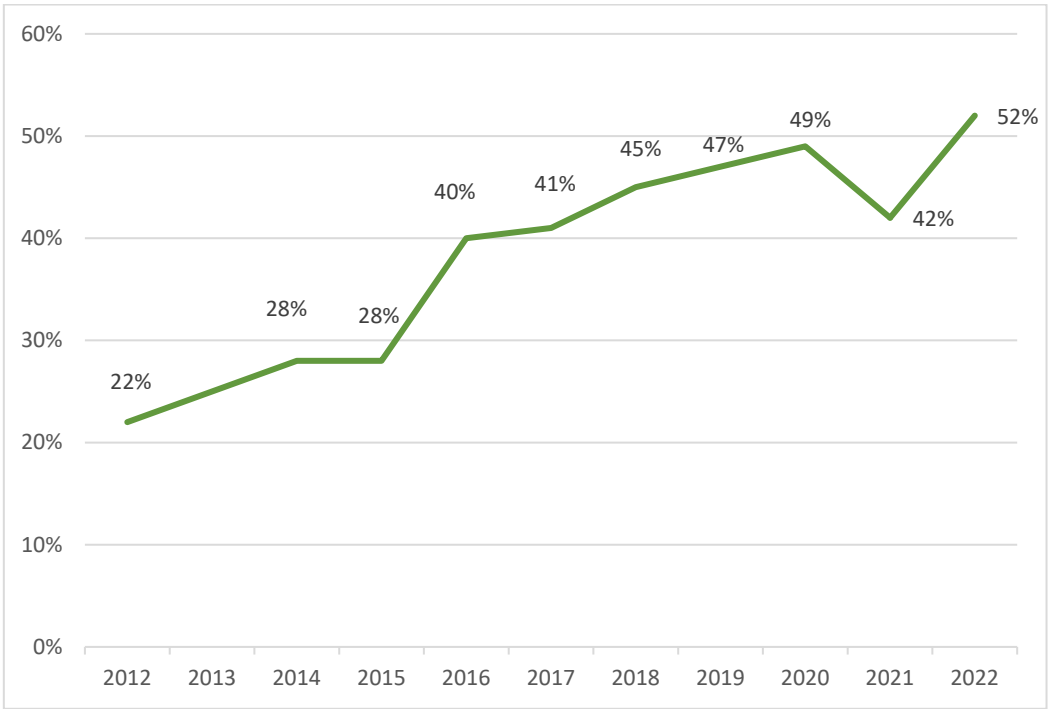

Fig. 17. GENDER: Proportion of grants and contracts awarded to women, yearly progress (% amount US$) 2022

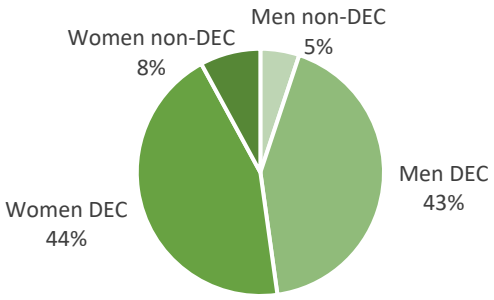

Fig. 18. GENDER: Proportion of contracts/grants (% amount US$) awarded to men and women in DECs and non-DECs in 2022

Indicator 15 - Proportion of women on TDR external advisory committees

In 2022, 59 individual experts were involved in TDR's external advisory committees. As some experts sit on more than one committee, they represented 71 expert seats. The proportion of women amongst them was 64% but representing 69% of the seats. 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%.

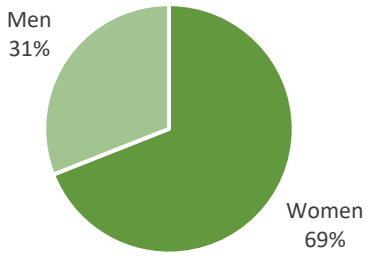

Fig. 19. EQUITY: Gender distribution of external expert advisers, 2022

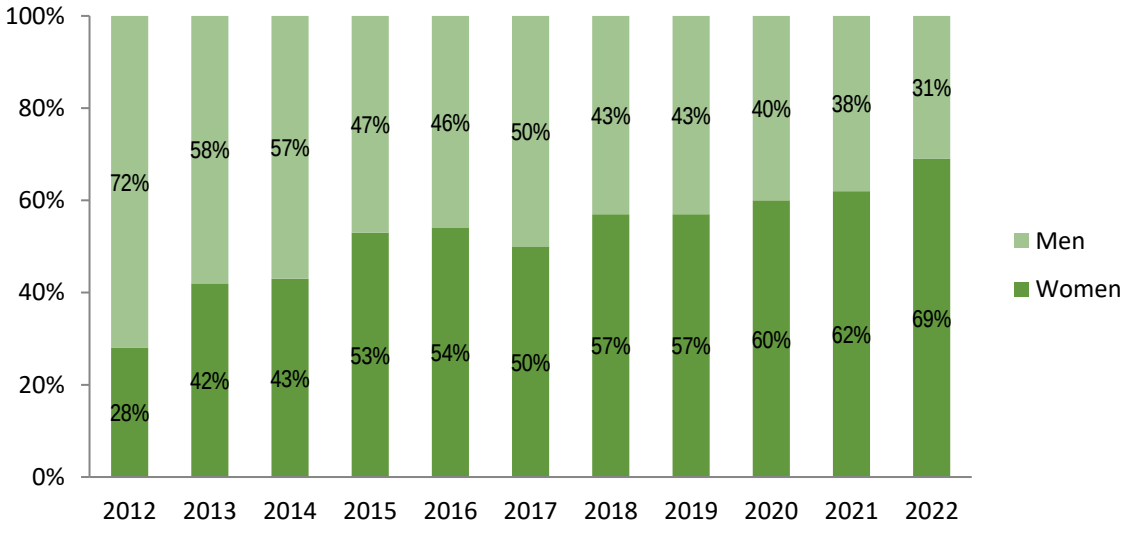

Fig. 20. EQUITY: Yearly gender distribution of external expert advisers, from 2012 to 2022

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

In 2022, 45% of first authors of TDR-supported publications were women. This is better than in 2021, however, over the past 10 years there has been no clear upward trend, but rather fluctuations around an approximate mean of 42% (38% – 47%).

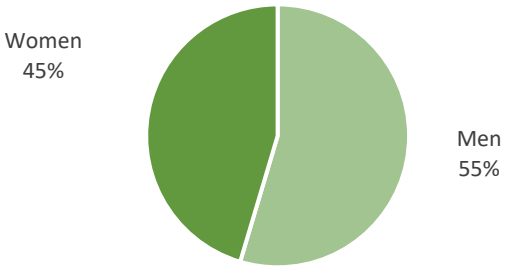

Fig. 21. EQUITY: Gender distribution of first authors, 2022

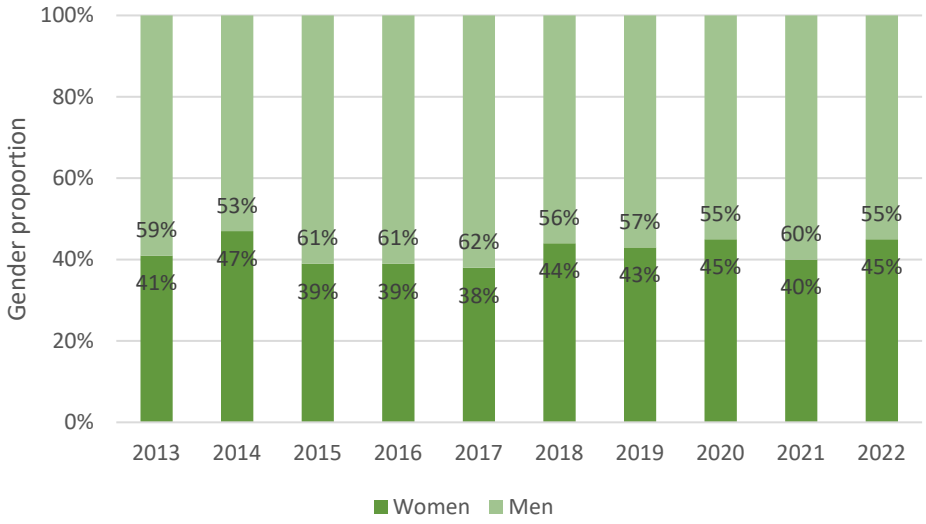

Fig. 22. TDR-supported publications: Gender distribution of first authors year-to-year, 2013 to 2022

The relative distribution of first authors by gender and country of origin in 2022 shows a lower proportion of women first authors in DECs (41%) than in non-DECs (59%). In 2021, the respective proportions were 38% of women in DECs and 48% in non-DECs.

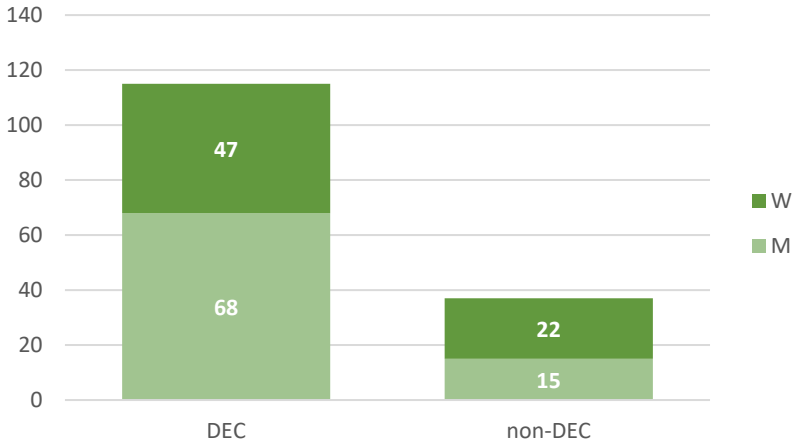

Fig. 23. EQUITY: Distribution of first authors by gender and countries in 2022

In 2022, 37% of last authors of TDR-supported publications were women. This is higher than in 2021 (29%) and compared to the baseline measured in 2017 (24%). Of note, the proportion was higher in DECs (42%), than in non-DECs (32%).

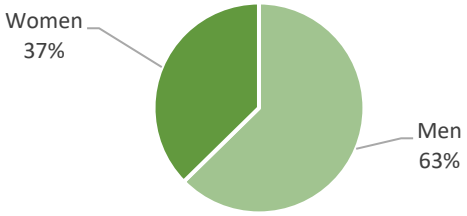

Fig. 24. TDR- supported publications: Gender distribution of last authors, 2022

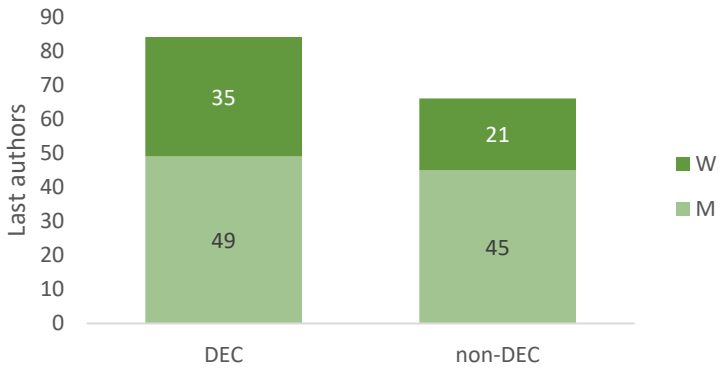

Fig. 25. Distribution of last authors by gender and countries, 2022

The analysis of gender distribution of corresponding authors of TDR-supported publications shows that in 2022, 44% were women, this is higher than in 2021 (35%).

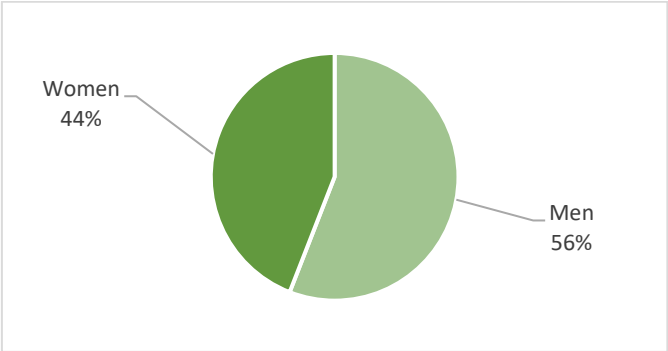

Fig. 26. TDR- supported publications: Gender distribution of corresponding authors, 2022

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 2022, we identified 88 (58%) that are related to research addressing vulnerable populations. Of those, nine articles (6%) report on the topic of gender or sex in health research or health care and 13 (9%) involve populations with disabilities.

4.2 Effective multisectoral partnerships

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2022)*
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	To be measured at biennium end

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

To be measured at the end of the biennium.

4.3 Value for money

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2022)*
19. Evidence demonstrating value-for-money, cost savings and/or enhanced efficiency or effectiveness	N/A	N/A	*To be measured at biennium end*

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

To be measured at the end of the biennium.

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%	*To be measured at biennium end*

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

To be measured at the end of the biennium.

4.5 Sustainability of outcomes

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2022)*
21. Number of effective public health tools and strategies developed which have been in use for at least two years	0	40	*To be measured at biennium end*

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

To be measured at the end of the biennium.

5. Management performance

5.1 Effective resource mobilization

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2022)*
22. Percentage of approved biennial budget successfully funded	*87.9% (US$ 39.5/45M)*	≥100%	*To be measured at biennium end*
23. Percentage of income received from multi-year, unconditional donor agreements	*17.3% (US$ 6.8M/39.5 M)*	70%	*To be measured at biennium end*

Indicator 22 - Percentage of approved biennial budget successfully funded

To be measured at the end of the biennium.

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

To be measured at the end of the biennium.

5.2 Effective management

Key performance indicators	Baseline (2017)	Target (2023)	Progress *(contrib. 2022)*
24. Percentage of staff workplans and performance reviews (including personal development plan) completed on time	89%	≥90%	96%
25. Proportion of expected results on track	89%	≥80%	71%
26. Proportion of significant risk management action plans that are on track or completed	100%	≥80%	97%

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 96% in 2022. The only non-compliant case was beyond TDR's control.

Indicator 25 - Proportion of expected results on track

The summary status of expected results on 31 December 2022 was:

- Seventeen on track
- Seven with minor delays (some activities have been delayed)
- No major delays (outputs have been delayed)

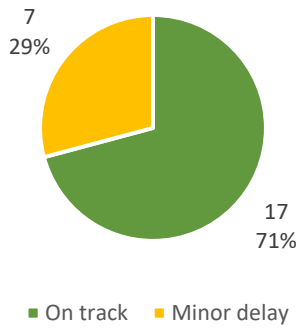

Fig. 27. Status of expected results 31 December 2022

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

At the end of 2022, for the ten Programme-level risks that were open, five action items were added to address Risk 1 (Portfolio alignment with TDR strategy), Risk 2 (TDR income) and Risk 17 (Relevance of TDR Strategy) and the cumulative number of completed actions for open risks reached 36. Of the 30 not previously completed action items, four were completed in 2022, 25 were on track, none were delayed, and one was still on hold (related to WHO's mobility policy).

The proportion of actions on track and completed was 97%, 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.

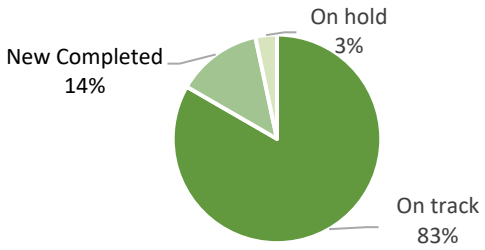

Fig. 28. Status of risk action items on 31 December 2022

6. Lessons learnt

Performance Framework: the challenge of setting SMART targets

The Seventh External Review of the Programme was an opportunity to get a pulse check on how we measure our performance as reflected in TDR's Performance Framework and in the annual Results Reports.

Several aspects were noted:

- In some cases, having targets expressed as ranges would make it easier to understand whether the state achieved is suitable or not. For example, if a target is having 60% of our expert advisors being from disease endemic countries and we achieved 75%, currently it is not clear whether this is a good thing or not, and whether achieving 100% on this indicator would be a good thing or a bad thing. Also, achieving 63% when the target is precisely 60% may be perceived as a failure, when in practice it could be a good thing. Having the target expressed as a range, such as 60–80% would be more meaningful in this context.
- Remarkable progress was noted on some six-year targets already, as some have been achieved and some were close to being achieved. The dilemma is between moving those targets up before the end of the strategy versus maintaining them as per the original plan. Both options would have advantages and disadvantages. Adjusting the values during the strategy period would be perceived as a moving target, and the case could also be made to adjust them down where they do not seem achievable.

Strategy development through broad consultation

The Seventh External Review of the Programme also recommended organizing a broad consultation with stakeholders including governing bodies, expert advisors, co-sponsors, beneficiaries, financial contributors, partner organizations, to inform development the TDR strategy 2024-2029. The consultation started in June 2022, and the input has been integrated in the draft version of the strategy that will be submitted to STAC, the Standing Committee and the JCB for approval.

Learning about the impact of the pandemic on women researchers' capacity to apply for grants

The dip in the proportion of grant and contract amounts awarded to women in 2021 made us investigate if this could be due to some potential gender-related challenges. We surveyed the TDR Global community of grantees, trainees and experts and we received 64 responses (36 women, 28 men), from researchers in 37 countries.

The analysis of the responses received showed that 47% of women (vs only 7% of men) said that gender roles impacted their capacity and time available to search for and apply for grants or funding opportunities during the pandemic. This particularly impacted women over the age of 55, who all stated being affected.

7. Annexes

Annex 1. List of TDR-supported peer-reviewed publications 2022

1. Abdella, S., Ahmed, K., Salim, B., Ashenefe, B., Mulugeta, Y., Girma, E., Aklilu, M., Getachew, A., Kitila, G., Getahun, G., Berihanu, E., File, I., Mberu, E., Zeleke, Z., & Getahun, D. (2022). High rabies burden and low vaccination status among dogs inflicting bite in Addis Ababa: an urgent call for action. *Journal of infection in developing countries*, *16*(8.1), 15S–19S. https://doi.org/10.3855/jidc.15963
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Annex 2. Progress on TDR's current portfolio of expected results status - update 31 December 2022

Expected Result Title		*ER Status 31 Dec 2022*
1.1.1	Country preparedness for disease outbreaks	On track
1.1.4	Country resilience to the threat of drug-resistant infections	On track
1.1.7	Maximized utilization of data for public health decision making	Minor delays
1.2.1	Strategies to achieve and sustain disease elimination	Minor delays
1.2.6	Optimized approaches for effective delivery and impact assessment of public health interventions	On track
1.3.3	Population health vulnerabilities to VBDs: increasing resilience under climate change conditions in Africa	Minor delays
1.3.5	Advancing social innovation in health care delivery through research, capacity strengthening and advocacy	On track
1.3.10	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
1.3.11	Multisectoral approach for malaria and emerging arboviral diseases	Minor delays
1.3.12	Strategies to promote gender-responsive health interventions on prevention and control of infectious diseases of poverty	Minor delays
1.3.14	Testing of innovative strategies for vector control	On track
2.1.1.1	Strategic support to WHO regional activities: the regional training centres	Minor delays
2.1.2	Targeted research training grants in low-and middle-income countries	On track
2.1.4	Career Research and Development Fellowship grants	On track
2.1.6	UNDP Structured capacity Building in Implementation Research to improve access and delivery of health technologies in LMICs	On track
2.1.7	Strengthening operational research capacity in Global Fund supported programmes.	On track
2.1.1.2	WHO regional office collaboration and small grants	On track
2.2.1	Knowledge Management shaping the research agenda	On track
2.2.2	Capacity strengthening to bring research evidence into policy	On track
2.3.1	Collaborative networks and Global Health Initiatives (GHIs)	On track
2.3.3	TDR Global - the community of former trainees, grantees and experts	On track
2.3.4	Effective engagement in gender and equity	On track
2.3.5	Community engagement in research for IMP and in SIH in LMICs	Minor delays

Annex 3. TDR 2022 revenue

CONTRIBUTOR	
Core contributors	**Amount (US$)**
Belgium	681 044
China	55 000
Germany	981 595
India	55 000
Japan	50 000
Luxembourg	1 155 462
Malaysia	25 000
Mexico	10 000
Nigeria (1)	400 000
Norway	306 341
Panama	7 000
Spain (2)	159 744
Sweden	3 220 540
Switzerland	1 925 255
Thailand	44 924
United Kingdom of Great Britain and Northern Ireland	5 370 224
World Health Organization	1 900 000
Subtotal	**16 347 129**
Contributors providing project-specific funding	**Amount (US$)**
Bill & Melinda Gates Foundation	1 600 620
Luxembourg	413 340
Medicines Development for Global Health Limited (MDGH)	47 281
National Institute of Health Research (NIHR), United Kingdom	1 969 580
Robert Koch Institute (RKI)	419 023
Sweden	706 549
Swiss Development Cooperation Agency (SDC/DDC)	11 583
United Nations Development Programme (UNDP)	405 000
United States Agency for International Development (USAID)	987 274
World Health Organization	880 403
Subtotal	**7 440 653**
Total contributions	23 787 782

1. The contribution from the Government of Nigeria for the period 2015 to 2020 was reported in the 2021 Annual Report but will be reported in the certified financial statement in 2022 due to the timing of its receipt. The contribution for 2023 will also be reported in the 2022 certified financial statement due to
2. The contribution from the Government of Spain for the year 2022 will be reported in the certified financial statement in 2023 due to the timing of its receipt.

Thank you to our core contributors who provided **overall Programme** support in 2022.*

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World Health Organization

Luxembourg Aid & Development

Federal Ministry for Economic Cooperation and Development BMZ

Belgium

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Gobierno de España cooperación española

National Health Commission of the People's Republic of China

Ministry of Health and Family Welfare Government of India

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Thanks also to the contributors who provided support to **specific projects** in 2022.*

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** Listed in order of level of contribution*