Developing a strategic plan for the elimination of visceral leishmaniasis in eastern Africa

Report of a stakeholder meeting, Nairobi, Kenya, 24–27 January 2023
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### Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>BMGF</td>
<td>Bill &amp; Melinda Gates Foundation</td>
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<td>DNDi</td>
<td>Drugs for Neglected Diseases initiative</td>
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<tr>
<td>FIND</td>
<td>Foundation for Innovative New Diagnostics</td>
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<tr>
<td>IU</td>
<td>implementation unit</td>
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<td>IVM</td>
<td>integrated vector management</td>
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<td>MSF</td>
<td>Médecins Sans Frontières</td>
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<tr>
<td>NTD</td>
<td>neglected tropical disease</td>
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<tr>
<td>PKDL</td>
<td>post-kala-azar dermal leishmaniasis</td>
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<tr>
<td>TDR</td>
<td>Special Programme for Research and Training in Tropical Diseases</td>
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<td>VL</td>
<td>visceral leishmaniasis</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Executive summary

The World Health Organization (WHO), in collaboration with the END Fund and the Drugs for Neglected Diseases Initiative (DNDi) and with the participation of the Special Programme for Research and Training in Tropical Diseases (TDR), convened a meeting of national programme managers, donors, partners and stakeholders in Nairobi, Kenya on 24–27 January 2023 to develop a strategic framework for the elimination of visceral leishmaniasis (VL) in eastern Africa. The four-day meeting was attended by more than 90 participants including representatives from the health ministries of Chad, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda.

The objectives of the meeting were: (i) to review the current epidemiological situation of VL in the world and in countries of the eastern Africa subregion; (ii) to finalize a high-level strategic framework for the elimination of VL as a public health problem 2023–2030, with subregional and country-level targets; (iii) to develop a framework on long-term financing mechanisms including sustained procurement and medical supplies (first-line treatment and diagnostic tests); and (iv) to develop a call for action (the Nairobi declaration) by the Member States and stakeholders. The meeting was conducted in technical sessions, a high-level round table, group work, plenaries and extensive discussions leading to conclusions and recommendations agreed by consensus for action.

Conclusions and recommendations

VL is a severe clinical disease in the eastern Africa subregion. The disease is outbreak-prone and fatal. In the past four decades, more than 100 000 case fatalities attributable to VL have occurred in this subregion, demonstrating the devastating impact of this chronic illness. Eight countries (Chad, Eritrea, Ethiopia, Kenya, South Sudan, Somalia, Sudan, and Uganda) share more than 60% of the global burden of the disease. More than 50% of new cases occur in children and young adults. The disease is associated with malnutrition, poverty, population displacement, migration, climate change and lack of economic resources.

Elimination of VL is linked with and will contribute to achieving several of the Sustainable Development Goals, namely Goal 1 (No poverty), Goal 2 (Zero hunger), Goal 3 (Good health and well-being), Goal 5 (Gender equality), Goal 8 (Decent work and economic growth), Goal 10 (Reduced inequalities) and Goal 13 (Climate action).

Successes and lessons learnt were presented from the VL elimination initiative of the WHO South-East Asia Region and from the kala-azar elimination programme in India. Since the launch of the initiative in 2005, the incidence of new cases has fallen by 97%, due to, among other factors, political commitment and the signing of a Memorandum of Understanding among endemic countries of the region.
The participants recommended unanimously to launch an initiative to eliminate VL as a public health problem in the eastern Africa subregion to reduce neglect, inequalities, and social and economic impacts.

A major outcome of the high-level round table discussions was an agreement to sign a Memorandum of Understanding among the eight countries to reflect political commitment.

National programme managers and stakeholders issued the Nairobi Declaration to highlight the key focus areas on the path of elimination.

WHO was requested to constitute an eastern African (WHO African and Eastern Mediterranean regions) technical advisory group to review progress and provide strategic directions for implementing the strategic framework in endemic countries.
1. Opening, objectives and expected outcomes

The opening session was moderated by Adiele Nkasiobi Onyeze and Joyce Kerubo Onsongo (World Health Organization (WHO) Country Office for Kenya).

The meeting was officially opened by Dr Wyckliff Omondi (Ministry of Health of Kenya).

Dr Saurabh Jain (WHO/NTD) explained the objectives and the expected outcomes of the meeting. The objectives were to contribute to achieving output 1.1.2 of WHO’s Thirteenth General Programme of Work 2019–2023 (countries enabled to strengthen their health systems to deliver on condition-and disease-specific service coverage results) by: (i) reviewing the current epidemiological situation and deliberating a high-level strategic framework to eliminate VL, including targets for subregion and countries; (ii) consulting on a framework for long-term financing mechanisms including sustained procurement and supplies (first-line treatment and diagnostic tests) for treatment of VL; and (iii) issuing a call for action or a declaration by Member States and stakeholders. The expected outcomes of the meeting were to: (i) foster country ownership and commitment to eliminating VL in the eastern Africa subregion; and (ii) prepare a Nairobi Declaration and a high-level strategic framework for the elimination of VL as a public health problem in eastern Africa 2023–2030. The meeting agenda is included as Annex 1 and the participants are listed in Annex 2.

Opening statements were then made by other invited partners and stakeholders.

Dr Monique Wasunna (DNDi) expressed her excitement that at last all stakeholders are gathered together to be part of this elimination initiative. DNDi, a not-for-profit research and development organization, has been working since its inception to find improved treatments for VL. In 2023, DNDi is celebrating 20 years of work to find a better solution for neglected tropical diseases (NTDs). Elimination of VL has been the vision of the Leishmaniasis East Africa Platform (LEAP), a group of researchers, collaborators and partners working to improve treatment. More than 80 scientists have been involved in research over the past 15 years and more than 1500 health workers have been trained. Together with partners, LEAP is improving access to diagnostics and treatment in the region.

Ms Ellen Agler (The END Fund) explained that the END Fund does not have an endowment but works with philanthropists, companies and high-net-worth individuals to share stories of NTDs and to help them be part of the solution and mobilize funds. Stories matter a lot, and the VL story needs to be told to more people; everyone is a fund-raiser as everyone has ideas.

Dr Koert Ritmeijer (MSF) thanked the organizers for this historically important meeting. He said that MSF’s engagement with VL started 35 years ago in the internally displaced
persons camps of northern South Sudan. MSF came across a strange disease among camp inmates in Unity State (previously Western Upper Nile). Symptoms included persistent fever, splenomegaly, severe malnutrition and severe anaemia. It proved out to be VL. MSF teams then visited villages whose entire populations had been annihilated by the disease. A retrospective mortality survey estimated that about 100 000 patients had died because no treatment for VL was available (1). Since that period, MSF has continued its VL programme not only in South Sudan but also in Kenya, Ethiopia, Somalia, Sudan and Uganda; to date it has treated more than 130 000 patients in MSF health facilities in eastern Africa. As a medical humanitarian organization, MSF works only in humanitarian situations (e.g. situations of conflict and security), responding to epidemics, working in remote rural areas with neglected populations and in situations where national capacity and resources are limited or lacking. The learning accumulated over the years is that providing access to early diagnosis and treatment is the main control strategy that will help to reduce morbidity and mortality even in those challenging situations and conditions. Therefore, MSF fully supports the elimination initiative in eastern Africa. Elimination is technically feasible despite not having ideal tools or political stability.

Professor Ahmed Be-Nazir (WHO Regional Technical Advisory Group for Kala-azar) described the characteristics of VL in the northern and southern areas of eastern Africa and compared them with the epidemiological features of South-East Asia. He suggested adopting feasible public health interventions based on country situations; concentrating on highly endemic, high-risk areas with high transmission and high caseloads; and advocating for integrated approaches to early case detection such as a febrile approach to detecting malaria as well as VL cases early. He said that VL elimination is an investment. High-level advocacy is needed to generate funds by accumulating evidence for presentation to the ministry as evidence of VL as a major public health problem. This will result in prioritization of the disease by the ministry and in resource allocation.

Dr Ibrahima Socé Fall (WHO/NTD) welcomed participants and acknowledged all partners who are working to eliminate VL, particularly the END Fund, and DNDi, for collaborating with WHO/NTD to organize the meeting. He thanked the Ministry of Health of Kenya and the WHO Country Office for Kenya for hosting and facilitating the event. VL remains a significant public health problem in 80 countries across all six WHO regions. It is a complex disease with high outbreak and mortality potential. It also has challenges in common with other NTDs in terms of funding gaps, including a lack of inclusion in national health and development plans. It also has expensive treatments and fragile and donor-dependent procurement systems. During the past several years, the eastern Africa subregion has surpassed other endemic regions to emerge as the highest VL burden area globally, creating more suffering for populations who are often already struggling. A structured way forward is critical. He gave his best wishes for the meeting and said these deliberations will offer an important opportunity to realign health-care priorities and address more effectively the severe neglect, poverty and inequity in affected countries in eastern Africa. Elimination activities and efforts go far beyond the confines of one specific disease or even the entire NTD portfolio; they are inextricably linked to the principles and practices of Universal Health Coverage and the triple billion targets of WHO's thirteenth General Programme of Work 2019–2023.
Our work on NTDs reaches beyond the health domain as it supports the broader Sustainable Development Goals of reducing poverty and hunger, improving access to education and reducing inequalities. Investment in NTDs is therefore investment in the broad development agenda. We must act now and, therefore, we must act together.

Dr Socé called upon all participants to sign up to the Nairobi Declaration on the elimination of VL as a public health problem in the eastern African countries of WHO’s African and Eastern Mediterranean regions.

Dr Adiele Nkasiobi Onyeze (on behalf of the WHO Representative to Kenya) welcomed the guest of honour (Dr Josephine Mburu), the representatives from the health ministries of Chad, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda, and donors, partners, other dignitaries and participants. Tropical and vector-borne diseases contribute significantly to the global burden of communicable and infectious diseases. The WHO African Region alone bears a heavy burden of these diseases with at least 234 million cases of malaria and 593 000 deaths due to malaria according to the World Malaria Report. NTDs causes devastating human, social and economic burdens with more than 1 billion cases worldwide; Africa is disproportionately affected.

In 2021, WHO's African and Eastern Mediterranean regions combined contributed 73% of the global reported cases of VL (2). In Kenya, VL is a disease of public health importance that affects several counties and which in the past few years has increased in occurrence, in outbreaks and in spreading to new locations. We want this trend to stop. The Ministry of Health has worked to develop and launch the five-year strategic plan for the elimination of leishmaniasis 2021–2025 with the support of WHO and other partners. The goal is to control VL through comprehensive, integrated efforts by 2025, with targets to (i) reduce morbidity due to leishmaniasis in Kenya by 60% by 2025, (ii) reduce the occurrence of leishmaniasis outbreaks in Kenya by 50% and (iii) reduce case fatality due to visceral leishmaniasis in Kenya to less than 1% by 2025. Strong, concerted efforts are necessary to successfully achieve the road map targets and the Africa regional targets towards the attainment of the Sustainable Development Goals. The national leishmaniasis programme has made significant progress since its establishment, including developing national leishmaniasis guidelines, improving access to leishmaniasis services, promptly investigating and responding to VL outbreaks, and implementing the liposomal amphotericin B (AmBisome®) donation programme, building capacity, collaborating with partners and rolling out the District Health Information System version 2 (DHIS2) reporting system to strengthen surveillance.

The WHO Country Office for Kenya is supporting the Ministry of Health and the Government of Kenya to successfully implement the NTD programme including the leishmaniasis. A national multiyear NTD master plan for 2023–2027 has been concluded. Challenges in the prevention and control of leishmaniasis in Kenya include frequent outbreaks, lack of trained health workers, the occurrence of diseases in remote localities with poor infrastructure, lack of proper vector control tools and inadequate funding, to name a few. He said that despite several challenges, we do believe that elimination of several NTDs in Africa – such as human African trypanosomiasis, lymphatic filariasis and trachoma – and the successful implementation of VL elimination strategies in South Asia, can be a strong impetus for
achieving the VL elimination target in eastern Africa. He called upon all stakeholders to work towards stronger collaboration and towards achieving the ambitious but achievable VL elimination target. He reassured the meeting of WHO’s commitment to and support at all levels for elimination efforts in eastern Africa to fulfill the vision of a healthy nation free of leishmaniasis and also an eastern Africa subregion free of leishmaniasis. He thanked all partners, the leadership team from health ministries and WHO staff at all three levels of the Organization (headquarters, regions and countries).

Dr Josephine Mburu (Ministry of Health of Kenya [Chief Guest]) conveyed her best wishes and apologized for not being able to deliver her keynote address).
2. The road map and the elimination of visceral leishmaniasis

Dr Daniel Argaw Dagne (WHO/NTD) made the presentation.

The road map for neglected tropical diseases 2021–2030 (“the road map”) targets the elimination of VL as a public health problem by 2030 (defined as < 1% case-fatality rate due to primary disease in 85% (64/75) of endemic countries by 2030). The road map advocates integration of interventions against NTDs into health systems and strong country ownership. Efforts to eliminate VL will benefit from this approach in terms of national attention, inclusion in integrated vector management (IVM) strategies and One Health approaches, and strengthening of passive case detection and surveillance by peripheral health services. A plan to eliminate VL in eastern Africa is necessary because, since 2021, it has borne 66% of the global burden of the disease and there is no declining trend. VL is an outbreak-prone disease in this region and the number of endemic areas is increasing geographically. The following actions are necessary to achieve elimination of VL in eastern Africa:

- Develop a high-level subregional policy and strategic framework for eastern African.
- Create a subregional technical expert advisory group and network or partnership of stakeholders for eastern Africa.
- Advocate for mobilization of the international community and Member States, with dedicated resources and prioritization.
- Conduct implementation research to devise innovative approaches for improving case management, surveillance, vector control and implementation of integrated platforms.
- Integrate and align interventions against VL in national health sector plans and in basic health service packages within primary health care/universal health coverage.
3. Elimination successes and lessons learnt

3.1 WHO South-East Asia Region elimination initiative

Professor Ahmed Be-Nazir (WHO Regional Technical Advisory Group for Kala-azar) made the presentation.

The Kala-azar elimination initiative in the South-East Asia Region was launched in 2005 when the region reported 41 158 new cases and 70% of the global burden of the disease. As a result of the impact of the elimination initiative, the number of incident cases was reduced by 98% in 2021 to 1464 cases. In 2022, the elimination target was reached in 99% of implementation units (IUs) in India, in 100% of IUs in Bangladesh and in 87% of IUs in Nepal; however, new cases are being detected outside endemic areas where there is poor surveillance. Countries are working to maintain political and donor commitment for the last phase of elimination. A new Regional strategic framework for accelerating and sustaining elimination of kala-azar in the South-East Asia Region: 2022–2026 (4) describes the necessary strategic interventions: surveillance of visceral leishmaniasis and post-kala-azar dermal leishmaniasis (PKDL); integrated vector management (IVM); and supporting areas (leadership, programme governance and management; community awareness and engagement on prevention and care; regional partnership and cross-border collaboration) to achieve and sustain elimination.

3.2 Kala-azar elimination programme of India

Dr Dhruv Pandey (WHO Country Office for India) presented the successes and lessons learnt from the Indian kala-azar elimination programme.

More than 700 IUs (block, third subnational administrative unit) across 54 districts with over 130 million population are at risk of infection. Since the launch of the elimination initiative in 2005, India has observed a decline of 95% in the disease burden from 32 803 cases to 1187 cases in 2021. Key factors for the success were that the programme was largely funded domestically and benefitted from high-level political commitment and technical and operational support. The elimination target was reached in 99% of IUs in 2022. Only 1 IU (block) remains above the elimination threshold. Best practices included (i) decentralizing free diagnosis and treatment, (ii) providing monetary compensation for transport costs for patients and (iii) offering incentives for active case detection of VL and post-kala-azar dermal leishmaniasis by female volunteer health workers (also known as accredited social health activists, or ASHAs). India is now working towards achieving the elimination target in 2023 and is building a strategy for the post-elimination phase for surveillance, treatment and vector control.
4. Global and regional perspectives

The first technical session was co-chaired by Professor Ahmed Be-Nazir (WHO Regional Technical Advisory Group for Kala-azar) and Dr Jorge Alvar (DNDi).

4.1  Context, proposed elimination strategy and sustainable financing mechanisms

Dr Saurabh Jain (WHO/NTD) and Dr Xiaoxian Huang (WHO/NTD) presented the update.

VL is unique among NTDs in eastern Africa due to its high outbreak potential and its direct linkages with poverty, malnutrition, immune suppression, climate change and population displacement. Control and elimination of the disease is a pro-poor strategy. With sustained efforts and a well-performing elimination strategy, the South-East Asia Region reduced its global contribution from 41,158 reported cases in 2005 to 1,464 reported cases in 2021; underreporting fell to a rate of around 10%. In eastern Africa, the case load has decreased much less during the same period (from 10,222 cases in 2005 to 7,883 cases in 2021). The rate of underreporting is thought to be high, as evidenced by recent active case detection efforts in Sudan and Uganda where hundreds of new cases were detected during active case searches.

The specific epidemiology of VL in the South-East Asia Region has enabled the disease to be targeted for elimination as a public health problem (e.g. relatively stable and limited endemic areas, mainly indoor/peridomestic transmission, single vector species and only humans as reservoirs). Both of the existing rapid diagnostic tests perform well, and the first-line treatment is simple (a single dose of liposomal amphotericin B (AmBisome®), 10 mg/kg) and highly effective (cure rates of 95%). AmBisome® is donated by its manufacturer, Gilead Sciences, for the treatment of all patients in the region.

The epidemiology of VL in eastern Africa presents challenges. The endemic area is vast and there are regular outbreaks. The diagnostic tests perform less well and AmBisome® is less effective in eastern Africa than in South Asia. The current first-line treatment is a combination of two injections (sodium stibogluconate plus paromomycin) for 17 days. There is no donation programme for the first-line combination treatment or for the diagnostic tests. AmBisome® is a second-line regimen. Moreover, there is no sustained financing for VL control and elimination efforts. WHO has coordinated procurement of diagnostics and medicines for eastern Africa for the past decades. Procurement of the quantities necessary for one year remains without sustainable financing; there is a funding deficit of around US$ 1 million.
Elimination of VL as a public health problem will contribute to achieving several Sustainable Development Goals, more so than any other NTD (Fig. 1).

**Fig. 1.** Elimination of VL and achievement of Sustainable Development Goals

Early detection and timely reporting of cases, efficient diagnosis and treatment, and extending services to the most vulnerable will contribute to the goal of universal health coverage: all people will have access to the full range of quality health services they need, when and where they need them, without financial hardship (Fig. 2).

**Theory of change for global VL elimination initiative**

**To address**

**Challenge**

- People affected by VL have not been diagnosed and treated in time

**We focus on ...**

**Strategic actions**

- Strategic planning: support countries to set targets, identify the pathway and mobilize resources for VL elimination
- In-time procurement: support countries to procure timely, high-quality diagnostic kits and medicines

**Service for vulnerable help countries to bring services closer to the population in need through innovative service delivery**

- Efficient case detection and treatment: improve health professionals’ skills to detect, trace and treat VL at all levels

**Behaviour-linked risk control**

- reduce the risk of infection and delayed treatment due to ignorance of the disease or other social, cultural and economic factors through intensified behaviour change communication

**Supported by**

- Political commitment
- Sustainable financing
- Cross-sectoral collaboration
- Engagement of civil society
- Continuous research and development
- Partner alignment and coordination

**Outcomes**

- Early detection and timely reporting of cases
- Efficient diagnosis and treatment
- Extended service to the most vulnerable

**Our vision:**

All people have access to the full range of high-quality health services they need, when and where they need them, without financial hardship – universal health coverage

**Fig. 2.** Theory of change for VL elimination: challenge, strategic actions and outcomes
Dr Huang presented on sustainable financial mechanisms for VL elimination. External funding plays a substantial role in maintaining public interventions against infectious diseases, including NTDs. Eastern African countries with limited resources will need external funding for their elimination programmes, but this comes with the risk that this support will suddenly or eventually be withdrawn for reasons beyond the control of the country. A long-term financing scheme must therefore be designed at the beginning of the collaboration with the donor. Sustainable financing mechanisms are joint financing efforts with both domestic and external resources. An evidence-based, sustainable financing strategy targeting subnational, national and international resources should be developed for the region. An important part of such plans is the transition from external to domestic resources in time. Countries are the owners and the beneficiaries of their elimination programme. Allocation of domestic resources and political ownership are essential for sustainable financing.

4.2 Partners’ perspectives on why elimination is needed in eastern Africa

All major partners (the Bill & Melinda Gates Foundation (BMGF), MSF, DNDi, the Foundation for Innovative New Diagnostics (FIND), the END Fund, PATH and the Africa Centres for Disease Control and Prevention) and TDR expressed strong support for elimination of VL in eastern Africa. Historically, conflict and population displacement have resulted in large, uncontrolled outbreaks of the disease and high case-fatality rates arising from lack of access to care. VL is currently still not well controlled and climate change, deforestation, floods and extreme drought are expected to impact the epidemiology of the disease in the coming years. VL mostly affects children and young adults of very low socioeconomic status. It impacts child health and development and is a marker of poverty and inequity. Elimination of VL as a public health problem is essential to reduce the risk of outbreaks and prevent avoidable mortality in the context of food shortages, droughts, conflict, insecurity, population movement and neglected groups. Strategies and technical tools developed in the context of South-East Asia elimination plans will be made available to eastern African countries by the relevant partners.

4.3 Perspectives from the WHO African and Eastern Mediterranean regions

Dr Abate Beshah (WHO Regional Office for Africa) presented the perspective of the WHO African Region.

Elimination of VL as a public health problem is in line with the Framework for the integrated control, elimination and eradication of tropical and vector-borne diseases in the African Region 2022–2030 (5). Successes from other regional NTD programmes, such as those for dracunculiasis, human African trypanosomiasis, lymphatic filariasis and trachoma, illustrate that elimination of tropical and vector-borne diseases is possible, provided there is allocation of domestic resources and committed partners. VL is included in national NTD master plans and VL strategic plans; national guidelines are developed and implemented, and WHO treatment recommendations are followed in the region. Countries have already started to build capacity, decentralize diagnosis and treatment services, and implement DHIS2-based database platforms as a reporting
Challenges include: poor surveillance, leading to underestimation of the disease burden; poor reporting of treatment outcomes; unreliable supply of diagnostics and medicines; difficulty in managing VL cases with the currently available diagnostic and treatment tools; lack of evidence-based and implementable vector control measures; high rates of HIV–VL coinfection; and high dependency on donors, with weak government ownership. The way forward is, therefore, to: continue following WHO recommendations for diagnosis, treatment and vector control; strengthen disease surveillance and reporting; establish country ownership, partnership, coordination and high-level advocacy for sustainable funding; foster research and development for better tools; and further the development and implementation of an eastern Africa subregional strategic VL elimination plan.

Dr Supriya Warusavithana (WHO Regional Office for the Eastern Mediterranean) presented the perspective of the Eastern Mediterranean Region.

The leishmaniases (visceral and cutaneous) are responsible for most DALYs (disability-adjusted life years) lost in the Eastern Mediterranean Region of all NTDs. Some 18 countries in the region are endemic for VL. Of reported VL cases, 35% are children aged below 5 years, and 38% are female. Most cases are reported from Sudan, followed by Somalia and Yemen. The Eastern Mediterranean Region plan 2021–2025 to accelerate implementation of the global road map for neglected tropical diseases 2030 (6) includes several milestones pertaining to the elimination of VL. Challenges include: poor case management (lack of adherence to standard treatment protocols and poor monitoring of treatment outcomes); unreliable supply of diagnostics and medicines; poor surveillance leading to underreporting; inattention to IVM; and limited implementation research to guide programmes. The way forward involves strong political commitment and intersectoral collaboration, resource mobilization (domestic and external), implementation research, capacity-building for case management and surveillance, strengthening the supply chain, and integrating surveillance up to the lowest possible health delivery system.

4.4 Continental framework for NTDs in Africa: raising Member States’ commitment and leadership

Dr Sheila Shawa (African Union) made the presentation.

There is a common African position on NTDs. The African Union provides guidance on NTDs in line with the road map and the specific frameworks of the African and Eastern Mediterranean regions. It calls for full responsibility, ownership and leadership of NTD programmes in endemic countries.
5. Country presentations

Country presentations were made during the second and third technical sessions, which were co-chaired by Koert Ritmeijer (MSF) and Carol Karutu (The END Fund) and by Ahmed Musa (Institute for Endemic Diseases) and Supriya Warusavithana (WHO Regional Office for the Eastern Mediterranean) respectively.

The representatives from the national programmes of Chad, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda presented the VL situation in their countries, as summarized in Table 1.
<table>
<thead>
<tr>
<th>Country</th>
<th>Population at risk and most affected groups</th>
<th>Opportunities/best practices as listed by countries</th>
<th>Main challenges as listed by countries</th>
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<tbody>
<tr>
<td>Chad</td>
<td>&gt; 4 million. 70% of cases are gold miners, males aged 16–35 years.</td>
<td>National guidelines and NTD master plan including VL are being finalized VL part of National Health Development plan Presence of partners providing support Integration of VL in ACD for other NTDs Ongoing advocacy and sensitization of health workers</td>
<td>Inadequate funding High level of underreporting (estimated 80%) Low capacity for diagnosis and treatment Unknown vector Low awareness among the population Difficult to access some areas Low political commitment</td>
</tr>
<tr>
<td>Eritrea</td>
<td>Mostly children aged &lt; 15 years.</td>
<td>VL included in NTD master plan 2022–2026 Increasing political commitment</td>
<td>Shortage of RDTs Diagnosis and treatment only in referral hospitals Low awareness among the population Inadequate funding Weak surveillance</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>&gt; 3.2 million. Mostly adult male migrant workers.</td>
<td>The strategic NTD plan includes VL Government ownership MoH is allocating funds for VL drug procurements</td>
<td>Supply chain problems for VL commodities Minimal active surveillance in endemic areas Underreporting/incomplete data High attrition rate of trained staff Other competing priorities Lack of/unsustainable funding Political instability in some endemic areas</td>
</tr>
<tr>
<td>Kenya</td>
<td>&gt; 5 million. Nomadic populations. Mostly children aged &lt; 15 years. Males are more affected</td>
<td>Ongoing capacity-building in case management, DHIS and outbreak response Mapping and characterization of health facilities Training of community health volunteers Community awareness and sensitization Quantification tool for VL supplies</td>
<td>Lack of training and high attrition rate of staff Supply chain problems for VL commodities Underreporting and weak surveillance Limited awareness among the population Inadequate funding New endemic areas with outbreaks</td>
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<tr>
<td>Country</td>
<td>Population</td>
<td>Demographics</td>
<td>Challenges</td>
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</table>
| Somalia  | 2.4 million. Mostly children aged < 5 years. | Provision of diagnosis and treatment  
Bednet distribution to patients  
Health education to patients and family  
Implementation of DHIS2 | Shortages of laboratory supplies  
Lack of trained staff  
Only a few facilities provide diagnosis and treatment  
Difficulties in accessing treatment facilities due to lack of infrastructure and conflict  
Weak surveillance  
Inadequate funding |
| South Sudan | 4.3 million. Semi-nomadic cattle herders. Mostly children aged 5–14 years. Males are more affected than females. | Presence of partners providing support  
Coordination system in place  
Increase in health budget with special considerations for NTDs for 2023  
Integration of VL in PHC  
VL community-based surveillance using the Boma Health initiative | Only a few facilities provide diagnosis and treatment  
Difficulties in accessing treatment facilities due to lack of infrastructure, floods and conflict  
Inadequate funding  
Low level of education of health workers  
Low level of awareness in population  
Limited country ownership  
Frequent stockouts of VL supplies |
| Uganda   | 1.2 million. Nomadic populations. Mostly children aged < 14 years. | Increased government commitment to NTDs  
Presence of a partner providing support | Supply chain problems for VL commodities  
Only one hospital provides diagnosis and treatment  
Low awareness among the population  
Spreading endemic areas  
Inadequate funding  
Weak surveillance  
High attrition rate of trained staff |

ACD: active case detection; DHIS2: district health information software 2; IDP: internally displaced population; MoH: Ministry of Health (or equivalent); NTD: neglected tropical disease; PHC: primary health care; RDT: rapid diagnostic test; VL: visceral leishmaniasis.
The fourth technical session was moderated by Professor Ahmed Be-Nazir (WHO Regional Technical Advisory Group for Kala-azar) and Jorge Alvar (DNDi).

### 6.1 Background and key questions

The global, regional and country situations, as well as partners' perspectives, were used as background information. The VL elimination initiative in the South-East Asia Region and the Memorandum of Understanding among the signatory countries (Bangladesh, Bhutan, India, Nepal and Thailand) were presented.

#### Key questions

- Delegates from the health ministries of Chad, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda were asked to provide their views on the prospects of eliminating VL in their countries and in the eastern Africa subregion.
- Delegates were asked about subsequent steps following the stakeholders' meeting.

#### Summary observations

- Each delegate reaffirmed its government's agreement with and political commitment to the VL elimination initiative.
- Delegates agreed the need for high-level political commitment through the signing of a memorandum of understanding among the countries.

#### Next steps

- Delegates and partners provided reassurance that they would brief their respective senior leadership about the outcomes of this meeting for the preparatory phase.
- Delegates and partners agreed and requested WHO to facilitate drafting the memorandum of understanding.
- Delegates agreed to initiate internal discussions in their ministries for the preparation of signing a memorandum of understanding once the meeting report, elimination framework and Nairobi Declaration are received.
6.2 The Nairobi Declaration

The Nairobi Declaration was proposed by Dr Hadley Matendecheru Sultani (Ministry of Health of Kenya) and endorsed by the delegates from the health ministries of Chad, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda, the African Union, the End Fund, MSF, WHO, TDR, DNDi and other participants.

The session was opened for suggestions and several inputs were made for rewording. WHO was requested to incorporate these changes and recirculate the document. The final document after incorporating all input and review is reproduced as a Web Annex to the *Strategic framework for the elimination of visceral leishmaniasis as a public health problem in eastern Africa 2023–2030* (7).

6.3 Next steps

The Nairobi Declaration

The Nairobi Declaration should be seen as an advocacy tool for country representatives to present to their respective governments, and stakeholders to their organizations.

Meeting proceedings

- A meeting report will be prepared and circulated.
- The latest version of the Nairobi Declaration will be included as an annex.

Strategic framework for the elimination of VL as a public health problem in eastern Africa

The regional strategic framework will be updated with the input of participants, after which countries can align and endorse their national plans and road maps.

Memorandum of understanding among Member States

WHO was requested to prepare a Memorandum of Understanding for the eight Member countries (Chad, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda) to demonstrate their commitment and collaboration to eliminating VL. Other countries of the subregion with similar epidemiology were also welcomed to join the initiative.
7. Strategic framework for the elimination of visceral leishmaniasis as a public health problem in eastern Africa 2023–2030

On the third and fourth days of the meeting, the participants were divided into groups to discuss allocated sections of the draft strategic framework for the elimination of VL in eastern Africa (see Annex 3 for the composition of the 10 working groups).

Group terms of reference:
- Deliberate various sections of the draft strategic framework.
- Present the group work findings to the plenary.

A new group on sustainable financing and resource mobilization was created.

Outcome of the group work:
- Incorporate key points from the group work and update the strategic framework.
- Add a new section on sustainable financing and resource mobilization.

7.1 Targets and assumptions

The following recommendations were made:

Target(s)
- Target to be 90:90:100
  - 90% decline in disease burden by 2030
  - 90% decline in the time between onset of symptoms to treatment of primary VL to < 30 days (alternatively, 90% of VL cases detected and started on treatment within 30 days of onset of symptoms by 2030)
  - 100% of child mortality due to visceral leishmaniasis
  - Detect, report and manage all PKDL cases
- Add a target for the time between symptoms and treatment: 90% of primary VL cases are detected and started on treatment within 30 days by 2030. Mid-term target: 75% of VL cases are detected and started on treatment within 30 days by 2027.
- Add a target on 100% of child mortality due to VL considering the fact that more than 50% of new cases are occurring in this age group.
- Increase the target to 90% reduction of visceral leishmaniasis cases by 2030.
- Add mid-term milestones, aligned with the road map (e.g. 60% reduction of VL cases by 2027).
- Country level subtargets should be based on average number of VL cases over a 12-year period (2010–2021), instead of 2019 absolute numbers, and with the assumption of underreporting rate of 25%. In Tigray, Ethiopia, underreporting in 2020–2021 due to the civil unrest should be taken into account.
- Country-specific targets could be defined on a case-by-case basis, with some countries to be more ambitious than others, in line with their own country plans (and possibly defined with subnational targets within the country). It was suggested that the target should not be < 75% reduction by 2030.
- New country strategic plans should be developed within 6 months of the release of the regional strategic framework.
- Additional VL–HIV coinfection targets: 100% HIV screening for all detected VL cases, and 100% of test results reported by 2027. 100% of VL–HIV coinfected patients are started on antiretroviral therapy and are referred to HIV clinics/services for long-term management.
- Consider a mid-term target for case fatality reduction.
- Consider a subtarget for PKDL: 100% of PKDL cases detected, reported, and managed.

### 7.2 Objectives, monitoring and evaluation

**Impact objectives**

- Add: *Reducing health impact (morbidity and mortality)*
- Reducing socioeconomic impact of the VL burden, add: *in population at risk*
- Change: *Reducing the risk of VL transmission by managing all VL and PKDL cases*
- Consider adding an indicator regarding outbreaks

**Process objectives**

- Strengthen advocacy and political commitment at national and local levels.
- Establish effective disease surveillance system for planning and response supported by reliable laboratory diagnosis.
- Ensure early diagnosis and complete case management of VL, PKDL and complications, add: comorbidities.
- Establish effective and integrated vector management and surveillance systems.

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1 During the finalization of the strategic framework, it was decided to use the 13-year period (2010-2022).
Overall, it was recommended to refine the indicators and identify key performance indicators.

Outcome

- Strengthened capacity for an effective response to VL in Eastern Africa, delete: 
  *with as indicator time between onset of symptoms and treatment*

Outputs:

- Add “proportion of” to the indicators instead of absolute numbers
- Diagnostic and treatment centres that meet readiness and quality criteria accessible to population at risk
- Effective, accessible, and acceptable vector control tools and methods are identified
- Vector control guidelines developed, adopted, and rolled out
- Capacity developed for data management, surveillance, monitoring and evaluation and their use to inform routine programme implementation and response to emergency outbreaks
- Health facilities providing reports meeting required data quality standards
- Number of operational or implementational research studies conducted
- Rolling out antileishmanial medicines in existing pharmacovigilance programme

For VL treatment facility readiness: existence of operational referral mechanism; nutritional support system. The following activities were proposed:

- Develop technical guidance and technical support at district and local levels.
- The district or implementation unit is the basic administrative unit of health care delivery in endemic countries. Develop district-level management guidelines and standard operating procedures and make them available to the local implementing health workforce so that visceral leishmaniasis elimination is possible through the adoption of a decentralized integrated approach.

Remote sensing and geographical information systems (GIS)

- Conduct mapping of vulnerable populations vis-a-vis geolocated health care facilities.
- Identify areas requiring more healthcare workforce distribution.
- Create GIS emergencies and preparedness response programmes for areas experiencing outbreaks and/or outbreak-prone areas.
- Organize mobile health clinics for migratory at-risk populations.
- Digitize microplanning for active surveillance.
- Carry out planning for integrated vector management.
- Conduct inventory management.
- Conduct data analysis.
Networking

- Epidemiological and entomological field studies
- Capacity-building
- Quality assessment and assurance
- Developing communication for behavioural impact (COMBI) strategies
- Outbreak investigations
- Integration into skin NTD platform for the differential diagnosis of skin conditions
- Implementation research and translation of findings into programme activities
- Cross-border assessments

Cross-border collaboration

- Conduct cross-border situational analysis and mapping of endemic areas vis-a-vis health facilities providing VL services.
- Improve capacity (uninterrupted supplies of diagnostics, drugs and logistics, capacity-building of human workforce) of border area health facilities for detection and management of patients.
- Ensure regular cross-referrals and reporting.
- Report regularly to meetings of RTAG and to bi-regional review and feedback mechanisms.
- Hold regular cross-border meetings, foster interaction and use other fora to share information between borders.
- Integrate VL in the NTD cross-border fora.
- Develop IEC materials for cross-border areas for raising awareness among the population.
- Encourage cross-border collaborations and commitments from health ministries and country governments.

7.3 Early diagnosis and treatment

The following suggestions were made:

- Include epidemiological information in the case definition (travel history and being from a VL-endemic area).
- Use national guidelines and WHO recommendations for the management of VL diagnosis and management.
- Accessibility of diagnosis and treatment services
  - In all endemic areas, including
    - primary health care, refugee camps, sentinel sites (mobile fever clinics)
    - in selected non-endemic areas
Strengthen referral linkage
- Free of charge – include drugs for coinfection and therapeutic feeding
- Consider provision of reimbursement of transport to VL cases
- DAT is available in a limited number of VL diagnostic centres and should be scaled up

Improve the quality of care
- Assess health system readiness for the treatment of VL
- Update guidelines, standard operating procedure, trained health care workers, drugs, diagnostic kits and quality assurance methods
- Practical training of physicians in VL endemic regions and neighbouring areas
- A regional clinical consultation platform to provide technical advice on management and challenging VL cases. Involve front-line health workers in active case detection of suspects cases and referral
- Integrate case detection and diagnostics with other diseases, such as mass drug administration (MDA), or with community-based health services
- Integrate leprosy programme with screening for PKDL, or integrate PKDL into skin NTD platforms for the differential diagnosis of skin conditions
- All VL cases detected should be followed-up for at least 6 months to assess incidence of PKDL
- Use of information technology (e.g. mobile phone) for post-treatment follow-up of VL patients and identification of new patients through them
- eHMIS (electronic health management information system) and DHIS2 (district health information software 2) should be used for surveillance.

7.4 Integrated vector management
The following points were noted:

- *Phlebotomus orientalis* in northern Kenya is also abundant during the late dry season, while *Ph. martini* shows higher abundance during the rainy season.
- Use of insecticide-treated nets (ITNs) remains as a strong evidence-based IVM measure.
- Evaluate promising approaches: spraying of fences around courtyards in Sudan and building and spraying fences around shelters of seasonal farm workers in North West Ethiopia.
- In the southern foci of VL, previous work suggested reduction of transmission can be achieved through health education and behavioural change, so that people keep sufficient distance from the vicinities of termite mounds, where exposure to the bites of *Ph. martini* and *Ph. celiae* takes place. IVM programmes can strengthen this intervention measure by dedicated risk-mapping and behavioural epidemiology studies. Studies should examine the population structure of sandflies and their distance of flight. Risk communication and
community engagement (RCCE) will play a profound role in reducing exposure to the infection.

- Introduce use of repellents and other personal protection measures.
- Evaluate insecticide treatment of animals and attractive toxic sugar baited stations.
- Initiate VL vector surveillance.
- Priority operational research areas include identification and mapping of vectors (Chad, Eritrea, Somalia South Sudan and Uganda) and the preference and use of the types of ITNs and other vector control measures.
- Include nomadic and refugee camps in the assessment on the availability and accessibility of preventive measures against sandfly bites and their knowledge, attitude and practices towards these.

7.5 **Social mobilization and building partnerships**

The following actions were proposed:

- Study the treatment-seeking behaviour of VL and PKDL patients, and develop and test tools for impact and improvement.
- Intensify awareness campaigns by involving communities and community leaders, health care workers and civil society.
- Advance, communicate and use social mobilization through all existing methods (banners, pamphlets, media – jingles etc.) as per the local context and language.
- Explore opportunities to spread messages during market days, local barazas, schools, or any other mass gathering (country context as applicable).
- Study special groups (gold miners in Chad, refugees and internally displaced persons) to better understand risk factors and adapt messages.

Partnerships

- Forge transversal partnerships with non-health departments (e.g. agriculture, education, transport, security agencies, investment office, mining).
- Harness public-private partnerships with investors (e.g. agricultural investors in Ethiopia and mining companies in Chad).

7.6 **Research**

The following points were made:

- The draft VL elimination strategy document addresses key issues of implementation and operational research, both of which are essential elements of the strategic plan for the draft strategy.
- There are different research needs at the various phases of the VL elimination programme: preparatory phase, attack phase, consolidation phase and maintenance phase (anticipated end-game challenges).
• Although implementation research is critical, there is a need to make space for upstream research as well considering the current critical gaps in knowledge and effective tools such as the need for a diagnostic test with improved sensitivity, the need for a short course (ideally single dose) orally administered treatment, innovations in vector control (tools development) and prophylactic vaccines for possible use in the consolidation phase. Upstream research should be initiated and accelerated during the preparatory phase.

• Attention is required for the proper mechanism of research priority setting, coordination and monitoring. The experience of the Regional Technical Advisory Group (RTAG) in South-East Asia could be a good model. Role of RTAG in eastern Africa, including in relation to research prioritization, and frequency of meetings will need to be worked out.

• Priority implementation research initiatives should address evidence gaps in early diagnosis and case management, vector surveillance and integrated vector management, effective disease surveillance and social mobilization.

• Current gaps in rapid diagnostic tests are recognized as critical for early case detection and management.

• Policy uptake of proven regimens needs to be encouraged.

• It is recommended to implement pharmacovigilance and resistance monitoring surveillance in the region.

• Identification and piloting of effective vector control measures is necessary. Development and evaluation of a monitoring and evaluation toolkit for vector control is needed.

• Cost–effectiveness studies of different active case detection methods in different endemicity settings (e.g., endemicity levels/contexts) and Identifying barriers to effective reporting are needed to improve surveillance.

• Social mobilization should be strengthened. It is recommended to develop and test tools for impact on improving the treatment seeking behavior of VL and PKDL patients.

• Research priorities can be revisited regularly, as part of country strategy review. Sustainability should be considered early to better prepare for maintenance phase of the elimination programme.

• Studies on tuberculosis, bacterial infections, malnutrition and micronutrient needs of VL patients.

• Systematic reviews of VL papers from Africa.

• Not limit new diagnostic tests to RDTs.

Capacity-building for research

• Research capacity strengthening requires prior mapping and need assessment at national and institutional levels in both systems and human resources. Capacity of higher learning and research institutions as well as those of disease control programs for carrying out IR/OR will be assessed so as to define the needs for capacity strengthening.
Enhancing collaboration towards a shared agenda could include promoting linkage between graduate programmes/fellowships in academic and research institutions with implementation/operational research programmes in the VL elimination programme, promoting international collaboration (South–South and North–South), with emphasis on skill and knowledge transfer.

Supporting mechanisms or platforms for in-country researcher–policy-maker joint meetings to encourage alignment of implementation research agenda with disease control programme priorities.

Strong advocacy is required for sustainable funding, resource mobilization and long-term commitment for the regional VL elimination programme.

Inclusion of leishmaniasis training curricula in medical schools.

In Sudan, graduates of medical schools need to work for 9 months in hardship areas, and this could be useful for the VL elimination programme.

Identification of centres of excellence for management of patients who are non-responders and for the training of health workers.

Facilities for vector identification, insecticide resistance monitoring, and training of personnel on VL vectors surveillance and control.

Identify gaps in skills that may help define training needs and providing opportunities for training and a career path for local researchers.

### 7.7 Phases of implementation

Three implementation phases of the elimination programme were proposed.

#### 7.7.1 Planning phase (1–2 years)

- Initiate collaboration among countries in sharing data and information and harmonization of guidelines within the region.
- Initiate national technical advisory groups in addition to the regional technical advisory group.
- Conduct rapid VL burden assessments including verbal autopsy to detect VL deaths in the community.

**Preconditions**

- Recruit and deploy human resources for diagnosis and management of VL cases, disease surveillance and vector control. This should include seeking mechanisms to cope with the high turnover of human resources.
- Update guidelines and tools for case management, surveillance and vector control where needed.
- Develop a decentralization plan based on antigen-based diagnostic tests and oral drugs.

**Research**

- Accelerate the development of new diagnostics, new oral, safe and efficacious treatments and vaccines for the prevention or immuno-chemotherapy of VL during the preparatory phase.
- Add: and prevention including prophylactic vaccines, and other major gaps should be supported and/or initiated including social science research.
- National research institutes should be encouraged to carry out implementation research to obtain better figures on burden and asymptomatic infections.
- Develop tools/procedures/models for rapid mapping of VL.
- Conduct operational research to better understand PKDL epidemiology in the region: estimation of incidence, prevalence, % self-healing, and risk factors associated with PKDL.
- Devise new therapies for PKDL to treat all cases, including early cases.

7.7.2 Attack phase (4–5 years)
- Conduct monitoring of pharmacovigilance.
- Scale up elimination activities in endemic areas.
- Convene functional RTAG and national technical advisory groups.
- Carry out periodic internal and external review of the programme.

7.7.3 Consolidation phase (2–3 years)
- Implement active case detection to include PKDL.
- Ensure decentralization and integration into the health system.
- Develop a validation process for elimination.

7.8 Procurement, drug quality and logistics
Factors to be taken into account for forecasting include:
- Average number of patients treated in previous years and estimates of needs based on the epidemiological data.
- Underreporting rate (25%)
- Average weight of patients.
- Proportion of VL patients by treatment type.
- Wastage rate.
- Buffer stock for potential outbreak response.
- Manufacturing lead times.
- Shipping and distribution processes.
- Current outbreaks.
- Migrants/refugees.
- Shelf-life.
Possible solutions to overcome challenges include:

- Change location of drug stockpile from Bordeaux, France to within the eastern African region.
- Integrate VL supplies into national supply chain management systems.
- Adopt a standard forecasting tool for the region.
- Establish a regional working group on forecasting, procurement, quality, supply chain management.
- Develop a standalone costing document for the procurement of VL supplies until 2030.
- Formalize regional reverse logistics to overcome stockouts.
- Create a dashboard for better communication of stock status, managed by the proposed working group.
- Develop a standardized list of commodities and specifications including vector control tools, supplementary materials for drug administration, nutritional support, treatment for comorbidities.
- Ensure budgetary planning for outbreak response and migration for refugees and internally displaced persons.
- Allocate separate budgets for distribution of the drugs and diagnostics.
- Facilitate VL drug registration processes using the available platforms for other programmes (e.g. AVAREF-African Vaccine Regulatory Body).
- Pool procurement: (i) short-term, continue to use the current system; (ii) medium-term, transfer the stock/emergency stock warehousing to Nairobi; can bring 30/70% to the region; and (iii) adopt a PAHO-style Fund.

### 7.9 Surveillance

Three implementation phases of the elimination programme were proposed.

#### 7.9.1 Remote sensing and geographical information systems (GIS)

- Coverage evaluation surveys: geographical access (distance to and time needed to travel to nearest health care facility providing VL care) as part of programme monitoring activities, via GIS data

#### 7.9.2 Cross-border collaboration

- Learn from other diseases such as Guinea worm (and its reward system).
- Collect information on seasonal workers, nomads and migrants who cross borders.
- Encourage use of disaggregated data for health facilities in cross-border areas.
- Train health workers in cross-border areas on the importance of reporting imported cases.
- Convene cross-border local meetings at least once a month as well as monthly reports from border districts.
- Ensure regular interactions and use of existing fora to share information between borders.
- Integrate VL in the NTD cross-border fora.
- Develop IEC (information, education, communication) materials for cross-border areas.
- Ensure seamless movement of drugs and diagnostic kits across borders to avoid unnecessary stockouts of supplies.

### 7.10 Resource mobilization and sustainable financing

#### 7.10.1 Domestic resource mobilization
- Prepare a costed national NTD strategy inclusive of VL elimination and analyse current government funding and gaps.
- Foster public-private partnerships.
- Expand tax base for health services.
- Include special taxes to contribute to health budgets (e.g. US$ 1 added to flights, tourism).

#### 7.10.2 Regional and international resource mobilization
- Advocacy and support by the African Union and WHO Regional Committees for the African and Eastern Mediterranean regions
- African Development Bank; Islamic Development Bank
- Regional corporate and private philanthropy (Africa Business Forum, African Philanthropy Forum)
- Bilateral donors; private foundations; individual philanthropists; corporate partners; UN agencies; WHO

#### 7.10.3 Sustainable financing
- Join efforts from the beginning with all stakeholders.
- Build a national VL financing channel embedded in the national health budgeting and planning system.
- Develop evidence-based, sustainable financing strategy targeting subnational, national, and international resources.
- Integrate VL services into primary health care.
- Procure diagnostics and therapeutics through the national supply chain.
8. Meeting closure

After the formal exchange of courtesies, the meeting was closed.
References


Annexes
Annex 1. Meeting agenda

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<tr>
<th>Time</th>
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<tr>
<td>08:00–08:30</td>
<td>Registration</td>
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<td>08:30–10:45</td>
<td>Opening and welcome</td>
<td>Moderator: Dr Adiele Nkasiobi Onyeze and Dr Joyce Kerubo Onsongo</td>
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<tr>
<td>08:30</td>
<td>Welcome (5 min)</td>
<td>Dr Wyckliff Omondi, Head, Division of Vector-borne and NTDs, Kenya</td>
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<td>08:35–09:40</td>
<td>Objectives of the meeting and expected outcomes; appointment of rapporteurs (5 min)</td>
<td>Dr Saurabh Jain, WHO headquarters</td>
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<td>09:40–10:40</td>
<td>NTD road map and elimination of visceral leishmaniasis (20 min)</td>
<td>Dr Daniel Argaw Dagne, WHO</td>
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<td>10:40–11:00</td>
<td>Country representative statements (5–7 min each)</td>
<td>Directors, MoH</td>
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<td>- Dr Saada Daoud, Chad</td>
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<td>- Dr Ali Abdirahman Osman, Somalia</td>
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<td>- Dr Daniel Japheth Kyabayinze, Uganda</td>
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<td>- Prof Be-Nazir, Director, NTD (video message)</td>
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<td>- Dr Abdourahmane Diallo, WHO Representative, Kenya</td>
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<td>09:40–10:00</td>
<td>Success lessons from the elimination initiative in South-East Asia (20 min)</td>
<td>Prof Be-Nazir, Bangladesh</td>
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<tr>
<td>10:40–11:00</td>
<td>Success lessons from the SEAR-the case of India Kala-Azar Elimination Programme (20 min)</td>
<td>Dr Dhruv Pandey, India</td>
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<td>11:05–11:10</td>
<td>Vote of thanks</td>
<td>Dr Wyckliff Omondi, Head, Division of Vector-borne and NTDs, Kenya</td>
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<td>Group Photo</td>
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<td>11:40–17:25</td>
<td>Tea/Coffee Break</td>
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| 11:40–17:25  | **Technical session I: Global/regional perspectives**                             | Chair: Prof. Be-Nazir  
Co-Chair: Jorge Alvar  
Rapporteurs: Dhruv Pandey and Pita Jane                                         |
|              | **Administrative announcements/security briefing**                                |                                                                                      |
| 11:50–12:10  | The global VL situation, key issues, and salient features of the proposed VL elimination strategy & sustainable financing mechanisms (20 min) | Saurabh Jain & Xiaoxian Huang, WHO                                                  |
| 11:15–11:40  | Lunch break                                                                      |                                                                                      |
| 14:15–14:45  | WHO-AFRO, EMRO perspective (15 min each)                                          | WHO-AFRO, EMRO                                                                      |
| 14:45–15:00  | Continental Framework for NTDs in Africa: how to raise the commitment and leadership of Member States (15 min) | Africa Union                                                                        |
| 11:40–17:25  | **Technical session II: Country Presentations (20 min)**                         | Chair: Koert Ritmeijer  
Co-Chair: Carol Karutu  
Rapporteurs: Manaye Nigus, Cherinet Bayuh Adera and Jamal Ahmed   |
<p>| 15:15–16:15  | Sudan                                                                             |                                                                                      |
|              | Kenya                                                                             |                                                                                      |
|              | Ethiopia                                                                          |                                                                                      |
| 11:15–11:40  | Tea/Coffee Break                                                                 |                                                                                      |
| 16:30–16:45  | Question &amp; Answers (15 min)                                                       |                                                                                      |
| 16:45–17:25  | Country Presentations...contd (20 min)                                            |                                                                                      |
| 17:25–17:40  | Question &amp; Answers (15 min)                                                       |                                                                                      |
|              | Day 1 Closing                                                                     |                                                                                      |</p>
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| 09:00–10:30  | **Technical session III: Country Presentations, contd. (20 min)**     | Chair: Prof. Ahmed Musa  
Co-Chair: Supriya Warusavithana  
Rapporteurs: Megha Raj Banjara and Cherinet Bayuh Adera |
|              | Eritrea                                                               |                                                                         |
|              | Chad                                                                  |                                                                         |
|              | Question & Answers (30 min)                                           |                                                                         |
| 10:30–10:45  | Tea/Coffee Break                                                      |                                                                         |
| 10:45–13:15  | **Session IV: High-level round table (moderated by Prof. Be-Nazir and Dr Jorge Alvar)**  
Rapporteurs: Cherinet Adera, Dhruv Pandey, Megha Raj Banjara, Margriet den Boer and Pita Jane | All senior delegates from MoH, partners and WHO  
- Chad  
- Eritrea  
- Ethiopia  
- Kenya  
- Somalia  
- South Sudan  
- Sudan  
- Uganda  
- Africa Union  
- BMGF  
- End Fund  
- DNDi  
- MSF  
- TDR  
- WHO |
| 13:30–14:30  | Lunch break                                                           |                                                                         |
| 14:30–16:00  | Call for action on behalf of the Member States  
Discussion, questions and answers | MoH, Kenya |
| 16:00–16:45  | Tea/Coffee Break                                                      |                                                                         |
|              | Discussion, question and answers                                       |                                                                         |
| 17:30        | End of high-level meeting                                             |                                                                         |
|              | Day 2 closing                                                          |                                                                         |
## Day 3: Thursday, 26 January 2023

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<tr>
<td>11:40–17:25</td>
<td>Technical session IV: Group work; division, terms of reference, rapporteur</td>
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<tr>
<td>08:30–13:00</td>
<td>All four groups discuss goal, targets—regional and country</td>
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<td></td>
<td><strong>Group 1</strong>, strategic intervention 1: Early diagnosis and complete case management, treatment</td>
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<td><strong>Group 2</strong>, strategic intervention 2: Integrated vector management and vector surveillance</td>
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<td><strong>Group 3</strong>, Strategic intervention 3: Surveillance and social mobilization</td>
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<td><strong>Group 4</strong>, strategic intervention 4: Operational research</td>
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Coffee break (10:30–11:00) and (15:00–15:15) and lunch (13:00–14:00)

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<thead>
<tr>
<th>Time</th>
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<th>Speaker</th>
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<tr>
<td>14:00–15:00</td>
<td>Topic 1–4 continues</td>
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<tr>
<td>14:15–14:45</td>
<td>WHO-AFRO, EMRO perspective (15 min each)</td>
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<td>15:15–17:30</td>
<td><strong>Group 5</strong>: Supporting intervention 1: Goals, targets and assumptions</td>
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<td><strong>Group 6</strong>: Supporting intervention 2: Implementation phases</td>
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<td><strong>Group 7</strong>: Supporting intervention 3: Objectives and monitoring and evaluation</td>
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<td><strong>Group 8</strong>: Supporting intervention 4: Procurement, drug quality, logistics</td>
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Day 3 Closing

## Day 4: Friday, 27 January 2023

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<td>08:30–10:15</td>
<td>Topic 5–8: Group work continues</td>
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<td>10:15–10:45</td>
<td>Tea/Coffee break</td>
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<td>10:45–12:30</td>
<td><strong>Technical session VI: Plenary (Group presentations)</strong></td>
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<td></td>
<td>Chair: Fabiana Alves</td>
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<td>Co-Chair: Daniel Argaw Dagne</td>
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<td></td>
<td>Rapporteurs: Margriet den Boer, Dhruv Pandey, Megha Raj Banjara, Abate Beshah and Supriya Warusavithana</td>
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<tr>
<td></td>
<td>Plenary continues</td>
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<tr>
<td>15:15–17:30</td>
<td>Wrap-up and closure</td>
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</tbody>
</table>
Annex 2. List of participants

**National leishmaniasis/neglected tropical disease control programmes**

**Chad**
Dr Mahamat Abakar, Coordonnateur du programme national de lutte contre la lèpre et point focal leishmaniose, Ministère de la Santé Publique et de la Prévention, N’Djamena
Dr Saada Daoud, Directrice Générale de la Lutte contre la Maladie, Santé de la Reproduction, Promotion de la Santé et de la Nutrition, Ministère de la Santé Publique et de la Prévention, N’Djamena

**Eritrea**
Mr Yosief Redae Asgodom, NTD National Programme Manager, Ministry of Health, Asmara

**Ethiopia**
Mr Fetene Sisay Abie, Visceral leishmaniasis control programme officer, Ormia Regional Bureau, Ministry of Health, Addis Ababa
Mr Addis Workinech Kassa, Visceral leishmaniasis control programme officer, Amhara regional health beaureau, Ministry of Health, Addis Ababa
Mr Tesfahun Bishwa Mengistie, National Leishmaniasis Control Programme Manager, Ministry of Health, Addis Ababa
Mrs Hiwot Solomon,* Director, Disease prevention and control, Ministry of Health, Addis Ababa

**Kenya**
Dr Daniel Mwiti, Leishmaniasis Programme Manager, Ministry of Health, Nairobi
Dr Jacob Ruto Nangole, County Director, West Pokot, Ministry of Health, Nairobi

Dr Wyckliff Omondi, Head, Division of Vector Borne and Neglected Tropical Diseases, Ministry of Health, Nairobi
Dr Hadley Matendechero Sultani, Head, National Public Health Institute, Ministry of Health, Nairobi

**Somalia**
Dr Abdulaziz Ahmed Aden, NTD Head Manager, Ministry of Health and Human Services, Mogadishu
Dr Ali Abdirahman Osman, Director, Public Health Department, Ministry of Health and Human Services, Mogadishu

**South Sudan**
Dr Mustafa Lokuru Lokwamoei, Director for health services, SMOH Eastern Equatoria State Ministry of Health, Juba
Dr Lexon Mabrouk, Leishmaniasis National Programme Manager, Ministry of Health, Juba
Dr Atem Nathan Riak, Director General EPI and Ag. DG for Preventive, Health Services Ministry of Health, Juba

**Sudan**
Dr Ahmed Mohamed Abdalla Ali, NTDs Coordinator, Federal Ministry of Health, Khartoum

**Uganda**
Dr Daniel Japheth Kyabayinze, Director, Public Health, Ministry of Health, Kampala
Dr Alfred Mubangizi, Ag. Assistant Commissioner, NTD, Ministry of Health, Kampala
Partners

African Centre for Community Investment in Health
Ms Hellen Nyakundi, Programme Manager, Boston (MA), United States of America

Africa Centres for Disease Control and Prevention
Mrs Hanna Tesfahunget, Technical Officer NTDs, Addis Ababa, Ethiopia

African Union Commission
Dr Sheila Shawa, Senior Technical and Partnerships Specialist, Health, Diseases and Nutrition Division, Health, Humanitarian Affairs and Social Development, Addis Ababa, Ethiopia

ASCEND/Oriole Global Health
Professor Ahmed Be-Nazir, Country Lead, Dhaka, Bangladesh
Ms Jane Lillywhite,* Adviser
Ms Elodie Yard, Chief Programme Officer

Bill & Melinda Gates Foundation
Dr Bhupendra Tripathi, Country Lead, Elimination Programmes, Neglected Tropical Diseases, New Delhi, India

Drugs for Neglected Diseases initiative
Dr Jorge Ahar, Adviser
Dr Cherinet Bayuh Adera, Senior Market Access Manager, Africa Regional Office
Dr Fabiana Alves, Director, Leishmaniasis and Mycetoma
Mr Simon Bolo, Head of Leish Access – Africa, Africa Regional Office
Ms Joy Malongo, Access Manager
Dr Monique Wasunna, Director, Africa Regional Office, Nairobi, Kenya

The END Fund
Ms Ellen Agler, President, Chief Executive Officer, New York, NY, United States of America
Dr Atia Alatiaby, Country Lead Sudan
Ms Jamie Boban, Resource mobilization Officer

Ms Kebron Haile
Dr Carol Karuto, Vice-President
Dr Duncan Ochol, Programme Manager

Foundation for Innovative New Diagnostics
Dr Dziedzomkomi Desouza, Senior Scientific Officer
Professor Joseph Ndungu, Executive Director, Kenya
Dr Dawn Maranga, Scientist

 Médecins Sans Frontières
Dr Koert Ritmeijer, Research Coordinator, Amsterdam, Netherlands (Kingdom of the)

PATH International
Dr Amresh Kumar, New Delhi, India

Academia
Dr Megha Raj Banjara, Associate Professor, Central Department of Microbiology, Tribhuvan University, Kirtipur, Nepal
Dr Rajib Chowdhury,* Expert in vector and vector borne diseases, Dhaka, Bangladesh
Dr Endalamaw Gadisa, Acting Director & Lead Researcher, Armauer Hansen Research Institute Addis Ababa, Ethiopia
Dr Johan van Griensven, Institute of Tropical Medicine, Department of Clinical Sciences, Antwerp, Belgium
Dr Deirdre Hollingsworth, Senior Group Leader, Oxford Big Data Institute, United Kingdom of Great Britain and Northern Ireland
Grace Kennedy, Student (Health Sciences B.S., class of 2025), Northeastern University, Boston (MA), United States of America and Field Researcher with the African Centre for Community Investment in Health (ACCIh)
Professor Asrat Hailu Mekuria, School of Medicine, University of Addis Ababa, Addis Ababa, Ethiopia
Professor Maowia Mohamed Mukhtar, Institute of Endemic Diseases, University of Khartoum, Khartoum, Sudan
Ms Katherine O'Brien, Research student, Northeastern University, Boston (MA), United States of America
Professor Dia-Eldin Ahmed Elnaiem, University of Maryland, Eastern Shore (MA), United States of America

Professor Richard Wamai, Northeastern University, Boston (MA), United States of America

**Philanthropic organizations**

Ms Erin Hulme, Director of Philanthropy, WHO Foundation

Ms Anne Magege, ELMA Philanthropies, New York (NY), United States of America

**Research institutes**

Dr Daniel Masiga, Principal Research Scientist, International Centre of Insect Physiology and Ecology (ICIPE), Nairobi, Kenya

Dr Damaris Matoke, Kenya Medical Research Institute, Nairobi, Kenya

Dr Jane Mbui, Clinical Researcher, Kenya Medical Research Institute, Nairobi, Kenya

Professor Ahmed Mudawi Musa, Institute for Endemic Diseases, University of Khartoum, Khartoum, Sudan

**WHO**

**Focal points for visceral leishmaniasis**

Dr Ibrahim Djemomoro, Neglected tropical diseases, Chad

Dr Manaye Nigus, Communicable diseases, Ethiopia

Dr Jamal Ghilan Hezfullah Amran, Visceral leishmaniasis control and neglected tropical diseases, Somalia

Ms Pita Jane Hillary Ajo, Neglected tropical diseases, South Sudan

Mr Ahmed Adam Ahmed Haroun, Environmental Health, Sudan

Mr Khalid Sarour, Sudan

Dr Charles Katureebe, Neglected tropical diseases, Uganda

**WHO Secretariat**

Dr Abraham Aseffa, Unit Head, TDR

Dr Abate Beshah, Medical Officer, WHO Regional Office for Africa

Dr Margriet den Boer, Consultant, WHO Global Neglected Tropical Diseases Programme, Geneva, Switzerland

Dr Daniel Argaw Dagne, Unit head, Prevention, treatment and care, WHO Global Neglected Tropical Diseases Programme, Geneva, Switzerland

Ms Xiaoxian Huang, Health Economist, WHO Global Neglected Tropical Diseases Programme, Geneva, Switzerland

Dr Joyce Kerubo Onsongo, WHO Country Office, Nairobi, Kenya

Dr Adiele Nkasiobi Onyeze, WHO Country Office, Nairobi, Kenya

Dr Dhruv Pandey, WHO Country Office, New Delhi, India

Dr Supriya Warusavithana, Regional Adviser, WHO Regional Office for the Eastern Mediterranean

* Invited but unable to attend.
# Annex 3. Composition of working groups

## GROUP 1. Goals, targets, assumptions

**Chair:** Daniel Argaw Dagne, WHO/NTD

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
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<tbody>
<tr>
<td>Fabiana Alves</td>
<td>DNDi</td>
</tr>
<tr>
<td>Jamal Amran</td>
<td>WHO Somalia</td>
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<tr>
<td>Abraham Aseffa</td>
<td>TDR</td>
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<tr>
<td>Dia Elnaiem</td>
<td>University of Maryland</td>
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<tr>
<td>Lexon Mabrouk</td>
<td>Ministry of Health South Sudan</td>
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<td>Joseph Ndungu</td>
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<td>Ali Osman</td>
<td>Ministry of Health Somalia</td>
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<tr>
<td>Koert Ritmeijer</td>
<td>MSF</td>
</tr>
<tr>
<td>Khalid Sarour</td>
<td>WHO Sudan</td>
</tr>
<tr>
<td>Johan van Griensven</td>
<td>Institute of Tropical Medicine, Antwerp</td>
</tr>
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</table>
## GROUP 2. Phases of implementation

**Chair: Jorge Alvar, DNDi**

<table>
<thead>
<tr>
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<tr>
<td>Jorge Alvar</td>
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<td>Abdulaziz Aden</td>
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<td>Yosief Asgodom</td>
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<tr>
<td>Megha Raj Banjara</td>
<td>Kathmandu University</td>
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<tr>
<td>Be-Nazir</td>
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<tr>
<td>Abata Beshah</td>
<td>WHO Regional Office for Africa</td>
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<tr>
<td>Margriet den Boer</td>
<td>Consultant, WHO/NTD</td>
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### GROUP 3. Objectives, monitoring and evaluation

Chair: Abate Beshah, WHO Regional Office for Africa

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### GROUP 4. Procurement, drug quality and logistics

Chair: Richard Wamai, Northeastern University, United States of America

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### GROUP 5. Resource mobilization and sustainable financing

**Chair:** Ellen Agler, END Fund

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<td>Elodie Yard</td>
<td>Oriole Global Health</td>
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### Group 6. Early diagnosis and treatment

**Chair:** Koert Ritmeijer, MSF

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<td>Monique Wassunna</td>
<td>DNDi</td>
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### Group 7. Integrated vector management

**Chair:** Dia El-Naiem University of Maryland, United States of America

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<td>Fetene Sisay Abie</td>
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<td>Damaris Matoke</td>
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### Group 8. Surveillance

**Chair:** Supriya Warusavithana, WHO Regional Office for the Eastern Mediterranean

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<td>The African Centre for Community Investment in Health</td>
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<td>Sheila Shawa</td>
<td>Africa Union</td>
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</table>
### Group 9. Social Mobilization and building partnerships

**Chair: Tesfahun Bishaw, MoH Ethiopia**

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<td>Katherine O’Brien</td>
<td>Northeastern University</td>
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### Group 10. Research

**Chair: Abraham Aseffa, WHO TDR**

<table>
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<tbody>
<tr>
<td>Jorge Alvar</td>
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<tr>
<td>Fabiana Alves</td>
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<tr>
<td>Megha Raj Banjara</td>
<td>University of Kathmandu</td>
</tr>
<tr>
<td>Asrat Hailu</td>
<td>Addis University</td>
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<tr>
<td>Xiaoxian Huang</td>
<td>WHO/NTD</td>
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<tr>
<td>Dawn Maranga</td>
<td>FIND</td>
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<tr>
<td>Jane Mbui</td>
<td>Kenya Medical Research Institute</td>
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<tr>
<td>Maowia Mukhtar</td>
<td>Institute of Endemic Diseases</td>
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<tr>
<td>Joseph Ndungu</td>
<td>FIND</td>
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<tr>
<td>Bhupendra Tripathi</td>
<td>BMGF</td>
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<tr>
<td>Johan van Griensven</td>
<td>Institute of Tropical Medicine</td>
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<tr>
<td>Richard Wamai</td>
<td>Northeastern University</td>
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