TDR For research on diseases of poverty

UNICEF • UNDP • World Bank • WHO

Expected Results 2020-2023

Research for implementation

Expected Result: 1.1.1

Title: Country preparedness for disease outbreaks

Strategic Work Area: Research for implementation **Workstream:** Research for implementation

ER type:	Evolved	**Funding type:**	UD and DF
Start date:	01-Jan-13	**End date:**	31-Dec-22
ER status:	On Track	**Comment:**	
WHO region:	Global		

Partners: Endemic country programmes and researchers, WHO regional offices

Diseases: Arboviral diseases; Arboviruses; Chikungunya; Dengue; Vector-borne diseases

Review mechanism: Scientific working group + other ad hoc or collaboration-based review systems as appropriate

ER manager: Corinne Simone Collette MERLE

Team: Michelle Villasol, others TBD

Number of people working on projects: 3

FENSA clearance obtained for all Non-State Actors? Yes

Justification for no FENSA clearance: Obtained when applicable but so far all partners are governmental institutions

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	No	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	Objectives aligned
Roles complimentary:	Yes	Complementary role and responsabilities
Coordination transparent:	Yes	Transparent coordination
Visibility:	Yes	Visibility of TDR higlighted

Objectives and results chain

Approach to ensure uptake:	National control programmes and WHO (HQ, ROs) fully involved in research planning, implementation and analysis
Up-take/Use Indicator:	TDR outputs considered among evidence informing guidelines and policy decisions or control programme advisory committee recommendations
Gender and geographic equity:	Gender specific Zika issues as they relate to outbreak surveillance and response will be taken into account during research design. All affected regions will be considered.
Publication plan:	Scientific meetings, Open access journals, TDR website
Up-take/use indicator target date:	31-Dec-23

Sustainable Development Goals

Good Health and Well-being; Reduced Inequality; Partnerships to achieve the Goal

Concept and approach

Rationale: 1. Dengue and Zika outbreaks have shown the importance of coping capacity (surge capacity) and case management under disease outbreak conditions. Availability of training materials based on lessons learnt in past outbreaks will facilitate and accelerate adequate managerial response during the next epidemic. 2. Dengue, Chikungunya and Zika virus outbreak surveillance and response tools are needed. T DR is working with countries and researchers to identify signals that can alert country control programmes to an impending dengue outbreak. This has led to a model contingency plan and an Early Warning and Response System (EWARS) for arbovirus outbreaks. Countries can test and potentially customize this to apply to other arboviral diseases, such as Zika, chikungunya, yellow fever, and other infectious diseases.. 3. In response to a request from Burkina Faso, TDR organized a regional meeting in West Africa to map the issues, knowledge and capacity gaps for vector control, surveillance and outbreak response, and design a plan to build capacity in the region through OR/IR generated evidence-based interventions. An action plan at regional level that synergizes the efforts of all key stakeholders was developed with firstly focusing on the strengthening of countries capacities for conducting entomological surveillance. Because of Arbovirus outbreak threat for all the AFRO region, TDR led in collaboration with the WHO NTD department and WHO AFRO region a survey in the 47 countries of the AFRO region for evaluating their capacities for surveillance and control of Arbovirus diseases (AVD). This report will be finalized by the end of 2021 and will lead to the development of a regional plan of action to better prepare countries of the AFRO region to respond to AVD outbreaks.

Design and methodology: Development of an Early Warning System (EWARS) to predict arboviral disease outbreak and integration of this system into the surveillance system of supported countries with training of relevant countries 'staff for using it and trigger vector control actions. Conduct of cross sectional survey to estimate countries capacities and gaps in terms of arboviral diseases surveillance and control - based on the results, discussion & consultations with key stakeholders for the development of a regional action plan for the African region.

Approach to ensure quality: Scientific working group and, as applicable, other expert review of proposals, progress reports, monitoring of application of the research protocol.

ER Objectives

ERObj-0000 : To enable countries to improve their response capacity to arboviruses outbreaks and other diseases outbreaks

ER Biennium Risks

2022-2023

ERRisk - 0222

Risk description: Lack of interest outside epidemic peaks resulting in insufficient funding
Actions to mitigate risk: Raise awareness of potential donors; explore alternative ways of supporting work
Mitigation status:

2020-2021

ERRisk - 0026

Risk description: Lack of interest outside epidemic peaks resulting in insufficient funding
Actions to mitigate risk: Raise awareness of potential donors; explore alternative ways of supporting work
Mitigation status: On Track

ER Biennium Outputs

2022-2023

EROutp-0281

Output description:	Expanded countries' capacities to use EWARS tool
Output indicator:	Number of countries using EWARS tool
Target date:	31-Dec-23

EROutp-0280

Output description:	Strengthened capacities of African countries in terms of disease outbreaks response
Output indicator:	situation analysis report
Target date:	31-Dec-23

2020-2021

EROutp-0120

Output description:	Regional plan to improve arbovirus disease surveillance and vector control in West Africa
Output indicator:	Agreement on the regional plan
Target date:	31/12/2021
Progress status:	On Track
Progress description:	collaboration with the West African Health Organisation for developing the plan and implementing activities. the strengthening of the entomological surveillance system was identified as a key priority for 7 countries of the region

EROutp-0068

Output description:	Expanded countries' capacities to use EWARS tool
Output indicator:	Number of countries using EWARS tool
Target date:	31/12/2020
Progress status:	On Track
Progress description:	Collaboration with the Climate Change and Health Programme at WHO (PEH) for the use of EWARS in countries of the SEARO and AFRO region

ER Biennium Outcomes

2022-2023

EROutc-0059

Outcome description: Guidelines, policies or policy implementation plans (as applicable) informed by TDR outputs

2020-2021

EROutc-0026

Outcome description: Country preparedness and policy decisions for arbovirus outbreaks informed or facilitated by TDR outputs

Progress made towards outcome:

Expected Result: 1.1.4

Title: Country resilience to the threat of drug-resistant infections

Strategic Work Area: Research for implementation **Workstream:** Research for implementation

ER type:	Continuing	**Funding type:**	DF
Start date:	01-Jan-18	**End date:**	31-Dec-23
ER status:	On Track	**Comment:**	
WHO region:	Global		

Partners: WHO country offices, National AMR committees, various implementing partners including NGOs, research and academic institutions, relevant MoH departments/programmes, hospitals/clinics in selected countries. Fleming Fund and NIHR (funder)

Diseases: Not Disease-Specific

Review mechanism: Scientific working group + other adhoc or collaboration-based review systems as appropriate

ER manager: Rony ZACHARIAH

Team: Abraham Aseffa, Ekua Johnson, Ramiriez Bernaddette, Annette Kuesel, Mohammed Khogali, Michelle Villasol, Maier Mary, Abdul Masoudi, Mariam Otmani del Bario, Kamau Eddy, Terry Robert, Zachariah Rony

Number of people working on projects: 14

FENSA clearance obtained for all Non-State Actors? No

Justification for no FENSA clearance: Obtained when applicable

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	Yes	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	Aligned
Roles complimentary:	Yes	WHO country offices and SORT IT partners leverage their local convening power and allow use of their trained and experienced human resources for implementation
Coordination transparent:	Yes	All research subjects and participants are endorsed by national AMR selection committees, Phone calls each month with partners, all reports shared widely. SORT IT selection criteria and SOPs established.
Visibility:	Yes	The TDR website is updated every quarter and all reports and training documents include the required Logos.

Objectives and results chain

Approach to ensure uptake: Early engagement with those expected to use the results, regular updates to stake holders and relevant programmes and active involvement of relevant stakeholders in planning, implementation, consultations, policy and issue briefs

Up-take/Use Indicator: New or updated/improved guidelines , policies, implementation plans and/or practice (as applicable) informed by TDR outputs

Gender and geographic equity: Beneficiaries: Drug resistance affects both sexes alike. Geographic equity will be dependent on the disease addressed and the target countries which currently include selected countries in Africa, Asia and

Latin America. Calls for proposals will include the information that TDR is encouraging women scientists to apply. Selections will consider gender equity.

FOR DF: Collaborators will be those participating in the preparation and submission of the proposal funded by third parties - if applicable.

Publication plan: Scientific meetings, Open access journals, TDR website, TDR-gateway, Partner websites, published annual reports

Up-take/use indicator target date: 31-Dec-25

Sustainable Development Goals

Good Health and Well-being; Quality Education; Gender Equality; Clean Water and Sanitation; Industry, Innovation and Infrastructure; Responsible Consumption and Production; Life Below Water; Life on Land; Partnerships to achieve the Goal

Concept and approach

Rationale: AMR is a global public health challenge that makes standard treatments ineffective and allows infections to persist and spread. To implement effective plans for containment of /response to emerging drug resistance, countries need support for: 1. Building sustainable local capacity to conduct operational research and for using programme data 2. Improving understanding of AMR along the strategic pillars : a) Strengthen surveillance, monitoring and reporting b) Reduce incidence of infection (health facilities, community, animal health) c) Optimize use of anti-microbials (human, veterinary, agriculture) d) Sustainable investments in new diagnostics and measuring burden 3. Building sustainable structures and processes for evidence-informed decision-making and knowledge management to maximize broader research impact.

Design and methodology: The approach involves early and multi-disciplinary involvement with those expected to use the results as appropriate and includes the proven SORT IT approach to generating evidence for informed decision making.

Approach to ensure quality: Selection of countries, partners and trainees will be guided by specific selection criteria, projects will be followed up and monitored; selection of investigators will involve specific eligibility criteria including appropriate expertise through review of their proposals by experienced technical committees complemented by external subject matter experts, and with specific training activities, as applicable. The SORT IT approach has its own quality and performance standards which are monitored on a quarterly basis.

ER Objectives

ERObj-0001 : 1. Support countries in developing workable approaches to implementation of effective strategies for detecting and containing drug resistant infections.

ERObj-0002 : 2. Build sustainable capacity to conduct operational research using "one health" data and use the generated knowledge for informed-decision making to improve public health

ER Biennium Risks

2022-2023

ERRisk - 0227

Risk description: Lack of continued engagement from WHO country offices and AMR national committees

Actions to mitigate risk: Continue close collaboration with WHO country offices, AMR committees and implementers throughout the project cycle. Provide additional financial, human resources and implementation support to WHO Country offices and AMR committees

2020-2021

ERRisk - 0027

Risk description: Lack of continued engagement from WHO country offices and AMR national committees

Actions to mitigate risk: Continue close collaboration with WHO country offices, AMR committees and implementers throughout the project cycle. Provide additional financial, human resources and implementation support to WHO Country offices and AMR committees

Mitigation status: On Track

ERRisk - 0224

Risk description: Delays in the pace of implementation due to COVID-19 related restrictions o travel and gatherings

Actions to mitigate risk: Several activities have been rescheduled, alternatives including use of virtual platforms for training are being explored and discussions are underway with the donors for a No cost extension.

Mitigation status: Planning phase

ER Biennium Outputs

2022-2023

EROutp-0273

Output description: Strategies for monitoring and responding to potential emergence of drug resistance

Output indicator: Report to scientific working group (and DF agency, as applicable)

Target date: 31-Dec-23

EROutp-0271

Output description: Documentation of practical approaches to improve targeted treatment and reduce drug misuse and risk of resistance development and spread

Output indicator: Reports/publications made available

Target date: 31-Dec-23

EROutp-0270

Output description: OR/IR strategies for countries to build effective systems for monitoring and responding to emerging drug resistance of all relevant infectious agents

Output indicator: Strategies endorsed by stakeholders at relevant levels

Target date: 31-Dec-23

2020-2021

EROutp-0173

Output description: (Subject to funds availability - US$ 50 million budget scenario) - Evaluation of biomarker to guide management of fever at field level

Output indicator: Evidence on potential of at least one biomarker generated

Target date: 31/12/2023

Progress status: On Hold

Progress description: No dedicated funds available

EROutp-0121

Output description: Documentation of practical approaches to improve targeted treatment and reduce drug misuse and risk of resistance development and spread

Output indicator: Reports/publications made available

Target date: 31/12/2023

Progress status: On Track

Progress description: Research studies in this regard are under implementation

EROutp-0069

Output description:	OR/IR strategies for countries to build effective systems for monitoring and responding to emerging drug resistance of all relevant infectious agents
Output indicator:	Strategies endorsed by stakeholders at relevant levels
Target date:	31/12/2023
Progress status:	On Track
Progress description:	36 country relevant AMR projects underway in 5 countries (Ghana, Myanmar, Nepal, Sierra Leone and Uganda), 24 more endorsed by country AMR committees (Myanmar and Sierra Leone).

EROutp-0225

Output description:	Strategies for monitoring and responding to potential emergence of drug resistance
Output indicator:	Report to scientific working group (and DF agency, as applicable)
Target date:	31/12/2023
Progress status:	On Track
Progress description:	Studies to inform strategies underway in target countries

ER Biennium Outcomes

2022-2023

EROutc-0058

Outcome description: Guidelines, policies or policy implementation plans (as applicable) informed by TDR output

2020-2021

EROutc-0027

Outcome description: Guidelines, policies or policy implementation plans (as applicable) informed by TDR outputs

Progress made towards outcome: Implementation of studies are underway and outputs will be available in due course

Expected Result: 1.1.5

Title: Directions for development and accelerated access to new tools and strategies

Strategic Work Area: Research for implementation **Workstream:** Research for implementation

ER type:	Continuing	**Funding type:**	UD
Start date:	01-Jan-18	**End date:**	31-Dec-25
ER status:	On Track	**Comment:**	For Internal Use: Broader accessibility of the E.R. to whole Unit will be ensured for best utilization of opportunities

WHO region: Global

Partners: TBD

Diseases: Not Disease-Specific

Review mechanism: Scientific working group + other ad hoc or collaboration-based review systems as appropriate

ER manager: Abraham ARMIDIE

Team: Annette Kuesel, Corinne Merle, Florence Fouque, Bernadette Ramirez, Mariam Otmani, Rony Zachariah, Abdul Masoudi, Ekua Johnson, Michelle Villasol, Daniel Hollies

Number of people working on projects:

FENSA clearance obtained for all Non-State Actors? Yes

Justification for no FENSA clearance: Clearance obtained when applicable.

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	No	Address knowledge gaps:	Yes
Integrate mandates:	No	Build strengths:	Yes
Reduce burden:	No	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	Yes still apply
Roles complimentary:	Yes	Yes still apply
Coordination transparent:	Yes	Yes still apply
Visibility:	Yes	Yes, still apply

Objectives and results chain

Approach to ensure uptake: Quality of work generated and inclusiveness of stakeholders will underpin these activities

Up-take/Use Indicator: Number of: a) projects/initiatives which take into account TDR contributions/directions; and b) researchers, developers, organizations, funders utilizing TDR input/output

Gender and geographic equity: Gender and geographic equity considerations will be included

Publication plan: TBD

Up-take/use indicator target date:	31-Dec-23

Sustainable Development Goals

Good Health and Well-being

Concept and approach

Rationale:	Control programme objectives cannot be reached for many poverty-related infectious diseases, especially NTDs, because they lack new effective and safe tools for their diagnosis and treatment, as well as efficient methods for quantifying the effect.
Design and methodology:	Inclusiveness and openness are the guiding principles. The scope of this project covers essential, intertwined elements to develop and assess the right tools that will help achieve control and elimination targets.
Approach to ensure quality:	The entire project will be open to public scrutiny by definition, which will ensure quality.

ER Objectives

ERObj-0003 : 1. Foster innovation to fill gaps in new products for neglected infections

ERObj-0004 : 2. Engage stakeholders

ERObj-0005 : 3. Identify priorities, opportunities

ER Biennium Risks

2022-2023

ERRisk - 0219

Risk description: Resistance to change by key stakeholders unwilling to adopt new solutions
Actions to mitigate risk: Achieving critical mass of supporters; showing concrete results
Mitigation status: Planning phase

2020-2021

ERRisk - 0028

Risk description: Resistance to change by key stakeholders unwilling to adopt new solutions
Actions to mitigate risk: Achieving critical mass of supporters; showing concrete results
Mitigation status:

ER Biennium Outputs

2022-2023

EROutp-0260

Output description:	Outputs of TDR research projects and TDR staff and adviser expertise used to provide directional perspective for R&D new tools (including advice/support to R&D sponsors) as well as new ways of implementing the tools
Output indicator:	Number of R&D initiatives informed by TDR research project output or TDR staff /adviser expertise (at least 4 by 2023)
Target date:	31-Dec-23

EROutp-0261

Output description:	Strategy development, implementation and monitoring
Output indicator:	Scientific working group meeting reports and recommendations
Target date:	31-Dec-23

EROutp-0262

Output description:	Generic protocols to address Implementation Research issues encountered by different disease control programmes
Output indicator:	Number of disease control programmes using generic protocols to inform their Implementation Research studies
Target date:	31-Dec-25

2020-2021

EROutp-0174

Output description:	Strategy development, implementation and monitoring
Output indicator:	Scientific working group meeting reports and recommendations
Target date:	31/12/2021
Progress status:	On Track
Progress description:	2020 and 2021 Scientific working group meetings held virtually Drug development for onchocerciasis (Drugs for Neglected Diseases initiative, DNDi): TDR staff continue to provide expertise and network in support of DNDi activities as and when requested. A database for case reporting and clinical trial data and a discussion forum on off-label use of drugs for indications with either no or insufficient approved treatments (CURE ID). CURE ID was initiated by the US Food and Drug Administration (US FDA) and the US National Institute of Health (NIH). TDR is working with WHO/UCN/NTD, WHO/UCN/GTB, WHO/UCN/GMP, PQT and other WHO departments as well as the US FDA to obtain global expert input into the deployment of this tool. The originally across indications expert meeting was replaced by virtual meetings for selected indications. The CURE ID application was adapted for COVID-19.

EROutp-0122

Output description:	Optimized methodologies to assess response to case-based and population-based interventions
Output indicator:	Number of methodologies revised and optimized; uptake of revised methodologies; quality of resulting research
Target date:	31/12/2023
Progress status:	On Track
Progress description:	? With the objectives of onchocerciasis endemic countries having been expanded from control of onchocerciasis as a public health problem to elimination of transmission of the parasite and reflection of this expansion in the WHO/NTD 2030 Roadmap (https://www.who.int/news/item/30-01-2021-neglected-tropical-diseases-who-launches-new-road-map-to-end-suffering-by-2030, https://www.who.int/publications/i/item/9789240010352) understanding the role of the Simulium vector in transmission and appropriate approaches to entomological surveillance are becoming critically important to ensure that countries continue interventions as long as but not longer than needed. While the strategy of the African Programme for Onchocerciasis Control (APOC, 1995-2015) and the Onchocerciasis Elimination Program for the Americas (OEPA, 1991 to date) was based on mass drug administration of ivermectin, the strategy of the Onchocerciasis Control Programme in West Africa (OCP, 1974-2002) was based on vector control. Consequently, a significant amount of understanding of the role of the vector for parasite transmission and entomological surveys was accumulated in the OCP that will be valuable to inform onchocerciasis elimination efforts across Africa. The vast majority of this work was never published in peer reviewed journals and the results, conclusions and lessons learnt are thus not available to be taken into account by countries, to train new generations of entomologists or for systematic reviews informing WHO guidelines. Recently, documents generated by the OCP have become publicly available in the WHO Institutional Repository for Information Sharing (WHO iris) in the APOC collection (https://apps.who.int/iris/handle/10665/274421). Search of WHO iris for ?OCP? shows 2675 documents. The fact that many OCP documents cover numerous topics in combination with incomplete metadata in WHO iris and the limitations of the WHO iris search engine and export features, make identification and retrieval of documents addressing specific topics very time consuming. This restricts the extent to which the documented and expert-reviewed OCP experience can inform todays onchocerciasis elimination

efforts. TDR has asked Dr. Daniel Boakye, an entomologist from Ghana who worked in the OCP (as well as later in APOC) to lead a team of ?next generation Simulium entomologists? from numerous African countries he recently trained to review all documents and extract OCP experience and lessons for publication in peer-reviewed journals. This will make them easily accessible to researchers and country control/elimination programme staff as well as for systematic review informing future WHO guidelines.

? As part of a call issued by TDR to systematically analyse best practices of community engagement in implementation research, a project on community engagement to improve access to health services for Chagas disease control has been initiated in Guatemala. It aims to identify scalable effective stakeholder engagement strategies implemented over the last 10 years through the analysis of qualitative and quantitative data collected through participatory interventions for vector and congenital Chagas disease prevention and control in the country. It will identify enabling factors and barriers for the implementation and sustainability of previous participatory interventions, including a gender intersectional approach to enhance community health participatory interventions.

? When determining the programmatic effectiveness of a treatment, trial methodology ? notably eligibility criteria ? should be adapted to reflect the full range of patients seen in clinical practice. It is important to assess whether clinical trials also provide a comprehensive picture of the efficacy and safety of treatments across the range of patients routinely seen in the clinics. A scoping review of the literature is being conducted to investigate malaria patient spectrum representation in therapeutic clinical trials. The review will assess the representativeness of the study participants enrolled in malaria clinical trials vis-à-vis the general population by extracting information on eligibility criteria and reasons for exclusion of patients who had tested malaria-positive from the published literature.

EROutp-0070

Output description:	Outputs of TDR research projects and TDR staff and adviser expertise used to provide directional perspective for R&D new tools (including advice/support to R&D sponsors) as well as new ways of implementing the tools
Output indicator:	Number of R&D initiatives informed by TDR research project output or TDR staff /adviser expertise (at least 4 by 2023)
Target date:	31/12/2021
Progress status:	On Track
Progress description:	? Strategy for clinical development of Acoziborole for g-HAT seropositive non-parasitologically confirmed individuals informed with TDR input into the WHO ad hoc working grouped convened by WHO/NTD. ? Drug development for onchocerciasis (Drugs for Neglected Diseases initiative, DNDi): TDR staff continue to provide expertise and network in support of DNDi activities as and when requested. ? Contribution to WHO-NTD: Member of the Onchocerciasis subgroup of the NTD Diagnostic Technical Advisory Group for development of Target Product Profiles (WHO?NTD); advice to NTD staff on discussions for preparation for evaluation of moxidectin for inclusions in WHO guidelines for onchocerciasis control and elimination TDR collaborations with individual WHO departments: WHO/UCN/NTD: (a) Onchocerciasis subgroup of the NTD Diagnostic Technical Advisory Group for development of Target Product Profiles WHO/UCN/NTD; (b) Member of the Steering group for the development of the WHO Standard guidelines on the treatment of visceral leishmaniasis in HIV co-infected persons; (c) Member of WHO Task Force on Criteria for the Elimination of Leprosy (TFCEL); (d) WHO network for HAT Elimination ? Human African Trypanosomiasis Elimination Technical Advisory Group, Ad hoc working group on widened use of acoziborole, represented Science Division in the Global polio eradication initiative strategy development consultation, Steering Committee member for WHO Public Health and Social Measures (PHSM) Evidence and Research initiative (WHO/WHE) WHO/MHP/RPQ/REG/PVG: Selection panel for ?Global network for international epidemiological vaccine safety studies? WHO/UHL/IVB: Selection panel for ?Support for data management systems and statistical analysis? for the RTS,S Malaria Vaccine Implementation Programme. WHO/UCN/GTB and WHO regional office for TB: ? Development of various TB research tools in collaboration with WHO-GTB: ? Development of guidance on implementation of Good Clinical Practices (GCPs) and Good Data Management Practices (GDMPs) in the context of national surveys of the burden of TB disease. ? Development of a research package for calibrating Computer-Assisted Detection (CAD) for TB detection. TDR contributed also to WHO Regional webinar (EURO, EMRO, PAHO) to promote the use of this research package. It will also be presented during a symposium at the Union conference

? Development of the ShORRT research package (see ER 1.2.6) with WHO and contribution to various regional webinar to promote the use of this research package (EURO, EMRO, WPRO, SEARO, PAHO), during the training of GTB consultant

? Development of the IR4DTB toolkit (see 1.2.6) and promotion of this tools at various meeting organised by GTB or WHO regions (PAHO, WPRO, EURO)

o TDR Participation to webinars (panelist) /technical consultation organised by WHO/GTB

? Contribution of OR for informing policy

? EndTB Webinar on strengthening TB surveillance

? Technical consultation for Innovative clinical trial designs for the evaluation of new TB preventive treatment

? Stakeholder Consultation on Target Product Profiles for Next-Generation Drug Susceptibility Testing for M. tuberculosis at Peripheral Centres, 10-12 March 2021

a. TDR Contribution to WHO secretariat for the development and conduct of various Guideline Development Group (GDG) meeting

i. GDG meeting on WHO consolidated guidelines on the treatment of drug susceptible tuberculosis, 2021

ii. GDG meeting on the management of TB in children and adolescents

WHO emergency for COVID-19 related activities

o Member of the trial management team for the development and conduct of the WHO drug and vaccine solidarity trials with special focus for TDR which is to provide support for ensuring the conduct of the trial in compliance with Good Clinical Practices. TDR activities entail: (I) development of training material for the investigators and monitors on GCP principals and how they have to be applied in the context of the solidarity trials, (ii) technical support for overviewing clinical monitors activities

o Participation to WHO consultation on COVID-19

? Global consultation on an R&D Agenda in response to the variants of SARS-CoV-2

? COVID-19 Vaccines- methodological approaches to assess variants effect on vaccine efficacy

WHO IT department

o Support to the IT team for the management and use of the REDCap platform

WHO HIV department

o Co-chair for IMPAACT/WHO workgroup on surveillance of the safety of ARVs during pregnancy and lactating

External partners

o Wellcome trust international committee : member of the selection panel of the Wellcome trust (bi annual meetings) for the selection of intermediate and senior fellowship

o Global fund : contribution for the conduct of global fund webinars on TB screening for catalytic countries

o MSF: member of the DSMB committee for the conduct of RCT on MDR-TB in Afghanistan

o Technical support to the Seasonal Malaria Chemoprevention Alliance (in particular for M&E and research related activities)

Publications:

Olliaro PL, Coulibaly JT, Garba A, Halleux C, Keiser J, King CH, Mutapi F, N'Goran EK, Raso G, Scherrer AU, Sousa-Figueiredo JC, Stete K, Utzinger J, Vaillant MT. Efficacy and safety of single-dose 40 mg/kg oral praziquantel in the treatment of schistosomiasis in preschool-age versus school-age children: An individual participant data meta-analysis. PLoS Negl Trop Dis. 2020 Jun 22;14(6):e0008277. doi: 10.1371/journal.pntd.0008277. PMID: 32569275; PMCID: PMC7360067.

ER Biennium Outcomes

2022-2023

EROutc-0055

Outcome description:

1. Researchers, developers, funders provided with knowledge available through TDR on specific gaps, needs, opportunities, potential approaches, partners, products and technologies.

2. Knowledge applied by partners resulting in more efficient processes.

2020-2021

EROutc-0028

Outcome description: 1. Researchers, developers, funders provided with knowledge available through TDR on specific gaps, needs, opportunities, potential approaches, partners, products and technologies.

2. Knowledge applied by partners resulting in more efficient processes.

Progress made towards outcome:

Expected Result: 1.1.7

Title: Maximized utilization of data for public health decision-making

Strategic Work Area: Research for implementation **Workstream:** Research for implementation

ER type:	Continuing	**Funding type:**	UD and DF
Start date:	01-Jan-12	**End date:**	31-Dec-23
ER status:	On Track	**Comment:**	
WHO region:	Global		

Partners: The SORT IT global partnership including Public health programmes in target countries, ministries of health, NGOs and academic institutions.

Diseases: Ebola; Malaria; Neglected Tropical Diseases; Schistosomiasis; Tuberculosis; Other

Review mechanism: Scientific working group + other ad hoc or collaboration-based review systems as appropriate

ER manager: Rony ZACHARIAH

Team: Corinne Merle, Mohammed Khogali, Michelle Villasol, Abdul Masoudi, Ekua Johnson Rony Zachariah, Robert Terry, Garry Aslanyan, Maier Mary + relevant RCS staff

Number of people working on projects: 13

FENSA clearance obtained for all Non-State Actors? Yes

Justification for no FENSA clearance: FENSA clearances received as applicable

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	Yes	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	Aligned
Roles complimentary:	Yes	SORT IT partners and alumni allow use of trained resources for expansion
Coordination transparent:	Yes	Partner calls each month to coordinate activities. Selections criteria and SOPs established
Visibility:	Yes	TDR and partner Websites updated on a quarterly basis . The process of inclusion of LOGOS etc is underway on lectures, material etc

Objectives and results chain

Approach to ensure uptake: Research questions identified and endorsed early with programmes and stakeholders at national and international levels, as well as WHO offices where applicable. Early engagement with those expected to use the results will facilitate research uptake.

Up-take/Use Indicator: Number of new or changed policies guidelines or practice change and/or decisions taking into account.

Gender and geographic equity: In calls for proposals gender-equitable selections criteria apply. SORT IT focuses on vulnerable and excluded groups and is in line with efforts to achieve UHC

Publication plan: Open access publications; policy and issue briefs; documents for WHO control programmes

Up-take/use indicator target date:	31-Dec-23

Sustainable Development Goals

Good Health and Well-being; Quality Education; Gender Equality; Clean Water and Sanitation; Reduced Inequality; Life Below Water; Life on Land; Partnerships to achieve the Goal

Concept and approach

Rationale:	Countries and WHO need evidence for informing operational decisions, formulating recommendations/ guidelines and policies. TDR can play a key role in helping to crystallize relevant research questions within programme settings and strengthening country capacity for compilation and analysis/interpretation of available data. This is in line with the SDG 17.18 which is to enhance capacity-building support to countries to increase significantly the availability of high-quality, timely and dis-aggregated data for public informed decision making. Identifying knowledge and information gaps is also important to inform research agendas and move research into action. many countries are data rich but information poor. This paradigm need to change and SORT IT is aimed at making countries and institutions "Data rich, information rich and Action rich"
Design and methodology:	Priority areas will be identified by the countries in collaboration with WHO country offices and relevant stake holders. Countries will play a central role in identifying the implementing staff. The SORT IT approach which combines research implementation with training will be used to empower participants on being able to independently conduct research thereafter .
Approach to ensure quality:	TDR has inbuilt milestones and performance targets, research subjects and participants will be endorsed by those expected to use the results, including publishing as a part of quality control; Standard Operating Procedures where appropriate customized to national requirements and capacity. All franchised courses will have quality control measures that need to be accounted for.

ER Objectives

ERObj-0006 : 1. Build sustainable capacity to promote and support the effective use of public health data for evidence-based decision-making

ERObj-0007 : 2. Promote and support data sharing for evidence-based decision-making (guidelines/policy/practice and research)

ER Biennium Risks

2022-2023

ERRisk - 0228

Risk description:	Possibility of "weaning funding for TDR" for SORT IT activities
Actions to mitigate risk:	Fundraising efforts, including outside usual regular donors

ERRisk - 0229

Risk description:	Loss of quality as we franchise the model to other institutions
Actions to mitigate risk:	Quality indicators and strict methodology to be implemented by institutions franchising the SORT IT model. Quality indicators and strict methodology to be implemented for institutions wishing to franchise the SORT IT model. All SORT IT courses have to formally register with TDR and report on achievement (or not) of TDR performance targets. SOPs are shared with all institutions that wish to run franchised SORT IT programmes.

2020-2021

ERRisk - 0029

Risk description:	Possibility of "weaning funding for TDR" for SORT IT
Actions to mitigate risk:	Fundraising efforts, including outside usual regular donors are being expanded
Mitigation status:	On Track

ERRisk - 0081

Risk description: Loss of quality as we franchise the model to other institutions

Actions to mitigate risk: Quality indicators and strict methodology to be implemented by institutions franchising the SORT IT model. Quality indicators and strict methodology to be implemented for institutions wishing to franchise the SORT IT model. All SORT IT courses have to formally register with TDR and report on achievement (or not) of TDR performance targets. SOPs are shared with all institutions that wish to run franchised SORT IT programmes.

Mitigation status: On Track

ER Biennium Outputs

2022-2023

EROutp-0279

Output description: Publications and issue/policy briefs to inform evidence-based policies/ practice

Output indicator: Number of publications and evidence of change in policies/ practice

Target date: 31-Dec-23

EROutp-0278

Output description: Build capacity for the effective collection and analysis and use of data

Output indicator: Number of successful trainees and number of data analyses conducted and reported

Target date: 31-Dec-23

2020-2021

EROutp-0123

Output description: Publications and issue/policy briefs to inform evidence-based policies/ practice

Output indicator: Number of publications and evidence of change in policies/ practice

Target date: 31/12/2023

Progress status: On Track

Progress description: 75 publications in 2020 of which approximately 69% have reported an effect on policy and/or practice.

EROutp-0071

Output description: Build capacity for the effective collection and analysis and use of data

Output indicator: Number of successful trainees and number of data analyses conducted and reported

Target date: 31/12/2023

Progress status: On Track

Progress description: Over 90% of all SORT IT participants complete SORT IT milestones. 75 research projects involving programme data developed and published.

ER Biennium Outcomes

2022-2023

EROutc-0061

Outcome description: Strengthened evidence-base for policy and practice decisions

2020-2021

EROutc-0029

Outcome description: Strengthened evidence-base for policy and practice decisions

Progress made towards outcome: About 69% of research evidence generated through SORT IT contribute to policy and practice decisions.

Expected Result: 1.2.1

Title: Strategies to achieve and sustain disease elimination

Strategic Work Area: Research for implementation **Workstream:** Research for implementation

ER type:	Continuing	**Funding type:**	UD and DF
Start date:	01-Mar-14	**End date:**	31-Dec-25
ER status:	On Track	**Comment:**	
WHO region:	Global		
Partners:	Control programmes and research institutes in countries, Medicines Development for Global Health, Communauté Evangelique au Centre de l'Afrique (CECA20)		
Diseases:	Onchocerciasis; Visceral leishmaniasis		
Review mechanism:	Scientific working group + other ad hoc or collaboration-based review systems as appropriate		

ER manager: Annette Christiane Christiane KUESEL
Team: Michelle Villasol, Abraham Aseffa
Number of people working on projects: 2

FENSA clearance obtained for all Non-State Actors? Yes
Justification for no FENSA clearance: FENSA clearance obtained when needed (for partnership for moxidectin evaluation) - to be evaluated for new future partners

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	No	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	Aligned
Roles complimentary:	Yes	Role complementary
Coordination transparent:	Yes	Coordination transparent
Visibility:	Yes	Visibility of TDR highlighted

Objectives and results chain

Approach to ensure uptake:	Control programmes and researchers from concerned countries, as well as WHO 3 levels are fully engaged in the design and implementation of the research
Up-take/Use Indicator:	TDR outputs considered among evidence informing decision-making at global, regional and national levels
Gender and geographic equity:	Work will target LMICs (for oncho in Africa, for VL Nepal/Bangladesh). Whenever possible funding to women investigators will be favoured. Whenever possible results of research will be disaggregated by gender.
Publication plan:	Scientific meetings, Open access journals, TDR website

Up-take/use indicator target date:	31-Dec-26

Sustainable Development Goals

Good Health and Well-being; Reduced Inequality; Partnerships to achieve the Goal

Concept and approach

Rationale:	Some diseases are targeted for elimination in certain areas. Research is needed to inform appropriate strategies and practices. While some of these can be broadly applied, others need to be targeted to the disease, and/or the interventions and/or specific epidemiological setting and/or the extent to which prevalence/incidence of infection have been reduced and the elimination goal (elimination as a public health problem or elimination of transmission). TDR has a decades long history of research for the tools that have allowed countries targeting VL elimination in the ISC and onchocerciasis elimination where feasible in Africa. TDR has been funding and managing research to support these elimination goals in past biennia and is continuing this work as recommended by the scientific working group, including support to VL control/elimination in Eastern Africa.
Design and methodology:	Continuation of collaboration with and between researchers and national/regional or global control programmes. Research will be designed to address specific knowledge gaps and research priorities, and will be conducted by qualified investigators (with appropriate training).
Approach to ensure quality:	Selection of investigators and proposals with appropriate expertise through review of their proposals and progress reports/renewal requests by the scientific working group complemented by external subject matter experts (ad hoc reviewers). Grant proposal review by external reviewers nominated by funders, if applicable.

ER Objectives

ERObj-0011 : Generate evidence to guide programmes on strategies to achieve and sustain elimination, where and when to stop intervention and how to certify elimination

ER Biennium Risks

2022-2023

ERRisk - 0269

Risk description:	Impact of requirements for effective preventive measures for COVID-19 on study implementation
Actions to mitigate risk:	Adaptation of study protocols to requirements for infection prevention (which slows down study implementation), replacement of in-person meetings (e.g. for capacity building) by remote meetings. Other COVID-19 effects such as lock-downs (e.g. no laboratory work possible) and travel restrictions (field work interrupted) cannot be mitigated.
Mitigation status:	On Track

ERRisk - 0220

Risk description:	Insufficient funding
Actions to mitigate risk:	Raise awareness of potential donors; explore alternative ways of supporting work
Mitigation status:	Planning phase

ERRisk - 0221

Risk description:	Research question are not targetting key priorities for programmes
Actions to mitigate risk:	Ensure large involvement of WHO country/regional/HQ level and of country representatives in discussion to identify priority research questions.
Mitigation status:	Planning phase

2020-2021

ERRisk - 0031

Risk description: Insufficient funding

Actions to mitigate risk: Raise awareness of potential donors; explore alternative ways of supporting work

Mitigation status:

ERRisk - 0083

Risk description: Research question are not targetting key priorities for programmes

Actions to mitigate risk: Ensure large involvement of WHO country/regional/HQ level and of country representatives in discussion to identify priority research questions.

Mitigation status: On Track

ERRisk - 0268

Risk description: Impact of requirements for effective preventive measures for COVID-19 on study implementation.

Actions to mitigate risk: Adaptation of study protocols to requirements for infection prevention (which slows down study implementation), replacement of in-person meetings (e.g. for capacity building) by remote meetings. Other COVID-19 effects such as lock-downs (e.g. no laboratory work possible) and travel restrictions (field work interrupted) cannot be mitigated.

Mitigation status: On Track

ER Biennium Outputs

2022-2023

EROutp-0264

Output description: Data to support WHO guidelines and onchocerciasis endemic country registration and policies on moxidectin for onchocerciasis elimination

Output indicator: Study reports/publications provided to WHO and countries (directly and/or via ESPEN)

Target date: 31-Dec-25

EROutp-0263

Output description: Improved basis for monitoring progress of preventive chemotherapy-based elimination programmes towards elimination and for decisions to stop interventions

Output indicator: Report to scientific working group; results delivered to the country control programmes and/or NTD programmes/advisory committees at regional and/or HQ level

Target date: 31-Dec-24

EROutp-0266

Output description: Generate evidence to support establishment of programmes towards elimination of VL in Eastern Africa

Output indicator: Report to scientific working group; results delivered to the country control programmes

Target date: 31-Dec-30

EROutp-0265

Output description: Generate evidence on sustainable strategies for the elimination of VL in the sub-Indian continent

Output indicator: Report to scientific working group; results delivered to the country control programmes

Target date: 31-Dec-25

2020-2021

EROutp-0177

Output description: Data to support WHO guidelines and onchocerciasis endemic country registration and policies on moxidectin for onchocerciasis elimination

Output indicator: Study reports/publications provided to WHO and countries (directly and/or via ESPEN)

Target date: 31/12/2024

Progress status:	Delayed
Progress description:	Start of all studies delayed due to required revisions of the study protocols and implementation plans to accomodate the requirements of conducting the studies during COVID-19 pandemic. COVID-19 adaptation of implementation plans will translate into slower recruitment.

EROutp-0125

Output description:	Improved basis for monitoring progress of preventive chemotherapy-based elimination programmes towards elimination and for decisions to stop interventions
Output indicator:	Report to scientific working group; results delivered to the country control programmes and/or NTD programmes/advisory committees at regional and/or HQ level
Target date:	31/12/2024
Progress status:	Delayed
Progress description:	Onchocerciasis: Laboratory and field work has been delayed due to COVID-19 pandemic lock-downs and travel restrictions, it is anticipated that COVID-19 will also impact progress in the next biannium

EROutp-0073

Output description:	Generate evidence on sustainable strategies for the elimination of VL in the sub-Indian continent
Output indicator:	Report to scientific working group; results delivered to the country control programmes
Target date:	31/12/2021
Progress status:	On Track
Progress description:	In Bangladesh and Nepal the VL elimination initiative is moving from the ?attack phase? to the consolidation and maintenance phase as its target (case numbers at district and sub-district level of less than 1 case per 10 000 population) has been reached. TDR, in collaboration with WHO, has coordinated and financed implementation research and clinical trials in support of the VL elimination initiative since initiation. Scientific publications and a large number of documents were developed and the generated evidence has largely been adopted by the national authorities and has shaped Regional Techinical Advisory Group (RTAG) recommendations. This is currently being documented and a review has been published recently. India has still quite extensive VL endemic areas but is now receiving large amounts of external funds from different sources (World Bank, DFID, BMGF and others) which will enable the authorities to move faster towards VL elimination. The TDR support is therefore more focused on Bangladesh and Nepal but is keeping the Indian authorities and VL research teams informed. In our target countries -Bangladesh and Nepal- new challenges are coming up. With the progress towards the elimination goal, more efficient and effective methods of active case detection and vector management which respond to the changing epidemiological profile in the countries are required. In Nepal and Bangladesh new VL cases and foci appearing in previously non-endemic/?non-programme? districts are a matter of concern. The challenge is to detect and treat new cases at an early stage before they can infect the local vector population and initiate the spread of the disease in populations with low or no herd immunity. Remarkable progress to meet the elimination target has been made possible by new and effective interventions and delivery systems identified through TDR research and deployed by dedicated programmes. However, a vertical programme on VL is not sustainable in the long run, especially when cases are few and far apart. At the same time, a vertical programme cannot cover all potential transmission foci, as shown already in all countries involved in the VL elimination initiative in non-programme areas. The National Kala-azar Elimination Programme (NKEP) has no active sand fly surveillance system for the consolidation and maintenance phases in Bangladesh. This is required for monitoring transmission in endemic and non- endemic villages. TDR is supporting research to identify sustainable, cost-effective approaches to find cases and foci of transmission early in endemic and non-endemic villages that are adapted to the consolidation and maintenance phases of the VL elimination programme which can be applied widely and do not require a vertical program in both Nepal and Bangladesh. Unfortunately, the field study has been facing disruptions since March-2020 due to the COVID-19 crisis. Bangladesh: An advocacy meeting and training of the Frontline Public Health Workers (FPHW) was conducted in Trishal and Fulbaria upazila (sbdistrict) under the Mymensingh district. The selected sites were three villages each in high and moderate VL endemic villages and 3 in non-endemic villages adjacent to the 3 high VL endemic villages, in total 9 villages. Data analysis and overall findings of the study was conducted on various aspects; Household information, rk39 POC test, socioeconomic characteristics, information regarding personal protection against insect bite, awareness about VL and Vectors and last of all sandfly collection using sticky traps. A total number of 6907 Households has been screened in the non-endemic area whereas 7140 households have been screened in the moderate endemic area and 15186 households in the high endemic area. A total of 7 asymptomatic positive cases was found through rk-39 POC test in the high and moderate endemic areas. Sandfly collection using sticky traps showed that the

vector P. argentipes is present across all areas. All collected female P. argentipes sandflies were tested to see the infection rate by RPA assay. Also assed the knowledge of medical technologists (MT-Lab), health inspectors (HI), assistant health inspectors (AHI), health assistants (HA), community health care providers (CHCP) and family welfare assistants (FWA) was assessed. The study showed that sandfly collection involving frontline health workers using sticky traps is feasible and could be an innovative approach for kala-azar vector surveillance for the consolidation and maintenance phases of the VL elimination programme. Two manuscripts are under preparation reporting on effectiveness of sandfly monitoring using sticky paper by frontline health workers and the reduction of sandfly density with insecticidal wall paint through community involvement in Bangladesh.

In Nepal, a baseline study including integrated active case detection of febrile illnesses and determination of sandfly densities in 9 villages was iniriated in November 2019. Vector control interventions were conducted including Insecticide Residual Spraying in 222 households of two villages, Insecticidal Wall Painting in 33 households of one village and 698 bed net impregnations in 242 households of three villages. Final follow-up of active case detection through household screening and determination of vector densities were conducted after 16 months of vector control interventions. Study updates were provided to Epidemiology and Disease Control Division, Ministry of Health and Provincial No.1, Ministry of Social Welfare Health Directorate and District Public Health Office in Morang and active study collaboration was established. Housing structures and land lots were examined based on characteristics as risk factors of VL transmission in a case-control analysis. VL cases from 2013-2017 were identified based on the existing database from the Epidemiology and Disease Control Division and District Public Health Office from the plain Terai area (Morang, and Saptari districts)and hilly area(Palpa district) of Nepal. Two hundred and three built environments were analyzed (66 cases and 137 controls). Inferential statistics and logistic regression analysis were performed to determine the association of risk factors with VL. A concurrent embedded mixed methods design was used for data collection. Qualitative data were gathered through in-depth interviews and focus group discussions with FCHVs of 22 VL endemic villages of 3 districts. Concurrently quantitative data were collected through formal interviews of 203 household heads of the same villages to understand people`s awareness of VL and knowledge of protective measures against VL transmission in houses with and without a previous VL patient. The findings are being submitted for publication.

In continuation of implementation research on VL, the following studies were developed in consultation with the national programmes of Nepal and Bangladesh:

1. Epidemiological, Serological and Entomological Investigation of New Visceral Leishmaniasis (VL) Foci in Nepal and Bangladesh

2. Follow up Assessment of Visceral Leishmaniasis (VL) Treated Patients and Assessment of Impact of COVID-19 in VL Control Services in Nepal and Bangladesh

3. Determination of Prevalence of Post Kala-azar Dermal Leishmaniasis (PKDL) and Assessment of Treatment Seeking Behaviour of PKDL Patients in Nepal and Bangladesh

The studies will address factors behind emergence of new cases in new foci despite elimination efforts, prevalence of PKDL and follow up of treated cases to assess risk of relapse in both Nepal and Bangladesh. Despite challenges due to COVID-19 disruptions and delayed ethical approval processes, the studies are currently ongoing in both countries.

? A protocol for a study on prevalence of HIV/VL co-infection in Bangladesh has been modified to accommodate feedback and re-submitted to WHO ethics committee for review. Conditional approval was received in December 2021. The project will be initiated in 2022.

Recent publications include:

1. Younis LG, Kroeger A, Joshi AB, Das ML, Omer M, Singh VK, Gurung CK, Banjara MR. Housing structure including the surrounding environment as a risk factor for visceral leishmaniasis transmission in Nepal. PLoS Negl Trop Dis. 2020;14(3):e0008132.

2. Mazin Omer, Axel Kroeger, Anand Ballabh Joshi, Murari Lal Das, Lina Ghassan Younis, Vivek Kumar Singh, Chitra Kumar Gurung, Megha Raj Banjara. Role of female community health volunteers for visceral leishmaniasis detection and vector surveillance in Nepal. Health Promotion Perspectives 2020; 10(1): 50-58.

3. Debashis Ghosh, Abdul Alim, M. Mamun Huda, Christine Halleux, Md. Almahmud, Piero L Olliaro, Greg Matlashewski, Axel Kroeger, Dinesh Mondal. A comparative study for the control of sand flies with insecticidal wall paint, insecticidal durable wall lining, insecticide impregnated bed-nets and indoor residual spraying with insecticide. Am J Trop Med Hyg (accepted)

Distilling lessons from the VL elimination effort in the Indian subcontinent for other regional foci:

TDR has been working together with the WHO NTD/VL team to derive lessons from the VL elimination effort in Nepal, Bangladesh and India that could be applicable to inform stratgegies in other regional foci. Currently, the largest regional focus of VL is the Eastern African focus.

WHO has proposed a new set of ambitious NTD roadmap targets for 2021-2030. A new global target for VL elimination (as a public health problem) is proposed with number of countries validated for elimination defined as <1% case fatality rate due to primary VL. The new NTD roadmap offers opportunities to accelerate VL control in the Eastern African setting where VL epidemiology is more complex than in its Asian counterparts. In this regard, the success stories and lessons learned from the South-East Asian region are being documented and key implementation research areas identified to create a platform for research that would support VL elimination efforts in the Eastern African focus. Semi-structured interviews have been conducted with WHO regional and country offices, NTD departments of Ministries of Health, and with the main partners involved in the KEP in SEA and East African regions. A preliminary report is addressing: i) history of the KEP, elimination target and its implications, ii) epidemiology of VL in SEA; iii) key drivers of success of the KEP (political commitment, coordination, intersectoral collaboration, donors, and funding) and programmatic issues (surveillance, diagnostics, and treatment, integrated vector management, implementation issues) and iv) operational research. The findings will be presented to a consultative forum for further input which will be held in early 2021.

Additional findings submitted for publication include:

- Mondal D. et al., ?A comparative study of sandfly control interventions with insecticidal wall paint, insecticidal durable wall lining, insecticide-impregnated bednets and indoor residual spraying with insecticide in Bangladesh?

- Banjara M. et al., ?Response to Visceral Leishmaniasis Cases through Active Case Detection and Vector Control in Low Endemic Non-program Districts of Nepal?

- Singh-Phulgenda et al., ?Serious adverse events and mortality following treatment of Visceral Leishmaniasis: A systematic review and meta-analysis?

EROutp-0229

Output description:	TBC following WHO/TDR-MDGH donor agreement: capacity built in LMIC for research for and use of parasite and vector genome based tools
Output indicator:	Number of national laboratory staff/scientists obtaining short-term to long term training in laboratories collaborating in work towards output 2
Target date:	
Progress status:	On Hold
Progress description:	Discussions on hold until finalization of MDGH plans and financial obligations associated with taking on the role of regulatory sponsor for the DEC patch and bringing it to WHO prequalification. This would allow another 'oncho-product' into which TDR (and OCP and APOC) invested a lot of human and financial resources to have regulatory approval and thus facilitate provision to onchocerciasis endemic countries.

ER Biennium Outcomes

2022-2023

EROutc-0056

Outcome description: Guidelines, policy decisions and or practice informed by TDR outputs

2020-2021

EROutc-0031

Outcome description: Guidelines, policy decisions and or practice informed by TDR outputs

Progress made towards outcome: Evidence on sustainable strategies has been published addressing aspects in vector control, diagnosis and treatment - comparison of vector control options, performance of a diagnostic test (rk39) in asymptomatic and post-kala azar dermal leishmaniasis (PKDL) patients and on the safety of a drug of choice (Ambisome)

Research findings have been published on benefits of alternative vector control strategies to reduce transmission (wall painting vs indoor residual spraying), the diagnostic performance of rK39 in asymptomatic and PKDL cases and on safety of AmBisome with implications on policy and practice. Studies are ongoing on community based vector control and case surveillance in Nepal and Bangladesh. Additional studies are being developed to address factors behind emergence of new cases in new foci despite elimination efforts, integration of VL into other programmes and follow up of treated cases to assess risk of relapse.

Expected Result: 1.2.6

Title: Optimized approaches for effective delivery and impact assessment of public health interventions

Strategic Work Area: Research for implementation **Workstream:** Research for implementation

ER type:	Evolved	**Funding type:**	UD and DF
Start date:	01-Jan-15	**End date:**	31-Dec-23
ER status:	On Track	**Comment:**	Some activities have been postponed or were conducted remotely because of COVID-19 pandemic

WHO region: Global

Partners: Control programmes and research institutions in target countries - WHO/Global TB, and WHO Global Malaria Programmes, WHO regional offices, GFTAM, USAID, PMI, The Union and Damien Foundation

Diseases: COVID-19; Malaria; Neglected Tropical Diseases; Tuberculosis

Review mechanism: Scientific working group + other ad hoc or collaboration-based review systems as appropriate

ER manager: Corinne Simone Collette MERLE

Team: Corinne Merle, Abdul Masoudi, Debora Pedrazzoli, Vanessa Veronese

Number of people working on projects: 4

FENSA clearance obtained for all Non-State Actors? Yes

Justification for no FENSA clearance: All partners are governmental institutions

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	No
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	No	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes
Roles complimentary:	Yes
Coordination transparent:	Yes
Visibility:	Yes

Objectives and results chain

Approach to ensure uptake: Involvement of different WHO headquarters, regional and country departments, key stakeholders such as the Global Fund to Fight AIDS, Tuberculosis and Malaria, NGOs and control programmes; capacity built at country level

Up-take/Use Indicator: Evidence taken into consideration in treatment and normative guidelines

Gender and geographic equity: Men and women researchers equally represented. Activities focused initially in West and Central Africa (see rationale) for the WARN-TB and CARN-TB activities but other activities are global allowing us to work with the 6 WHO regions

Publication plan: Peer review publications, presentation at international congress, dissemination in-country including policy brief

Up-take/use indicator target date:	31-Dec-24

Sustainable Development Goals

Good Health and Well-being; Reduced Inequality; Partnerships to achieve the Goal

Concept and approach

Rationale:	Disease control is based on either case- or population-based approaches, depending on the nature and the prevalence of the disease, and the efficacy/safety profile of available medications. Country programmes need to build capacity to generate research questions and data that will allow them to effectively implement policy standards. In other cases, the evolving background epidemiology and programme objectives require that standard approaches be reconsidered and evidence generated to inform guidelines and policies.
Design and methodology:	1. Regional workshops: NTP network workshops to define research priorities and capacity building needs to develop a national TB research plan and share progress and issues (collaboration with relevant WHO programmes, in particular WHO/GTB) 2. Training: Activities addressing training needs through: (i) a regional training programme; and (ii) a "learning by doing" approach with technical support and mentoring for the development and conduct of pilot projects that generate data for the implementation and scale-up of new public health interventions; 3. Technical and financial support for scaling-up public health interventions and documenting their implementation through research.. 4. Development of research packages/toolkit such as the ShORRT research package, the IR4DTB toolkit, the TB cost toolkit, etc to facilitate the development of research protocols and data collection tools for the conduct of operational/implementation research projects 5. Collaborative approach with involving WHO departments across the 3 levels, key funders for infectious diseases and key national & international NGOs/researchers
Approach to ensure quality:	- Careful interactive development of the workplan of the full project and risk assessment – Careful selection of key partners - Close monitoring of progress

ER Objectives

ERObj-0012 : 1. Build country programme capacity to develop research questions and generate data to inform effective implementation of their policies

ERObj-0013 : 2. To support national programmes with evidence for the selection and effective implementation of strategies to control diseases through either case- or population-based approaches

ER Biennium Risks

2022-2023

ERRisk - 0032

Risk description: Insufficient engagement of national control programmes

Actions to mitigate risk: Adequate communication strategy to maintain interaction of all partners within the network

ERRisk - 0226

Risk description: Inability of some control programmes to define research priorities and capacity building needs

Actions to mitigate risk: Shared experience and expertise within the regional network and external technical support provided for the weakest control programmes

2020-2021

ERRisk - 0084

Risk description: Inability of some control programmes to define research priorities and capacity building needs

Actions to mitigate risk: Shared experience and expertise within the regional network and external technical support provided for the weakest control programmes

Mitigation status: On Track

ERRisk - 0225

Risk description: Insufficient engagement of national control programmes

Actions to mitigate risk: Adequate communication strategy to maintain interaction of all partners within the network

Mitigation status: On Track

ER Biennium Outputs

2022-2023

EROutp-0269

Output description: facilitation trough the conduct of operational research of the uptake of new all oral shorter regimen for the treatment of Multi Resistant Tuberculosis (MDR/RR-TB)

Output indicator: Report provided to SWG and stakeholders at country, regional and global level

Target date: 31-Dec-22

EROutp-0276

Output description: Extend the WARN-TB approach to other geographical areas and/or other disease burdens

Output indicator: Report provided to scientific working group and stakeholders at country, regional and global levels

Target date: 31-Dec-23

EROutp-0304

Output description: Capacity strengthened for improving the effectiveness of safety monitoring of new drugs in target countries

Output indicator: Serious Adverse event reporting rates in target countries

Target date: 31-Dec-23

EROutp-0277

Output description: Approaches to optimized delivery and effectiveness of seasonal malaria chemoprevention in West and Central Africa evaluated and other NTD control strategies

Output indicator: Report provided to scientific working group and stakeholders at country, regional and global levels

Target date: 30-Jun-23

2020-2021

EROutp-0178

Output description: Approaches to optimized delivery and effectiveness of seasonal malaria chemoprevention in West and Central Africa evaluated and other NTD control strategies

Output indicator: Report provided to scientific working group and stakeholders at country, regional and global levels

Target date: 30/06/2023

Progress status: Completed

Progress description: baseline analyses of the barriers for effective SMC delivery was conducted in 2020. Implementation research projects are currently developed by countries to overcome these barriers.

EROutp-0126

Output description: Extend the WARN-TB approach to other geographical areas and/or other disease burdens

Output indicator:	Report provided to scientific working group and stakeholders at country, regional and global levels
Target date:	31/12/2023
Progress status:	Completed
Progress description:	Similar experience of the WARN-TB was launched with the country of the central african region with the establishment of the Central African Regional Network for TB control (CARN-TB).

EROutp-0074

Output description:	Strengthened regional networks of West African National Tuberculosis Programmes (WARN-TB) and Central African Tuberculosis Programmes (CARN-TB) capable of identifying research priorities and designing and conducting OR/IR to generate the evidence-base for
Output indicator:	Report provided to scientific working group and stakeholders at country, regional and global level
Target date:	31/12/2021
Progress status:	Completed
Progress description:	All countries of the WARN-TB and CARN-TB have defined their TB research priorities . More than 50 research projects were or are currently conducted in the region with the support of TDR .

EROutp-0268

Output description:	Approaches to optimize delivery and effectiveness of Seasonal Malaria Chemoprevention (SMC) in West and Central Africa evaluated and other NTD control strategies
Output indicator:	Report provided to SWG and stakeholders at country, regional and global level
Target date:	31/12/2023
Progress status:	Completed
Progress description:	In 2020, TDR provided support to the 13 countries implementing SMC to define the barriers for an effective delivery of SMC - in 2021-2022, implementation research projects will be conducted to find best approaches to overcome the barriers

ER Biennium Outcomes

2022-2023

EROutc-0060

Outcome description:	Guidelines and policy decisions informed by TDR outputs
Progress made towards outcome:	The national disease control programmes supported through this ER, used research results to modify their national strategy.

2020-2021

EROutc-0032

Outcome description:	Guidelines and policy decisions informed by TDR outputs
Progress made towards outcome:	The national TB programmes of the WARN-TB used research results to modify their national strategy.

Expected Result: 1.3.3

Title: Population health vulnerabilities to VBDs: Increasing resilience under climate change conditions (Operationalizing a One Health Approach for the Control of VBDs in the Context of Climate Change)

Strategic Work Area: Research for implementation **Workstream:** Research for policy

ER type:	Evolved	**Funding type:**	UD
Start date:	01-Jan-20	**End date:**	31-Dec-23
ER status:	On Track	**Comment:**	On going work
WHO region:	AFRO		
Partners:	WHO-PHE, WHO-AFRO, WHO-NTD, Fondation Merieux, UN Environment		
Diseases:	Malaria; Rift valley fever; Schistosomiasis; Trypanosomiasis; Vector-borne diseases		
Review mechanism:	Through SWG		

ER manager: Bernadette RAMIREZ

Team: 1 Professional staff (B Ramirez) and 1 admin staff (Daniel Hollies)

Number of people working on projects: 5

FENSA clearance obtained for all Non-State Actors? Yes

Justification for no FENSA clearance:

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	No	Build strengths:	Yes
Reduce burden:	No	Foster networking:	Yes
Increase visibility:	No		

TDR partnership criteria indicators

Objectives aligned:	Yes	The objectives of this programme are aligned with TDR strategy
Roles complimentary:	Yes	TDR partners add complementary value and contribution to achieving TDR strategy.
Coordination transparent:	Yes	Coordination with partners is above board and transparent.
Visibility:	Yes	Partners share similar goals as TDR, thus expanding TDR's visibility in the field.

Objectives and results chain

Approach to ensure uptake:

TDR and collaborating research institutions will conduct networking and policy-advice activities to promote the products generated from the research programme:

a) Translation and dissemination of the scientific knowledge, evidence and adaptation tools and strategies generated through partnership and networking (south-south and north-south). Project recipients will facilitate the transfer of research findings to various user groups including academics, policy-makers and the public through a range of means including via TDR, projects and partner websites. They will present the results in relevant fora and national dialogues and publish the results in scientific journals from the various disciplines of the investigators, as well as through interdisciplinary publication channels. TDR and collaborators will also produce scientific synthesis and research summaries on the research results;

b) Promotion of research-to-policy uptake of the research results by engaging in researcher, practitioner and policy dialogues at local and national levels through research-to-policy dialogue, policy documents,

media, involving policy-makers in research meetings/workshops, implementation and evaluation of the projects, strategy events such as Community of Practice meetings and stakeholder consultations;

c) Enhancement of public awareness of climate change adaptation options by communicating research findings to communities, health officials and policy-makers through various means (including publications, feedback seminars, dissemination of scientific results to the general public, popularization of research findings by the media in collaboration with research institutions using films and other forms of documentation);

d) Promotion of intersectoral collaboration by integration of representatives of other sectors in the transdisciplinary research activities and in the research meeting process; and

e) Undertake monitoring and evaluation activities (internal and external M&E) to ensure that expected outputs and outcomes are achieved in line with project objectives. In collaboration with the researchers, TDR's communications team and IDRC, the results of the programme will be widely disseminated using various means.

The overall performance of the programme will be monitored and evaluated by TDR. In addition to the annual report, TDR activities are reported in the TDR newsletter and on its website.

Up-take/Use Indicator: 1. Increased national, regional and international attention triggered through research results; 2. Use of tools by African countries for increased resilience to VBD risks under climate change conditions; 3. Number and significance of events where decision-making by public health officials is a focus; 4. Number of reports, workshops, meetings, national fora and media popularization produced/organized; and 5. Evidence of impact of capacity built in research institutions and communities

Gender and geographic equity: All proposals follow gender-sensitive approaches, with all research activities having an explicit gender perspective/framework and taking into account possible gender differentials in the epidemiology and transmission of VBDs and will, if possible and appropriate, define gender-sensitive approaches to the community-based adaptation strategies to reduce population health vulnerabilities. This perspective is further stressed in the call for proposals and during proposed training and workshops where the participation of women researchers is actively encouraged. Best approaches to engage women in programmes and activities aimed at climate change adaptation for health and reduced risk for VBDs will also be addressed.

Publication plan: At least three publications (open access) expected from projects supported by TDR

Up-take/use indicator target date: 31-Dec-23

Sustainable Development Goals

Good Health and Well-being; Climate Action

Concept and approach

Rationale: The overall goal of this ER is to generate evidence to enable development of innovative strategies to reduce VBD-related human vulnerability and to increase resilience of African populations to VBD-related health threats. In addition, it aims to broaden and extend knowledge, research capacity, collaboration and policy advice products that can be used throughout Africa and other regions. During previous years (from 2013), and through the TDR IDRC Research Initiative on Vector Borne Diseases and Climate Change, this ER had delivered on the following: 1) identification and characterization of potential impact on vector borne diseases (VBD) of complex socioecological conditions of water systems in Africa, 2) assessment of VBD risks under various environmental exposure conditions and vulnerability context, 3) decision support processes and tools for health impact assessment and management, and 4) a network and community of practice with capacity built to better manage climate and environment-related health risks. For the current biennium (2020-2021), this ER addresses an extraordinary opportunity to build on the outputs of the TDR-IDRC Research Initiative as the basis for operationalizing the One Health, a multisectoral, transdisciplinary approach that ensures collaboration and coordination among all relevant players in public health, animal health, plant health, environment, ministries, stakeholders, sectors and disciplines, to achieve better public health outcomes (see Figure 1. Evolution of ER 1.3.3). This opportunity has now become even more urgent and a critical need with the emergence of Covid-19, re-emergence of Ebola and other zoonotic and vector borne disease (VBD) threats. For example, the social and economic dislocations Covid-19 has catalysed can be expected to increase health risks by increasing the vulnerability of many already vulnerable populations well beyond the pandemic period. Figure 1. Evolution of ER 1.1.3. Vector borne diseases and climate change ? Relevance

Human health is intimately linked to the state of the environment, including the effects of climate change. Nearly one in four premature deaths in Africa, for instance, are linked to the environment and threatens to increase the number of health emergencies and outbreaks in the coming years. IMP SWG members highlighted the importance of the interrelationship between health and climate and acknowledged that research in this area remains highly topical albeit the completion of the TDR IDRC Research Initiative on Vector Borne Diseases (VBDs) and Climate Change.

One of the approaches that could prove to be valuable in the implementation of joint interventions in health and environment, to address population health vulnerabilities and to increase resilience is the One Health approach, which ensures that human, animal, and environmental health concerns are addressed in an integrated, multisectoral and holistic manner, and to provide a more comprehensive understanding of the problems and potential solutions than would be otherwise not be possible with siloed approaches by the stakeholders concerned (researchers, public health practitioners, environment, agricultural sectors, communities and other relevant partners). At the same time, the One Health approach is quite complex, making its practical implementation and operationalization not straightforward, and thus, the stakeholders concerned will benefit from capacity building on the One Health approach to build resilience against VBDs under climate change conditions.

Demonstrable impact The goal of this ER is to ensure resilience to the adverse impacts of VBDs and climate change among vulnerable populations in Africa. It is expected to contribute to the following: · 2030 Agenda for Sustainable Development through Sustainable Development Goal 3 (Health and Well Being) and 13 (Take urgent action to combat climate change and its impacts) and the UNFCCC's Paris Agreement on Climate Change · WHO?s Triple Billion target and WHO's 13th General Programme of Work (2019-2023) · Strategic Action Plan to Scale up Joint Interventions in Health and Environment in Africa (2019-2029) · WHO?s Global Vector Control Response (2017-2030) and the 2030 NTD Road Map for Ending Neglected Tropical Diseases

Design and methodology:

Operationalizing One Health encompasses a set of tools, currently under development through ER 1.3.3, that combines well-documented, evidence-based principles and practices that specifically address the problem of population vulnerabilities to VBDs in the context of climate change. It is widely agreed among international development agencies, medical and public health scientists that One Health can contribute significantly to global health in this regard. Yet the challenge is how to extend One Health operationalization efforts that are focused on organizational requirements, on elaboration of specific methods including performance metrics (through a scorecard) that reflect the interdependence of human health and ecosystem health. Thus, for operationalizing One Health, we are combining established methods from the environmental and health fields using analytical systems, planning and organizational approaches to form the basis for risk mitigation and management against emerging zoonotic diseases, climate variability and extreme weather events. The One Health scorecard system is critical to measure success and evaluate performance of the One Health plan through performance indicators for collectively developing a metrics standard that incorporates variances of specific settings for a harmonised evaluation (see Figure 2. Example of a One Health Scorecard) . Figure 2. Example of a One Health scorecard (?What is not measured is not done, What is not measured can not be managed, What is not measured can not be improved, What is not measured is not important to justify?).

A significant advance toward accomplishing this was to employ Implementation Science in the design of a Framework/Draft Plan and associated provisional metrics and indicators, which was presented and discussed during the One Health Consultation Meeting held in Brazzaville, Congo, last December 2019 (see Figure 3. Components of an adaptive One Health approach) . Participated in by IMP SWG (represented by Dr Mario Henry Rodriguez, who also chaired the meeting), key researchers from the TDR IDRC network, representatives from the ministries responsible for health and environment, and partners/collaborators [WHO AFRO, Fondation Merieux, UN Environment, OIE-Africa, FAO-Africa, PAMCA], the Brazzaville meeting acknowledged the value of the TDR IDRC research initiative for laying the foundation for more holistic, locally adaptable health systems capable of VBD and climate change risk management and can now be envisioned for the implementing the One Health approach. The refinement of the Framework/Draft Plan from the Brazzaville meeting is expected to result in an essential policy and management tool that currently does not exist for operationalizing One Health. Figure 3. Components of an adaptive One Health approach

The main recommendation from the Brazzaville meeting was a Call to Action to implement the Draft Plan to fully develop the One Health operationalization system using the extensive experience and data outputs from the TDR-IDRC Africa Initiative. Aligned with the Libreville Strategic Action Plan to Scale Up Health and Environment Interventions in Africa (2019-2029), this scorecard and performance metrics system is envisioned to assist in mitigating the impacts of VBD health consequences on the most vulnerable populations. It was further recommended to implement the Draft Plan on a pilot scale based on the Initiative?s projects in Cote d?Ivoire, Kenya, Tanzania and South to facilitate increased integrated coverage of health, agricultural and environment interventions for primary prevention of VBDs while integrating ecosystems preservation in Africa.

Progress in 2020 The following activities have been completed and undertaken: · Consultation Meeting for Operationalizing a One Health Approach for VBDs in the context of Climate Change, 17-18 December 2019, Brazzaville, Republic of Congo (see Group photo from the Consultation Meeting) o Jointly organized and funded by TDR with Fondation Merieux; participants included TDR partners and collaborators, SWG, researchers, public health practitioners, ministry representatives from public health and environment, other stakeholders o Objectives: 1) To discuss how research products from the TDR IDRC Research Initiative on VBDs and Climate Change can be aligned with and contribute to the Strategic Action Plan (SAP) to Scale up Health and Environment Interventions in Africa (Libreville, 2019-2029), 2) To discuss and provide input into a draft plan that will guide the implementation of One Health o Brief from the meeting: 1) Participants were informed of the new Libreville Strategic Action Plan and discussed how future work can be aligned with and contribute to the SAP, 2) Discussed and provided input to the draft plan for Operationalizing One Health, 3) Conducted a workshop on country scenario-setting for the application of the One Health scorecard/metrics system; 4) Identified research and capacity building needs for the implementation of One Health o Recommendations from the meeting: 1) Revise draft plan for OH with input from participants, 2) Call to Action to pilot test the draft plan including the metrics based assessment tool, 3) Request TDR and partners to support the testing of the draft plan through funding and technical support for country projects and activities for 2020-2021

Group photo from the Consultation Meeting

· Engagement with partners o TDR is engaged with the following partners: § Fondation Merieux § UN Environment § OIE-Africa (World Organization for Animal Health) § FAO-Africa (Food and Agriculture Organization) § PAMCA (Pan Africa Mosquito Control Association) · Established collaboration with Global Health Group International (led by Prof Bruce Wilcox at the ASEAN Institute for Health Development, Mahidol University, Thailand) for technical support for the delivery of products relevant to Operationalizing One Health o Completion of a Master Plan and Guidance Document for use by research projects in the development of their workplans o Development of an interactive web-based collaboration platform for knowledge sharing and to maximize communications and information exchange o Planning and organization of a writeshop for African principal investigators to assist in development of workplans to help facilitate TDR?s engagement with technical and policy personnel with WHO AFRO, WHO country office in Africa, UN Environment, OIE-Africa, FAO-Africa, Fondation Merieux and PAMCA o To assist TDR in providing guidance to countries (researchers, policy makers and other relevant stakeholders) to lay the foundation and tools necessary for translation and uptake of One Health strategies an strengthened capacity for integrating human, animal and ecosystem health o Preparation of a publication and research dissemination plan · Participation at the 26 th Tripartite Annual Executive Meeting on One Health, WHO Headquarters, Geneva, 12-13 February 2020 o Objective of the meeting: to discuss critical issues at a political and strategic level, review progress and address bottlenecks o TDR presented its One Health research portfolio in the Session on One Health Research as part of information sharing among partners with an interest to strengthen collaborative research activities on specific topics and methodologies o Presented were the One Health research portfolio on Antimicrobial Resistance and the projects on vector borne diseases and climate change · Participation of TDR in the Virtual 2 nd Meeting of the Interagency Liaison Group on Biodiversity and Health, 4-6 May 2020 o This meeting was hosted by the Department of Environment, Climate Change and Health and the Convention on Biological Diversity (CBD) o Contributed to the finalized Guidance for mainstreaming biodiversity for nutrition and health o Contributed to the WHO Q&A on climate and health, and post COVID recovery o Contributed to the WHO Q&A on biodiversity, health and infectious diseases o Discussed how to leverage joint WHO-CBD work programme on biodiversity and health can be aligned in the context of COVID 19 o Contributed towards the preparation of a Draft Global Plan of action on Biodiversity and Health, including addition of key elements of the biodiversity-inclusive One Health Guidance · Completion of a Virtual Writeshop with principal investigators (from Cote d?Ivoire, Kenya, South Africa and Tanzania) on 8, 16, 22 and 29 July 2020; 10.30-12.00 CET o To develop workplans for pilot testing the Draft Plan for One Health including the use of the scorecard/metrics system o Proposals submitted to TDR by 1 August 2020; contracts processed, with projects starting by the 1 st week of Sep 2020 for a duration of 1 year. Please see below for an annotated list of projects; see also Proposed Pathway/Logic Model for the 4 Projects. Project 1. From an Ecohealth research project to operationalizing One Health approach in West Africa (Cote d?Ivoire and Mauritania) Principal Investigator: Dr Brama KONE , Centre Suisse de Recherches Scientifiques en Côte d?Ivoire (CSRS), Abidjan, Côte d'Ivoire o Main objective. To operationalize a One Health approach through the assessment of capacity building needs among stakeholders, activities and outcomes of knowledge and learning process and risk management strategies o Specific objectives: § To analyse the actors (governance, organizations) and resources, capacity building activities and their outcomes, employing socio ecological systems analytical methods and stakeholder analysis § To assess the effectiveness of the EcoHealth approach principles in the implementation of One Health intervention science and risk management scorecard components § To Investigate how the previous project results and experience with Malaria and Schistosomiasis interventions, and the role of public versus private health facilities

could guide interventions to improve health systems disease risk management capacity, considering OneHealth approach, taking as example the zoonotic disease COVID-19 pandemic management

Project 2. Operationalizing One Health Initiative for Malaria and Rift Valley Fever Project in Kenya Principal Investigator: Professor Benson B.A. ESTAMBALE , Research, Innovation and Outreach, Jaramogi Oginga Odinga University of Science and Technology, Bondo, Kenya o Main objective. To contribute to the operationalization of a One Health Research protocol for Implementation Research o Specific objectives: § To synthesize the existing project data based on a One Health Approach and guided by the tenets of social-ecological systems framework (SESF). § To build the capacity of the project team on the One Health Approach to climate sensitive vector borne disease research. § To publish synthesized research papers based on the One Health Approach which incorporates findings from the project.

Project 3. One Health Operationalization in Tanzania Principal Investigator: Professor Paul S. GWAKISA , The Genome Science Centre and Department of Veterinary Microbiology and Parasitology, Faculty of Veterinary Medicine, Sokoine University of Agriculture, Morogoro, Tanzania o Specific objectives: § To build capacity for transdisciplinary research for operationalizing One health at different levels (community level/extension workers/postgraduates and young researchers). § To work closely with all stakeholders and develop a framework for addressing key one health-based community needs using a Theory of Change approach (eg, the human-livestock-wildlife interface and zoonotic diseases). § To collaboratively develop a metrics-based assessment of a One Health scorecard.

Project 4. Operationalizing One Health in Ingwavuma Community: Developing Transdisciplinarity Methodology (South Africa) Principal Investigator: Professor Moses J. CHIMBARI, College of Health Sciences, University of Kwazulu-Natal, Durban, South Africa o Main objective. To address capacity development, knowledge and learning and threat management for operationalizing One Health in South Africa o Specific objectives: § To enhance and develop capacity at different levels for operationalizing One Health § To co-develop a theory of change with stakeholders to easily identify priority areas for research and intervention § To identify hurdles to full empowerment of communities through a co-development of a monitoring and evaluation framework

· Scientific Session at the recent virtual World One Health Congress 2020, 30 Oct-3 Nov 2020. The title of the session was A Metrics Based Evaluation of One Health: Toward Control of VBDs in the context of Climate Change in Africa . This session brought together 6 scientist-leads (from Bangkok, Germany, Cote d?Ivoire, Kenya, South Africa and Tanzania) to further articulate the fundamentals of One Health and to draw insights into the conduct of integrative research using One Health transdisciplinary systems approaches including pilot testing a scorecard/metrics-based evaluation for its operationalization. For more information on this Scientific Session, please refer to https://www.fondation-merieux.org/en/events/6th-world-one-health-congress-2020-virtual-event/ . For more information on the One Health scorecard, please refer to https://onehealthscorecard.org/ .

· Aside from the Scientific Session on One Health at the virtual WOHC 2020 (mentioned above), TDR also participated in another Scientific Session, ?Addressing zoonotic diseases at the animal-human-ecosystem interface: responding to threats, as part of the Science Policy Interface (Global Health Security) - see figure below.

Progress in 2021: Key achievements: ? A Master Plan and Guidance document for the development of the operational protocol was finalized. It provided an overarching synthesis of the input from the One Health Consultation Meeting (December 2019, Brazzaville), as the basis for developing a standardized approach for the One Health Metrics and Scorecard. This Master Plan supported a follow-up consultation process through bi-monthly online meetings (with technical support from TDR and Global Health International Group [GHGI]) that helped the development of actions plans for the country projects and to clarify the expected outputs, collaborative teamwork process, timetable and milestones for the African research teams. ? Establishment of an on-line platform for Operationalizing One Health as a Transdisciplinary Ecosystem Approach (https://onehealthscorecard.org/) . This web-based collaborative member login platform was developed and launched in July 2020, and continually upgraded based on feedback from the country teams. It has proven effective as the primary means of collaborative learning, organizational management, and progress tracking.

This on-line platform also includes an interactive collaborative space for two working groups composed of members from the network of researchers and stakeholders from the country projects, TDR, GHGH and other stakeholders/partners (see FIGURE 1) : o Fundamentals Working Groups § Capacity building, approach planning and organizational evaluation - To integrate knowledge that is both scientific and technical pertaining to zoonotic disease risk mitigation with that of operational theory and management approaches (https://onehealthscorecard.org/login/approach-planning-and-evaluation/) § Systems thinking, resilience and risk management (https://onehealthscorecard.org/login/systems-thinking/) § Intervention management and implementation research (https://onehealthscorecard.org/login/intervention-science/) o Topical Working Groups § Transdisciplinary research on zoonoses and VBDs (

https://onehealthscorecard.org/login/transdisciplinary-research-on-zoonoses-and-vbds/) § Health and biodiversity (https://onehealthscorecard.org/login/health-and-biodiversity/) § Sacred ecology (https://onehealthscorecard.org/login/sacred-ecology/) § Gender and equity (https://onehealthscorecard.org/login/gender-and-equity/) § Community engagement (https://onehealthscorecard.org/login/community-engagement/)

FIGURE 1. Interactive collaboration space in onehealthscorecard.org ? Published a One Health Handbook. This is a comprehensive reference source of One Health framing and integration of its challenges including the basis for its operationalization. This cutting-edge One Health fundamentals document was developed and incorporated into the web-based platform, along with key supporting materials, providing the scholarly and evidence-based background on One Health. This document was subsequently published as a chapter in the Springer/WHO handbook of Global Health [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 ; see FIGURE 2], making it widely available within WHO and other collaborating agencies and organizations (FAO, OIE, UNEP, among others) for their One Health programmes.

FIGURE 2. One Health and Emerging Zoonotic Diseases: Framework, Integration and Challenges. 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 ? Put together a One Health Glossary. An A-Z index of terms relevant to One Health. (https://onehealthscorecard.org/login/one-health-glossary/) An online One Health pilot curriculum development component was added to the collaborative effort which will build on and extend the fundamentals section of the web-based platform. 2 to 3 individuals from each of the Country teams have been selected and will participate in the pilot course development from October 2021 through January 2022. The Prototype Online Training course (An innovative / interactive virtual classroom for use in an open eLearning platform) ?Operationalizing One Health as a Transdisciplinary ecosystem approach: Linking health, environment and communities? is a coordinated effort by TDR in collaboration with GHGI and researchers from Tanzania, ? Kenya, Cote d?Ivoire and South Africa. Progress towards implementation of this course are as follows: ? Modules for the course have been developed ? Selection of initial batch of trainees (4 per country team) is now finalized. This training course is also one of the proposed WHO Technical Products on norms/standards, data and research for 2022-23 (TP), a collaboration between TDR and NTD.

Plans for 2022-2023 The proposed plans for this biennium include the following: · A call for proposals to scale up the implementation and application of the One Health metrics/scorecard in Africa. · Technical and funding support for a portfolio of projects in Africa. · Mentoring and capacity building through a training course on Operationalizing One Health.

Approach to ensure quality:

VES will collaborate with WHO-PHE, WHO Regional Office for Africa (AFRO), through the Department of Protection of Human Environment (PHE), UN Environment, FAO-Africa, OIE-Africa and Fondation Merieux for implementation of the programme by ensuring that project outcomes feed into national climate change and health policy processes.

Uniqueness Building on previous projects from ER 1.3.3, TDR?s unit on Research for Implementation is best positioned for research and capacity building toward operationalizing an integrated, multisectoral and holistic One Health approach for the control of VBDs in the context of climate change. Through TDR?s convening and facilitation role, various partners and stakeholders from different sectors are brought together for the One Health approach which is envisioned as a novel, essential policy and management tool (including a metrics/scorecard system) for the control of VBDs at a time of changing environment/climate conditions in Africa.

ER Objectives

ERObj-0023 : To operationalize and implement a One Health approach, embedded into the health and environment strategic alliance of country task teams, to enable African countries to manage the impact of VBDs in the context of climate change

ER Biennium Risks

2022-2023

ERRisk - 0259

Risk description: Knowledge translation outcomes may usually not be under the control or influence of the projects, particularly those in the decision- and policy-making positions.

Actions to mitigate risk: For this research programme, stakeholders, including from the affected communities and policy/decision-makers, will be engaged from the very beginning at the inception and during the course and completion of the research projects to ensure their active involvement in conducting and reporting on the research on the research with the expectation that the results will be utilized as effectively as possible. It is anticipated that the periodic review of successes and failures of the projects and of the implementation of the research programme will allow timely remediation to potential problems that might occur during the course of the implementation of the projects.

ERRisk - 0258

Risk description: Health researchers and other stakeholders may encounter challenges in working under transdisciplinary circumstances (e.g. across different disciplines, knowledge sources and other multisectoral partners).

Actions to mitigate risk: The transdisciplinary approach will be promoted and advocated for from the onset as an essential aspect required of the proposals and throughout the projects. The online training course will also supplement the implementation of the research projects.

2020-2021

ERRisk - 0037

Risk description: Health researchers and other stakeholders may find it difficult to work under transdisciplinary circumstances (e.g. climate, agriculture, etc). Of particular note is the current COVID pandemic which presents another layer of challenge for project implementation.

Actions to mitigate risk: The cross sectoral approach will be promoted from the outset as an essential aspect required of the proposals and throughout the projects.

Mitigation status: On Track

ERRisk - 0089

Risk description: Knowledge translation outcomes are usually not under the control or influence of projects. Of particular note is the current COVID pandemic which presents another layer of challenge for project implementation.

Actions to mitigate risk: For this research programme, stakeholders, including from the affected communities and policy/decision-makers, will be engaged from the very beginning at the inception and during the course and completion of the research projects to ensure their active involvement in conducting and reporting on the research on the research with the expectation that the results will be utilized as effectively as possible. It is anticipated that the periodic review of successes and failures of the projects and of the implementation of the research programme will allow timely remediation to potential problems that might occur during the course of the implementation of the projects.

Mitigation status: On Track

ER Biennium Outputs

2022-2023

EROutp-0317

Output description: Project protocols developed from proposals and submitted to WHO ERC and National Ethics Review Committees for approval

Output indicator: Protocols reviewed for ethics approval at WHO and at the country level

Target date: 31-May-22

EROutp-0315

Output description: A call for proposals for technical and funding support addressing the scaled up us of the One Health Transdisciplinary Ecosystem Approach for Vector Borne Diseases in the context of Climate Change in Africa

Output indicator: Publication and dissemination of a call for proposals

Target date: 31-Mar-22

EROutp-0320

Output description: Implementation of an online training course on Operationalizing One Health

Output indicator: African researchers trained in Operationalizing One Health through an online course which is offered at least once a year (in 2022 and 2023)

Target date: 31-Jul-22

EROutp-0319

Output description: Research Uptake meeting with researchers, project stakeholders and collaborators
Output indicator: A research uptake meeting to share new knowledge, data, decision support processes/tools to stakeholders
Target date: 31-Dec-23

EROutp-0316

Output description: Establish a Special Project Team to review proposals for funding/implementation
Output indicator: A Special Project Team composed of at least external experts to review and recommend proposals for funding.
Target date: 30-Apr-22

EROutp-0318

Output description: Implementation of a portfolio of projects for the scaled up application of the One Health Transdisciplinary and Ecosystem Approach for Vector Borne Diseases in the context of Climate Change in Africa
Output indicator: 2 projects being implemented in Africa
Target date: 30-Jun-22

2020-2021

EROutp-0183

Output description: Multisectoral country task teams established to implement a One Health approach to increase resilience to vector borne diseases under climate change conditions
Output indicator: 1-2 functional country task teams implementing the One Health approach
Target date: 31/12/2021
Progress status: Completed
Progress description: Country teams are currently being put together, building on existing networks and communities of practice

EROutp-0131

Output description: Pilot test the draft plan for Operationalizing One Health
Output indicator: Country projects pilot testing the draft plan and applying the metrics/scorecard system
Target date: 31/12/2021
Progress status: Delayed
Progress description: Four countries in Africa are currently pilot testing the draft plan. Receipt of final technical reports is expected by 1 March 2022.

EROutp-0079

Output description: Development of a draft plan for a One Health approach
Output indicator: Draft plan for operationalizing a One Health approach including a metrics based assessment tool
Target date: 31/03/2020
Progress status: Completed
Progress description: The draft plan is now ready for pilot testing in 2021

EROutp-0235

Output description: Develop and implement a metrics-based assessment to evaluate progress with implementation of the One Health approach
Output indicator: Metric framework generated and scorecards used
Target date: 31/12/2021
Progress status: Delayed
Progress description: Four African countries would have validated the use and application of the metrics framework and scorecards for Operationalizing One Health. Receipt of final technical reports is expected by 1 March 2022.

ER Biennium Outcomes

2022-2023

EROutc-0084

Outcome description: Research uptake and translation of tools/products from the research projects including the use of online training course for the scorecard/metrics systems on One Health operationalization

EROutc-0083

Outcome description: Scaled-up application of the One Health Transdisciplinary Ecosytem Approach for Vector Borne Diseases in the context of climate change in African countries

EROutc-0082

Outcome description: Capacity building for research on the application of the One Health Transdisciplinary Ecosystem Approach for Vector Borne Diseases in the context of Climate Change in Africa; including roll out of an online training course (at least 20 trainees across Africa per year)

2020-2021

EROutc-0037

Outcome description: Pilot testing of draft plan for Operationalizing One Health

Progress made towards outcome: Projects in African countries are ongoing. Receipt of final technical reports are expected by 1 March 2022

Expected Result: 1.3.10

Title: Urban health interventions for the prevention and control of vector-borne and other infectious diseases of poverty

Strategic Work Area: Research for implementation **Workstream:** Research for implementation

ER type:	Continuing	**Funding type:**	UD
Start date:	01-Jan-20	**End date:**	31-Dec-23
ER status:	On Track	**Comment:**	Previous project under this expected result was finalized last year and following SWG 2019 recommendations, in 2020 a new call for proposals was launched.

WHO region: Global

Partners: Universities and research consortium in Latin America

Diseases: Vector-borne diseases; Not Disease-Specific

Review mechanism: Scientific working group and ad hoc expert reviewers

ER manager: Mariam OTMANI DEL BARRIO

Team: Abraham Aseffa, Bernadette Ramirez

Number of people working on projects:

FENSA clearance obtained for all Non-State Actors? Yes

Justification for no FENSA clearance: All partners are State-actors for now

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	Yes	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes
Roles complimentary:	Yes
Coordination transparent:	Yes
Visibility:	Yes

Objectives and results chain

Approach to ensure uptake:	Evidence generated will also inform the development of information briefs for policy and practice. Local decision-makers will be part of the community engagement strategy in the implementation phase. In addition to oversight by an expert committee, quality assurance mechanisms include fact checking, peer review of concept paper, technical and copy editing
Up-take/Use Indicator:	Increased national, regional and international attention triggered through research results; number of reports and publications generated; number of meetings with decision-makers at local level
Gender and geographic equity:	Intersectional gender analysis will be applied and tools facilitated by the TDR team for local researchers to ensure disaggregated data.
Publication plan:	Literature reviews planned to be published in peer review journal.

Up-take/use indicator target date:	31-Dec-21

Sustainable Development Goals

Gender Equality; Reduced Inequality; Sustainable Cities and Communities

Concept and approach

Rationale:	Urban health interventions to prevent and control infectious diseases would benefit from incorporating a gender analysis in order to understand bottlenecks in implementation of interventions and to ensure that social determinants of health are addressed to design effective prevention and control strategies for all urban settings.
Design and methodology:	Design and methods following proposal selection.
Approach to ensure quality:	An ad-hoc review committee will assess suitability of proposals to conduct the literature reviews. SWG members will be also updated on progress made.

ER Objectives

ERObj-0014 : To generate new knowledge and evidence generated on effectiveness of interventions to prevent and control vector-borne diseases by addressing socioeconomic determinants in health in urban settings

ER Biennium Risks

2022-2023

ERRisk - 0263

Risk description:	Weak capacities at country level to effectively apply an intersectional gender analysis in research processes
Actions to mitigate risk:	Ensuring interdisciplinary teams, with social scientists and biomedical scientists and entomologists
Mitigation status:	Planning phase

2020-2021

ERRisk - 0033

Risk description:	Weak capacities at country level to effectively apply an intersectional gender analysis in research processes
Actions to mitigate risk:	Ensuring interdisciplinary teams, with social scientists and biomedical scientists and entomologists
Mitigation status:	On Track

ER Biennium Outputs

2022-2023

EROutp-0326

Output description:	Evidence from literature reviews on urban health, gender dimensions of infectious diseases and social determinants in urban settings analysed, followed by Research uptake activity in terms of evidence briefs for policy generated.
Output indicator:	Journal papers published following literature reviews conducted by ICDDRB in Bangladesh and the Regional Medical Research Centre in India. Systematic reviews will include a focus on infectious diseases among urban poor during COVID-19 pandemic

Target date: 15-Jun-23

EROutp-0327

Output description: Evidence informed policy and practice at urban level.

Output indicator: Evidence informed policy related instruments or policy documents resulting from evidence reviews

Target date: 30-Jun-23

2020-2021

EROutp-0127

Output description: Evidence review on human mobility in urban areas and its impact on disease transmission (particularly dengue and Chikungunya)

Output indicator: Evidence generated from 2 different selected research teams in a specific location which has experienced recent demographic increase, addressing urban health issues in tropical diseases

Target date: 31/12/2021

Progress status: On Track

Progress description: The final title of this output was slightly adjusted following a call for proposals and focuses now on social determinants, also following SWG recommendations: Literature reviews and research gap analysis on social determinants of urban health. This project under this expected result was finalized last year and following SWG 2019 recommendations and the current covid19 pandemic, in 2020 a new call for proposals was launched covering a broader theme of focus under this expected result and inviting institutions working on public health, urban health, implementation research and infectious disease prevention and control, to submit individual or collaborative proposals where two or more institutions are forming a consortium, to explore social and gender dynamics in urban health contexts.

The call responds to the need to recognize that urban health is influenced by several factors, including governance, population features, urban planning and socioeconomic development and health services, among others, which in turn have major implications for social and environmental determinants of health.The overall objective of this work is to synthesize and consolidate evidence from a series of literature reviews /state-of-the-art scoping reviews that will inform TDR?s research agenda on urban health, infectious disease and gender research, including in COVID-19 and post-COVID-19 scenarios to the extent possible. The call is entitled: Literature reviews and research gap analysis on social determinants of urban health; the call is also expected to illustrate to the extent possible, how social and gender dynamics in a COVID-19 context affect the prevention and control of infectious diseases of poverty.

Due to Covid, reviews will be completed by March 2022, and funds are encumbered on 2020-2021 biennium.

EROutp-0075

Output description: New knowledge and evidence generated on effectiveness of interventions at household level to prevent and control vector-borne diseases by addressing identified socioeconomic determinants of health in urban settings

Output indicator: Evidence published from 2 different selected research teams in a selected country in Latin America, addressing urban health issues in tropical diseases

Target date: 31/12/2021

Progress status: On Track

Progress description: Output indicator slightly adjusted. This project under this expected result was finalized last year and following SWG 2019 recommendations and the current covid19 pandemic, in 2020 a new call for proposals was launched covering a broader theme of focus under this expected result and inviting institutions working on public health, urban health, implementation research and infectious disease prevention and control, to submit individual or collaborative proposals where two or more institutions are forming a consortium, to explore social and gender dynamics in urban health contexts.

The call responds to the need to recognize that urban health is influenced by several factors, including governance, population features, urban planning and socioeconomic development and health services, among others, which in turn have major implications for social and environmental determinants of health. The call is entitled: Literature reviews and research gap analysis on social determinants of urban health; the call is also expected to illustrate to the extent possible, how social and gender dynamics in a COVID-19 context affect the prevention and control of infectious diseases of poverty.

Reviews to be completed by March 2022 and funds encumbered to 2021-2022 biennium

ER Biennium Outcomes

2022-2023

EROutc-0086

Outcome description: Evidence generated to inform policy and practice on control of infectious diseases in urban settings in low- and middle-income countries

Progress made towards outcome: call for proposals launched to conduct literature reviews and research gap analysis on social determinants of urban health; the call is also expected to illustrate to the extent possible, how social and gender dynamics in a COVID-19 context affect the prevention and control of infectious diseases of poverty.

2020-2021

EROutc-0033

Outcome description: Evidence generated to inform policy and practice on control of infectious diseases in urban settings in low- and middle-income countries

Progress made towards outcome: call for proposals launched to conduct literature reviews and research gap analysis on social determinants of urban health; the call is also expected to illustrate to the extent possible, how social and gender dynamics in a COVID-19 context affect the prevention and control of infectious diseases of poverty.

Expected Result: 1.3.11

Title: Multi-sectoral Approach (MSA) for prevention and control of vector-borne diseases

Strategic Work Area: Research for implementation **Workstream:** Research for integrated approaches

ER type:	Continuing	**Funding type:**	UD and DF
Start date:	01-Jan-20	**End date:**	31-Dec-23
ER status:	On Track	**Comment:**	No major delays regarding planning and due to COVID-19 situation. However, some delays in implementation are expected due to the low responsiveness of the WHO processes (such as the WHO Ethics Reviews and approval for consultant recruitment).

WHO region: Global

Partners: Sweden International Development Agency (Sida), WASH/PHE/WHO Team
UNPeace and Development Funds
Global Malaria Programme/WHO
CDC China

Diseases: Arboviral diseases; Arboviruses; Chikungunya; Dengue; Malaria; Neglected Tropical Diseases; Vector-borne diseases; Zika virus

Review mechanism: Through ad hoc expert review and steering groups, approved by TDR senior management and TDR advisory bodies, including SWG, STAC and JCB

ER manager: Florence FOUQUE
Team: Abdul Masoudi
Number of people working on projects: 1

FENSA clearance obtained for all Non-State Actors? No

Justification for no FENSA clearance: FENSA Clearance will be sought for all Non-State Actors as the ER is progressing and contracting new institutions to perform the work.

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	Yes	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	Objectives aligned with TDR strategy and the strategy of the partners.
Roles complimentary:	Yes	Roles and complementary of partners achieved through the different work packages and deliverables of the ER.
Coordination transparent:	Yes	Transparent coordination through open meetings with minutes available and transparent decision process
Visibility:	Yes	The visibility of the ER is through all communication channels and materials from all partners

Objectives and results chain

Approach to ensure uptake: To ensure the uptake of the findings and their application into countries, the different activities performed through this ER are involving since the planning stage all the relevant stakeholders. The WHO collaborating partners of the ER, namely WASH/WHO and GMP/WHO also have their own channels to

	provide recommendations to countries based on the findings. A communication partner (Lushomo) has also being contracted to transform the scientific findings into information briefs for countries.
Up-take/Use Indicator:	The indicator for uptake will be the number of countries for which a multisectoral approach for preventing and controlling VBDs will be tested, based on the TDR framework. For capacity building within countries, other indicators will be the numbers of participants and countries attending the training workshops. A final use indicator will be the number of countries using the TDR MSA Framework for improving the MSA approach against VBDs.
Gender and geographic equity:	Gender and geographical equities are taken into account in all activities among which the building of the ad hoc review groups, the consultancies and in the selection criteria of the research teams, the participation to the training activities.
Publication plan:	The publication plan include framework documents that will be updated regularly, thematic briefs, scientific publications in open access peer review journals (with special issues) and other materials such as training materials and briefs for stakeholders (communities and technical staff).
Up-take/use indicator target date:	31-Dec-23

Sustainable Development Goals

Good Health and Well-being; Clean Water and Sanitation; Partnerships to achieve the Goal

Concept and approach

Rationale:

Vector-borne diseases, including malaria and emerging arboviral diseases, account for about one quarter of all infectious diseases. Although there has been significant progress for malaria, with a recent decrease in malaria morbidity and mortality rates, other diseases, such as those caused by arboviruses like dengue, chikungunya, yellow fever and more recently Zika, are expanding, with an increased number of cases and fatalities. It has become evident that the prevention and control of these diseases must include more than a single orientated approach, since the transmission patterns are driven by vector host-pathogens relationship where natural conditions, human societies and vector parameters are dynamically interacting. Further, the Global vector control response (GVCR) 2017?2030, which was approved at the World Health Assembly in 2017 by more than 190 Member States (WHO 2017) consider the intra- and intersectoral approach as one of the 4 pillars to achieve efficient vector and vector-borne diseases control. The rationale of this expected result is to work with all partners to develop tools, framework and guidance on how to implement an efficient multisectoral approach (MSA) for preventing and controlling vector-borne diseases (VBDs) as well as test into field conditions and case studies the MSA. This activity is building up on the Multisectoral Action Framework for Malaria (MAFM) developed by the Roll Back Malaria (RBM) Partnership and the United Nations Development Programme (UNDP), and a concept Note was issued by the Swiss Tropical Public Health (STPH) institute and the Swiss Development Cooperation (SDC) entitled: ?Leveraging the Sustainable development Goals to intensify transdisciplinary & multisectoral collaboration in the global malaria response. In this context, a collaboration on Multi-Sectoral Approach (MSA) for the prevention and control of malaria and emerging arboviral diseases was started between the Swiss Agency for Development and Cooperation (SDC), the Canadian International Development and Research Centre (IDRC), the Swiss Tropical and Public Health Institute (Swiss TPH) and TDR/VES, to build a multi-disciplinary approach to support commissioned reviews on specific items related to MSA against VBDs, and the development of a Guidance document. Following these first steps a collaboration was established with the WHO Water and Sanitation (WASH) group and supported by funding from the Sweden International Development Agency (Sida) to strengthen countries capacity on MSA against VBDs with a focus on the WASH sector. The overall objectives of the collaboration are to reduce WASH-related disease of poverty as per the WHO WASH Group strategy, with a primary focus on VBDs, as per TDR Strategy including through the progressive mainstreaming of WASH in TDR, and throughout WHO. Another collaboration was started in 2021 with the Global Malaria Programme (GMP) from WHO to implement a proposal which has received the financial support from the UN Peace Funds Development. The overall goal of the project is to explore and validate the application of an innovative surveillance and response as well as multisectoral approaches to reduce malaria burden in different settings in Africa. The project has two components, both of which fit well to the national strategic plans (NSPs) for malaria countries: i) testing innovative surveillance and response namely "malaria Reactive Community-based Testing and Response approach (1-7 mRCT))" adopted from the Chinese 1-3-7 surveillance and response experience; ii) multisectoral approach in coordination and implementation to

reduce malaria burden. The project will be implemented in selected districts and villages of four countries (Burkina Faso, Senegal, Tanzania and Zambia).

Design and methodology:

To promote the MSA and define the conceptual framework and indicators on how to deploy a MSA for VBDs prevention and control, an action plan with several steps was started in 2016: Step 1 was to gather evidence through a landscape analysis through commissioned reviews. Step 2 was to convene a workshop to present the evidence to a panel of experts and to discuss the research on case studies, stakeholder involvement, capacity-building needs and any other topic that may put the MSA into concrete actions. Step 3 was to develop a guidance Framework for countries on how to implement MSA. Step 4 is to support the cases studies. Within the current collaboration with the WHO WASH Team, other activities were added that can be found in the approved concept note attached.

The design and methodology for the UNPeace Funds Development (UNPFD) project includes 2 main activities and TDR is responsible for Activity 2 which has 5 specific items (all details can be found in the attached document): Update the TDR's guidance document on MSA, adding a specific chapter for malaria. Organize a regional workshop to train the National Malaria Control Programmes staff on MSA. To help integration of MSA activities in the current malaria task forces of the countries included in the project. To implement an MSA case study in one of the countries. To identify the most suitable MSA mechanisms in the different contexts.

Approach to ensure quality:

The following approaches were taken to ensure quality of the expected results: 1. The objectives, planning, activities and budget of the ER is aligned with TDR strategy and was approved by TDR governing bodies. 2. The groups of experts were invited based on their competencies and experience and approved as per TDR SoPs. All experts accepting to be part of a group completed their DOIs and COIs. 3. The Guidance Document was developed by a consultant, with external and internal reviews, external editing, final check and WHO publication clearance system. 4. For the selection and following up of research proposals, review and steering groups of external experts were established and approved accordingly. 5. The quality of the findings is reviewed by the selected experts groups through mid-term and final reports and published in open access peer review scientific journals .

ER Objectives

ERObj-0015 : 1. Support research activities on case studies implementing MSA approaches for several chosen diseases and contexts, following the topics already established in the previous part of this ER, which are: i) industrial activities and VBD transmission, with a special focus on gold-mining activities that are strongly disturbing the malaria ecosystems; ii) integrated vector control strategies using Dengue Virus as a proxy; iii) displacement of people and consequences on VBD transmission, with impact of migration (for economic or civil unrest or war reasons), displacement of temporary workers and any other population movements; iv) impact of environmental changes including climatic changes, biological changes such as biodiversity loss and consequences on VBDs cycles and social changes also taking into account water management; and v) intersectoral collaborations for prevention and control of VBDs and how stakeholders are working together to achieve the implementation of a global strategy.

ERObj-0016 : 2. Help countries to deploy MSA through capacity building activities, guidance documents, networking and workshops.

ERObj-0049 : 4. Support health systems strengthening to better address infectious diseases of poverty in general and vector-borne diseases in particular by joint TDR/WASH efforts focused specifically on WASH services in health care facilities and building capacity of health workers in WASH.

ERObj-0048 : 3. Refine and promote TDR?s research for impact on multi-sectoral action for health with a focus on priority research relevant to WASH through harnessing TDR?s comparative advantage in research and training on diseases of poverty increasing the impact of WHO?s WASH work through joint convening of WASH and health sectors.

ER Biennium Risks

2022-2023

ERRisk - 0255

Risk description:	Delay in the implementation of the activities due to the situation of the countries health system within the COVID pandemic
Actions to mitigate risk:	Monitor closely the activities and update the implementation according to the situation
Mitigation status:	On Track

2020-2021

ERRisk - 0034

Risk description: Calls for applications do not result in proposals that support the requested criteria

Actions to mitigate risk: Work with the most promising applications to improve them

Mitigation status: Completed

ERRisk - 0086

Risk description: Insufficient involvement of stakeholders

Actions to mitigate risk: Understand (through a consultancy work) which barriers are acting at stakeholders level and which incentive should be developed to improve involvement

Mitigation status: Completed

ERRisk - 0210

Risk description: The deployment of multisectoral approach for preventing and controlling VBDs at the country level is delayed due to the COVID pressure on health systems.

Actions to mitigate risk: Optimize the planning of activities to introduce the new approaches when the health systems can take them.

Mitigation status: Completed

ERRisk - 0265

Risk description: Delays in implementation due to slow processes within the WHO system.

Actions to mitigate risk: Follow up with messages to persons in charge

Mitigation status: On Track

ER Biennium Outputs

2022-2023

EROutp-0314

Output description: Documentation for training stakeholders from the National Malaria Control Programmes on how to implement a MSA for malaria control available

Output indicator: Number of countries having used and received the training documentation

Target date: 31-Dec-23

EROutp-0313

Output description: New Case studies implemented in malaria control in several African countries

Output indicator: Number of countries with MSA approach against malaria initiated

Target date: 31-Dec-23

2020-2021

EROutp-0128

Output description: MSA for prevention and control of VBDs implemented in some countries for some VBDs

Output indicator: 5 countries implementing multisectoral approaches, with monitoring and evaluation of epidemiological results

Target date: 31/12/2021

Progress status: On Track

Progress description: Within the collaboration with WASH/WHO, already 6 countries included into the first 2 case studies and 2 more countries included through a second call for application.

Within the collaboration with GMP/WHO, 4 more countries included.

EROutp-0076

Output description: Knowledge and evidence for MSA generated and made available for stakeholders
Output indicator: A guidance framework document published; 2 to 3 case studies supported and ongoing
Target date: 31/12/2021
Progress status: Completed
Progress description: Guidance document released in April 2020.
Case studies funded and starting in September 2021.

EROutp-0252

Output description: Training materials available for the countries to implement and deploy MSA for prevention and control of VBDs
Output indicator: Number and type of training materials
Target date: 31/12/2021
Progress status: Completed
Progress description: The development of the materials was started in collaboration with the WHO WASH group

ER Biennium Outcomes

2022-2023

EROutc-0081

Outcome description: African countries strengthened for the implementation of multisectoral approaches for the control of malaria, through capacity building of the stakeholder and support in the deployment of the interventions

Progress made towards outcome: On track

2020-2021

EROutc-0034

Outcome description: 1) Research priorities on MSA for prevention and control of VBDs defined.
2) Materials to implement MSA at regional and country levels available.
3) Countries implementing MSA for prevention and control of VBDs.

Progress made towards outcome: On track

Expected Result: 1.3.12

Title: Strategies to promote gender-responsive health interventions on prevention and control of infectious diseases of poverty

Strategic Work Area: Research for implementation **Workstream:** Research for implementation

ER type:	Continuing	**Funding type:**	UD
Start date:	01-Jan-18	**End date:**	31-Dec-23
ER status:	On Track	**Comment:**	
WHO region:	Global		
Partners:	Research teams in countries; WHO and other entities working on gender and public health (e.g. WHO/GER, WHO/HRP; WHO Alliance for Health Systems Research); Health programmes interested in and using research evidence		
Diseases:	Vector-borne diseases; Not Disease-Specific		
Review mechanism:	Scientific working group plus ad hoc review group(s) dealing with specific calls		

ER manager: Mariam OTMANI DEL BARRIO
Team: Bernadette Ramirez, Abraham Aseffa
Number of people working on projects: 10

FENSA clearance obtained for all Non-State Actors? No
Justification for no FENSA clearance: Not applicable

TDR partnership criteria

Add value:	Yes	Use resources:	No
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	No
Reduce burden:	No	Foster networking:	Yes
Increase visibility:	No		

TDR partnership criteria indicators

Objectives aligned:	No	Completed
Roles complimentary:	No	Completed
Coordination transparent:	No	Completed
Visibility:	No	Completed

Objectives and results chain

Approach to ensure uptake:	Engagement with senior management at universities; research teams that involve at least 50% women, engagement with various ministries and public health services
Up-take/Use Indicator:	Engagement with ministry officials, including MoH, MoFA and MoEd
Gender and geographic equity:	Gender parity will be ensured when establishing external review panels, convening meetings of experts, issuing contracts, and in general within all of our collaborations.
Publication plan:	Peer review publication of a Toolkit to conduct intersectional gender

Up-take/use indicator target date:	31-Dec-25

Sustainable Development Goals

Good Health and Well-being; Gender Equality; Reduced Inequality

Concept and approach

Rationale:	Great progress has been made towards combatting infectious diseases of poverty (IDPs). However, considerable public health challenges remain, including gender and intersecting inequalities that affect health conditions associated with infectious diseases. This ER focuses on gender intersecting inequalities that influence differentials in vulnerability to, and the impact of, particular health conditions associated with infectious diseases in low- and middle-income countries. This expected result recognizes that gender norms, roles and relations influence people?s susceptibility to different health conditions and they also have a bearing on people?s access to and uptake of health services, and on the health outcomes they experience throughout the life-course. It also acknowledges that WHO has recently recognized the importance of being sensitive to different identities that do not necessarily fit into binary male or female sex categories. In this context, delivery and access to prevention and control approaches and products to prevent and control infectious diseases should not be one-size-fits all but instead should benefit from approaches that take into account the complex interaction of several social stratifiers, and their influence in health outcomes. There is growing recognition that gender roles, gender identity, gender relations, apart from institutionalized gender inequality influence the way in which an implementation strategy works (e.g. for whom, how and why). There is also emerging evidence that programmes may operate differently within and across sexes, gender identities and other intersectional characteristics under different circumstances and contexts. Research should inform implementation strategies to avoid ignoring gender-related dynamics that influence if and how an implementation strategy works. Therefore scientists, including those focusing on research for implementation, would benefit from adequately considering sex and gender intersecting social dimensions within their research programmes, by strengthening both the practice and science of implementation, and by contributing to improved health outcomes and reduction of gender and health inequalities.
Design and methodology:	1. Development and pilot of a toolkit on intersectional gender analysis in research on infectious diseases of poverty. 2. Methodologies and gender analysis frameworks will be detailed and explained within the above-mentioned toolkit and presented in a practical "hands-on" toolkit for researchers to incorporate a gender analysis with an intersectional lens, throughout the whole research process, from research study design to the dissemination of research findings stage.
Approach to ensure quality:	Oversight by expert committee and quality assurance through fact checking, peer review of documentation, technical and copy editing.

ER Objectives

ERObj-0017 : Strengthen research capacities and provide innovative tools to generate evidence that informs the design and implementation of gender responsive health interventions to control and prevent infectious diseases of poverty.

ERObj-0050 : from 2021: Utilize research capacities and innovative tools built to generate evidence that informs the design and implementation of gender responsive health interventions to control and prevent infectious diseases of poverty.

ER Biennium Risks

2022-2023

ERRisk - 0223

Risk description:	Knowledge translation outcomes on gender equality are usually beyond the control or influence of projects

Actions to mitigate risk: For this programme stakeholders, including from the affected communities, research teams and policy/decision-makers, will be engaged from the beginning and during the course and completion of the projects to ensure their active involvement with the expectation that the results will be utilized as effectively as possible

Mitigation status: Planning phase

2020-2021

ERRisk - 0035

Risk description: Knowledge translation outcomes on gender equality are usually beyond the control or influence of projects

Actions to mitigate risk: For this programme stakeholders, including from the affected communities, research teams and policy/decision-makers, will be engaged from the beginning and during the course and completion of the projects to ensure their active involvement with the expectation that the results will be utilized as effectively as possible

Mitigation status: On Track

ER Biennium Outputs

2022-2023

EROutp-0267

Output description: New knowledge & evidence on intersection of sex & gender with other social stratifiers to address power relations, social exclusion, marginalization & disadvantages in access to health services, health impacts, prevention/control of IDPs

Output indicator: Research studies implemented and evidence generated to inform policy and practice

Target date: 31-Dec-23

2020-2021

EROutp-0181

Output description: Developed, implemented and disseminated a TDR Strategy/Strategic Plan on gender and intersectionality on infectious diseases of poverty

Output indicator: TDR Strategy/Strategic Plan on Gender and Intersectionality launched and disseminated in regions

Target date: 30/06/2021

Progress status: Completed

Progress description: TDR Intersectional Gender research strategy developed and launched in June 2020; currently being implemented and disseminated across regions.

EROutp-0129

Output description: Upscaled training course modules on gender-based analysis in research on vector-borne diseases and climate change

Output indicator: 2 courses included in at least 2 university curricula or TDR regional training centres? curricula

Target date: 31/12/2021

Progress status: Completed

Progress description: Training course incorporated in the curricula of the Master's of Public Health Studies at the University of Ghana and in process of institutionalization within the University of The Witwatersrand (South Africa).

EROutp-0077

Output description: Applied intersectional gender analysis toolkit within infectious disease research projects

Output indicator: 5 to 7 case studies developed and/or lessons learned documented on applying an intersectional gender lens in infectious disease research projects

Target date: 31/12/2023

Progress status: On Track

Progress description:

EROutp-0233

Output description:	New knowledge & evidence on intersection of sex & gender with other social stratifiers to address power relations, social exclusion, marginalization & disadvantages in access to health services, health impacts, prevention/control of IDPs
Output indicator:	Research studies implemented and evidence generated to inform policy and practice
Target date:	31/12/2023
Progress status:	On Track
Progress description:	TDR has launched in 2020 a research call to invite institutions to submit proposals from single or multiple contexts that span the translational research spectrum and are of any methodological underpinning. Teams should address gender, sex, and their intersections with associated inequities in infectious diseases. The evidence generated by the first quarter of 2023 is expected to inform national health policies and TDR?s research and programmes, which in turn may also influence future implementation research, policy and practice.

ER Biennium Outcomes

2022-2023

EROutc-0057

Outcome description: Strengthened capacities and increased understanding for generation of gender responsive interventions for control and prevention of VBDs and other infectious diseases of poverty.

2020-2021

EROutc-0035

Outcome description: Strengthened capacities and innovative tools provided to promote gender responsive health interventions on control and prevention of VBDs and other infectious diseases of poverty.

Progress made towards outcome: TDR's Toolkit to incorporate intersectional gender analysis into research on infectious diseases of poverty launched and disseminated (web version). In addition, More than sixty participants are joining the upcoming GBA course at the University of Witwatersrand in September 2020, from a wide range of countries in Africa.

Specifically, the online GBA course at The University of Witwatersrand (South Africa) is expected to run from the 1st September 2020 - 18th October 2020. 64 participants that met eligibility criteria from West Africa, East Africa, Southern Africa and Central Africa have been accepted to take the course, following a call for applications with over 200 participants expressing interest.

In addition, the GBA course will run in its entirety as one of the approved courses for the BHSc Honours in Public Health programme. The Wits School of Public Health is initiating a new degree programme starting 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? was approved as one of the courses which students can take as part of the new Honours programme.

Expected Result: 1.3.14

Title: Testing of innovative strategies for vector control

Strategic Work Area: Research for implementation **Workstream:** Research for innovation

ER type:	Continuing	**Funding type:**	UD and DF
Start date:	01-Jan-20	**End date:**	31-Dec-23
ER status:	Delayed	**Comment:**	Delayed because of the COVID pandemic which make impossible to organize meeting(s) with funders (countries) and selected teams. Several meetings were organized and some countries have shown interest (Brazil, France, US).

WHO region: Global

Partners: WHO/NTD and the International Atomic Energy Agency (IAEA)

Diseases: Arboviral diseases; Chikungunya; Dengue; Neglected Tropical Diseases; Vector-borne diseases; Zika virus

Review mechanism: Through ad hoc expert review groups approved by TDR senior management, and through TDR advisory bodies, including the scientific working groups, STAC and JCB

ER manager: Florence FOUQUE

Team: Abdul Masoudi

Number of people working on projects: 1

FENSA clearance obtained for all Non-State Actors? No

Justification for no FENSA clearance: The FENSA clearance will be submitted for the NSA partners as we start raising the contract with the research teams.

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	Yes	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	Partnership well in place and objectives aligned with the respective strategies of the partners
Roles complimentary:	Yes	The complementary roles of the partners is established through a Memorandum of Understanding signed by TDR, WHO and IAEA
Coordination transparent:	Yes	The coordination mechanism is transparent and follow the rules of the partners.
Visibility:	Yes	The visibility of the partnership is achieved through the communication offices of all partners.

Objectives and results chain

Approach to ensure uptake: To ensure the uptake of the findings and their application into countries, the different activities performed through this ER are involving since the planning stage the relevant stakeholders. The partners of the ER, namely NTD/WHO and IAEA also have their own channels to provide recommendations to countries based on the findings.

Up-take/Use Indicator: The main indicator for uptake will be the number of countries for which innovative vector control activities or tools have been tested and/or will be used. Other uptake indicators can include number of

countries where vector surveillance and control tools are improved through knew acknowledged acquired during the development of this ER, as well as number of countries showing clear reduction in some of the mosquito vector populations.

Gender and geographic equity: Gender and geographical equities are taken into account in all activities among which the building of the ad hoc review groups, the consultancies and in the selection criteria of the research teams.

Publication plan: The publication plan include guidance documents that will be updated regularly, thematic briefs, scientific publications in open access peer review journals (with special issues) and other materials such as training materials and briefs for stakeholders (communities and technical staff).

Up-take/use indicator target date: 31-Dec-23

Sustainable Development Goals

Good Health and Well-being; Industry, Innovation and Infrastructure; Climate Action; Partnerships to achieve the Goal

Concept and approach

Rationale: Causing more than one million deaths per year, with few new drugs or strategies to combat these emerging infectious pathogens, vector-borne diseases (VBDs) such as malaria, dengue, Zika, chikungunya, yellow fever and others account for 17% of the total morbidity from infectious diseases. The incidence of some VBDs has grown dramatically in recent decades, with about one third of the world population now at risk from Aedes -borne epidemics. This increase is due to global changes and has prompted WHO to state the urgent need for alternative vector control methods in its Global vector control response (GVCR) 2017?2030, which was approved at the World Health Assembly in 2017 by more than 190 Member States (WHO 2017). The rationale of this expected results is to work with all partners to test innovative vector surveillance and control technologies, as well as to support access to relevant training and capacity building on these technologies. One of these alternative technologies is the ? Sterile Insect Technique? (SIT) a method of pest c ontrol using area-wide releases of sterile males to mate with wild females, which will then not produce offspring. This technique has been successfully implemented in agriculture against numerous insects since about 60 years, with no side effects and environmentally safe impact. As a first step, a joint collaboration was established between the Department of Nuclear Sciences and Applications (NA), the Department of Technical Cooperation (TC) of the International Atomic Energy Agency (IAEA), and the UNICEF/UNDP/World Bank/ WHO Special Programme for Research and Training in Tropical Diseases (TDR) of the World Health Organization (WHO), in partnership with the WHO Department of Control of Neglected Tropical Diseases (NTD), to develop activities on providing guidance to countries and testing SIT against the Aedes mosquitoes, vectors of arboviral diseases. Other tools will also be supported through this activity such as capacity building tools and vector surveillance tools, to be able to provide a full package of innovative technologies for prevention and control of vectors and vector-borne diseases.

Design and methodology: Design and Methodology of the ER are briefly described below through key activities and timelines, but more detailed description of each phase is available in the technical documentation: Phase 1: January 2019 to April 2020: Development and Production of a Guidance Document on how to test SIT for countries Phase 2: July 2019 to December 2021: Resource mobilization, buildings of ad hoc review committees and Special Project Team, call for proposals and selection of research consortium(s) to test SIT into field conditions. Landscape analysis for new vector control technologies. Development of training and surveillance tools. Phase 3: January 2022 to December 2023: Update of proposals, contracts and first field tests including epidemiological evaluation. Phase 4: January 2024 to December 2025: Continuation of field tests and if satisfactory implementation of the results and policy recommendations and deployment of this new vector control technology at the country level.

Approach to ensure quality: The following approaches were taken to ensure quality of the expected results: The objectives, planning, activities and budget of the ER is aligned with TDR strategy and was approved by TDR governing bodies. The groups of experts were invited based on their competencies and experience and approved as per TDR SoPs. All experts accepting to be part of a group completed their DOIs and COIs. The Guidance Document was developed in phase 1 by a group of experts, with external and internal reviews, external editing, final check and WHO publication clearance system. For the selection and following up of research proposals in phase 2, review and steering groups of external experts were established and approved accordingly. The quality of the findings in phase 3 is reviewed by the selected experts groups through mid-term reports and published in open access peer review scientific journals. The quality of the findings in phase 4 is reviewed by the selected experts groups through mid-term and final reports, published in

open access peer review scientific journals, and submitted to the Vector Control Advisory Group (VCAG) of the WHO operational program (NTD/WHO) for policies development.

ER Objectives

ERObj-0018 : 1. Provide to countries and stakeholders up to date guidance on how to test new vector control technologies through different materials such as guidance document, training materials, workshop and in site evaluations.

ERObj-0019 : 2. Support research activities to test into field conditions the entomological outcomes of new vector control technologies.

ERObj-0020 : 3. Support research activities to test into field conditions the epidemiological outcomes of new vector control technologies.

ERObj-0021 : 4. Develop indicators to evaluate the impact on the vectors populations, the human health and the health systems of innovative vector control technology.

ERObj-0022 : 5. Provide to the WHO operational programs and the countries the required support to make new recommendations and policies on innovative vector control technologies, and allow full deployment of new validated vector control tools.

ERObj-0056 : 6. Provide to countries the knowledge and guidance on new vector surveillance tools needed for the implementation of the new vector control tools.

ERObj-0057 : 7. Provide to countries the required tools to improve training and capacity building on innovative vector surveillance and control.

ER Biennium Risks

2022-2023

ERRisk - 0266

Risk description: Delay in the testing of the new vector control technologies due to delayed funding and/or Health systems challenges due to COVID

Actions to mitigate risk: Keep close contact with countries showing interest on the technology and monitor the situation with the partners and vector control agencies involved in the projects.

Mitigation status: Planning phase

ERRisk - 0267

Risk description: The testing of the efficacy of the technologies cannot be performed because of lack of support/interest from the countries

Actions to mitigate risk: Follow closely with the partners and the countries and eventually organize more information meetings and exchanges to better understand the requests, the needs and the challenges, in order to address them in the best possible way.

Mitigation status: Planning phase

2020-2021

ERRisk - 0036

Risk description: Calls for applications do not result in proposals that support the requested criteria

Actions to mitigate risk: Work with the most promising applications to improve them

Mitigation status: Completed

ERRisk - 0088

Risk description: Poor involvement of vector control agencies

Actions to mitigate risk: Work very closely with WHO regional offices and WHO Representatives to improve exchanges and collaboration with national vector control agencies

Mitigation status: On Track

ERRisk - 0209

Risk description: Not receive enough funding support from the countries to fund all research proposals selected

Actions to mitigate risk: Revise the activities and the budget of the selected proposals in order to decrease the cost. Establish a longer timeline to have more time to receive the required funding.

Mitigation status: On Track

ER Biennium Outputs

2022-2023

EROutp-0329

Output description: Field testing of innovative vector control technologies done

Output indicator: Number of countries in which field testing could be done

Target date: 31-Dec-23

EROutp-0330

Output description: Development and availability for countries of supporting tools in surveillance and capacity building for innovative vector control technologies

Output indicator: Number of countries using the new surveillance and capacity building tools developed through this activity

Target date: 31-Dec-23

2020-2021

EROutp-0182

Output description: Development of indicators to evaluate the impact on the vectors populations, the human health and the health systems of at least one innovative vector control technology.

Output indicator: Number of entomological and epidemiological indicators validated for assessing the impact of the SIT

Target date: 31/12/2021

Progress status: On Track

Progress description: The selection of the research teams was completed early 2020, but due to COVID situation the update of the contracts are delayed, the field work could not start and the development of the indicators is also delayed.

EROutp-0130

Output description: Assessment of the impact of an innovative vector control approach on vector population density and disease transmission into a controlled field situation

Output indicator: Number of multi-country research projects selected and ongoing, providing evidence on Aedes aegypti adult female densities before and after release, and epidemiological endpoints on disease transmission

Target date: 31/12/2021

Progress status: On Track

Progress description: The selection of the research teams was completed early 2020, but due to COVID situation the update of the proposals could not be done through the planned workshop, the contracts are thus delayed and the field work could not start.

EROutp-0078

Output description: Guidance Document on how to test at least one new vector control technologies available freely online.

Output indicator: Number of document available.

Target date: 31/12/2021

Progress status: Completed

Progress description: The Document entitled "Guidance Framework for Testing the Sterile Insect Technique as a Vector Control Tool against Aedes-Borne Diseases" has been released in April 2020.

ER Biennium Outcomes

2022-2023

EROutc-0088

Outcome description: Availability of new tools for surveillance of vectors and capacity building on vector surveillance and control.

Progress made towards outcome: Capacity building on vector surveillance and control enhanced through the Directory of courses of medical entomology release through the Global Vector Hub platform.

Landscape analysis on innovative vector control tools on track.

Innovative surveillance tool for Aedes mosquitoes in development.

EROutc-0087

Outcome description: Findings from field testing on innovative vector control tools

Progress made towards outcome: Discussion ongoing with some countries for full support for the field testing of SIT.

2020-2021

EROutc-0036

Outcome description: Countries have access to the last up to date guidance and data on the use and tools for testing a new vector control tool, the SIT, against Aedes-borne diseases.

Progress made towards outcome: The Guidance document has been released, but the field testing is delayed and the findings will also be delayed.