

Round table on One Health Surveillance and Control of VBDs in North Africa

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The Global Vector-Borne Disease Burden

>700K

Deaths annually from VBDs

17%

Share of global infectious disease burden


3.9B


People at risk of dengue fever alone

80+

Countries with active malaria transmission

Key Vector-Borne Diseases

 Malaria — 282 M cases annually, >610,000 deaths — AFRO carries 94%,

 Dengue — 100–400 M infections/year; now in 100 countries

 Leishmaniasis — 700,000 to 1M new cases/year; visceral form 95% fatal if untreated, **zoonotic**

 Schistosomiasis — 253.7 M people requiring preventive chemotherapy

 West Nile Virus — Re-emerging in EURO; climate-driven range expansion, **zoonotic**

 Rift Valley Fever — Epidemic-prone in AFRO & EMRO; **zoonotic**

 Crimean-Congo HF — Increasing tick-borne risk; EMRO/EURO, **zoonotic**

Regional Snapshot

AFRO

94% of global malaria burden. Major NTD portfolio: onchocerciasis, LF, schistosomiasis, African trypanosomiasis.

EMRO

6 high malaria-endemic countries ; 12 countries with leishmaniasis; dengue in Yemen/Somalia; Pakistan, Afghanistan, Iran, Sudan, Djibouti, Oman CCHF in Afghanistan, Iran, Pakistan, Iraq

EURO

Re-emerging VBDs driven by climate: WNV spreading northward, local dengue in SE Europe, CCHF in Balkans/Caucasus.

Countries example

TUNISIA

sand fly-borne leishmaniasis + West Nile Fever : endemic
Risk of emergence : Rift Valley fever

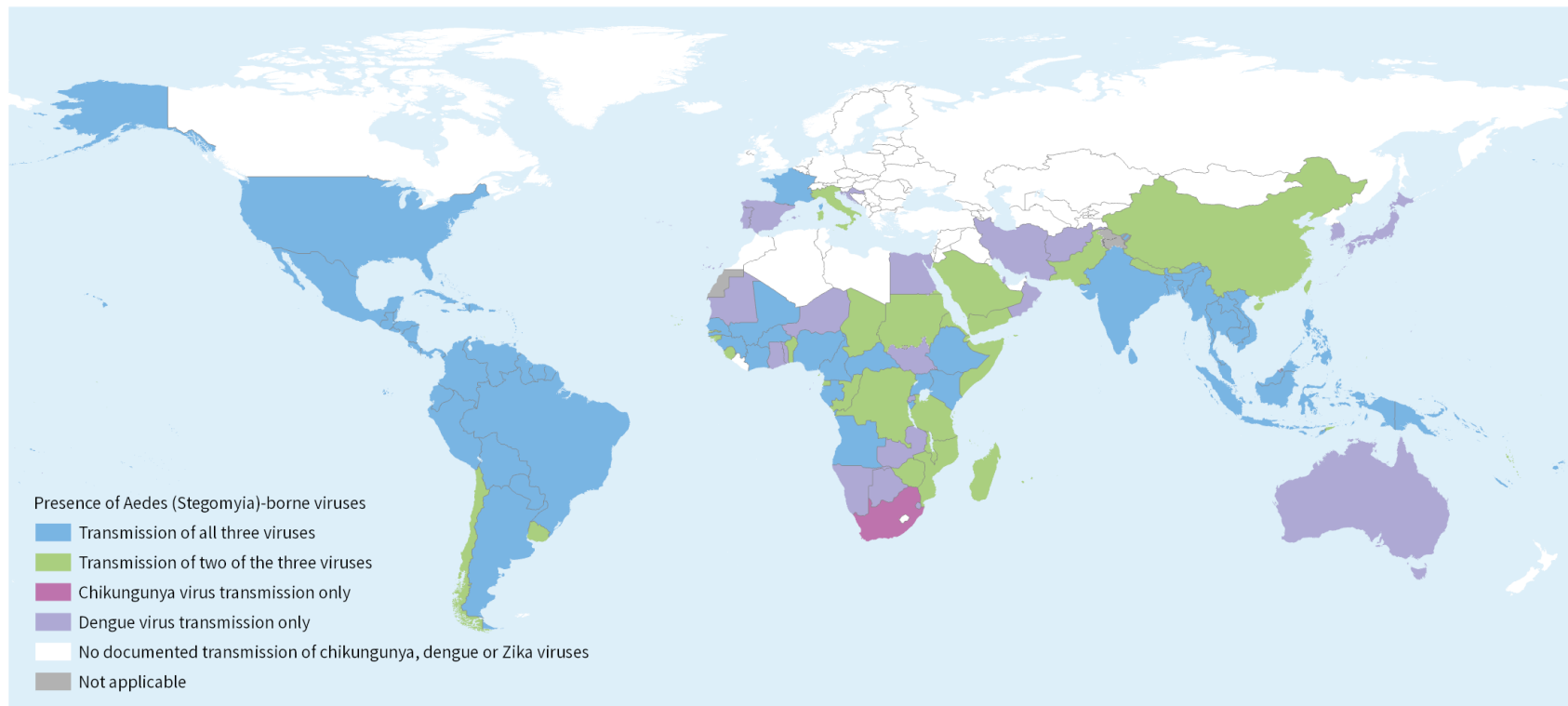
LIBYA

Sand fly-borne leishmaniasis, Rift Valley Fever & conflict-related malaria resurgence, Climate change impact



Countries and territories with current or previous transmission of documented chikungunya, dengue or Zika viruses (as of 30 April 2024)

Countries, territories and areas with current or previous transmission of chikungunya, dengue or Zika viruses (as of 18 November 2025)



The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: WHO Health Emergencies Programme
Map Date: 18 November 2025

0 1,500 3,000 km

VBDs - WHO Strategic Priority



Climate & Environment

Climate change is actively accelerating vector-borne disease transmission.

[The 2025 report of the Lancet Countdown on health and climate change](#)



Health System Burden

VBDs overwhelm fragile health systems, disproportionately affecting poorest populations. Malaria alone costs sub-Saharan Africa ~\$12B/yr in lost productivity.



One Health & Zoonotic Risk

RVF, CCHF, and dengue sit at the human-animal-environment interface.



Health Security & IHR

VBD outbreaks frequently trigger IHR events. Cross-border transmission requires coordinated surveillance, reporting, and response capacity.



SDG & GPW 14 Alignment

VBD control is embedded in GPW 14, Triple Billion targets: universal health coverage, health security, and healthier populations by 2025/2030.



Cross-Border & Humanitarian

Conflict and displacement in Libya, Sudan, and Yemen, Djibouti, Somalia, Egypt create VBDs vulnerability. WHO provides essential coordination in humanitarian settings.

VBDs - WHO Strategic Priority

Normative & Standard-Setting

Global guidelines, protocols, prequalification of tools (VCAG/WHOPES), pesticide evaluation

Surveillance & Early Warning

EWARS/EWARN, Global Vector Hub, DHIS2 VBD modules, IHR Event Information Site, WHO threat maps

Capacity Building

IVM training, field entomology hubs, eLearning platforms, VCNA and national plan development



Coordination convening power
Technical support
Norm-setter

Coordination & Partnerships

Quadripartite, WHO collaborating centers, National One Health platforms

Research & Innovation

New tool prequalification (new LLINs, spatial repellents, endectocides, malaria and dengue vaccines), resistance monitoring for both vectors and parasites, trials

Preparedness, Emergency & Operational Support

SimEx, Surge deployment, outbreak response teams, humanitarian settings VBD SOPs, Joint risk assessment

Challenges across WHO regions

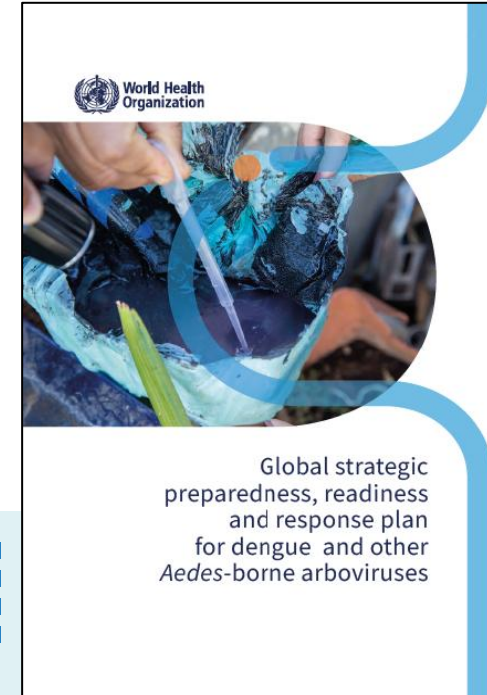
- **Technical**
 - Limited technical expertise
 - Insufficient human capacity
- **Environmental**
 - Competence: 2 vectors transmit >4 arboviral diseases
 - Unpredictable, uncontrollable changes; urbanization
 - Climate Change impact
- **Movement of humans, animals and goods**
 - Increased travel/trade
 - Increasing Number of IDPs and refugees to and from endemic areas
- **Biological threats**
 - Insecticide resistance; lack of global IR data
 - Species invasion and cryptic breeding
 - Drug resistance and HRP2 gene deletion
- **Insufficient investment on new VC tools**
 - Test guidelines & GLP labs
- **Structural**
 - Weak vector surveillance and significant gap on updated entomological knowledge
 - Inadequate laboratory and diagnostic systems
 - Weak evidence-base decision making ; poor linkage of entomological, epidemiological and intervention data
 - Fragmented data and late detection
- **Conflict and political instability**
- **Lack of financial resources; synergies among sectors not leveraged**

WHO tools & Initiatives

Global vector control response framework



World Health Organization TDR For research on diseases of poverty



Global strategic preparedness, readiness and response plan for dengue and other Aedes-borne arboviruses

Collaborative surveillance
Strong national integrated disease, threat and vulnerability surveillance
Effective diagnostics and laboratory capacity for pathogen and genomic surveillance
Collaborative approaches for event detection, risk assessment and response monitoring

Community protection
Community engagement risk communication and infodemic management
Population and environmental public health interventions
Multisectoral action for social and economic protection



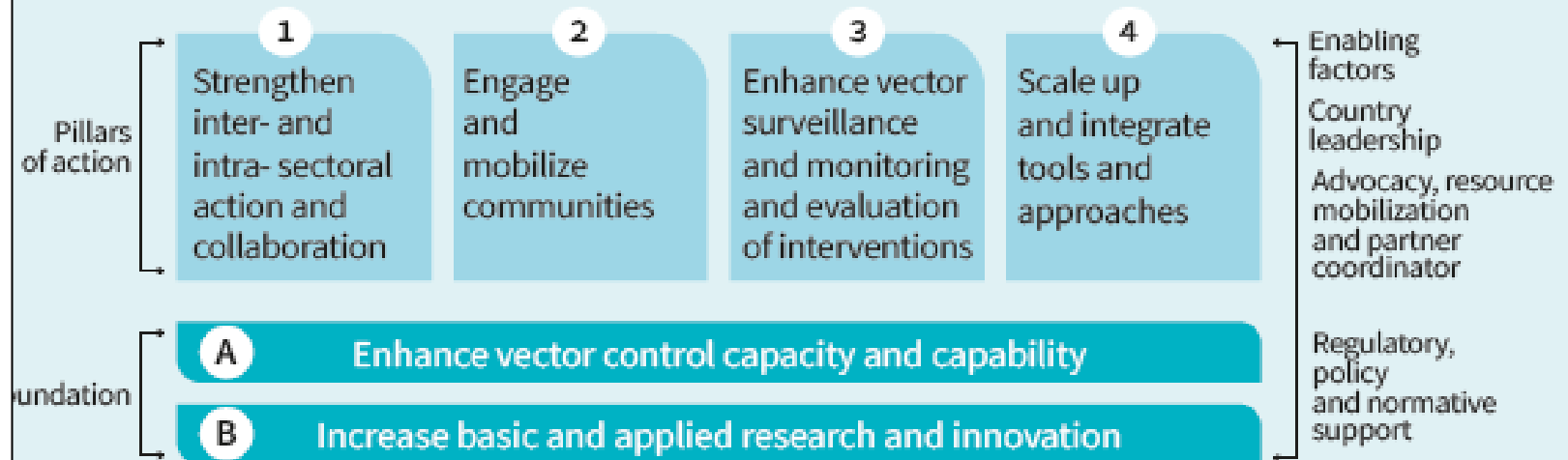
Safe and scalable care
Scalable clinical care during emergencies
Protection of health workers and patients
Maintenance of essential health services

Access to countermeasures
Fast tracked Research and Development
Scalable manufacturing platforms
Coordinated supply chains & emergency

Emergency coordination
Strengthened workforce capacity for health emergencies
Strengthening health emergency preparedness, readiness and resilience
Health emergency alert and response coordination

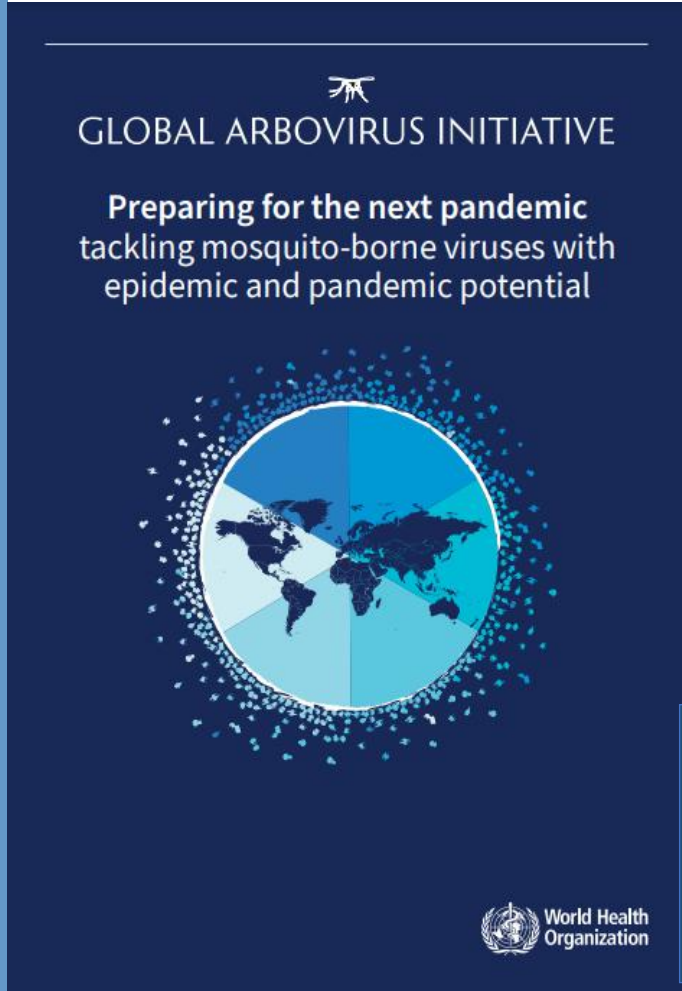
Reduce the burden and threat of vector-borne diseases that affect humans

Effective locally adapted sustainable vector control




WHO tools & Initiatives

Global arbovirus initiative pillars

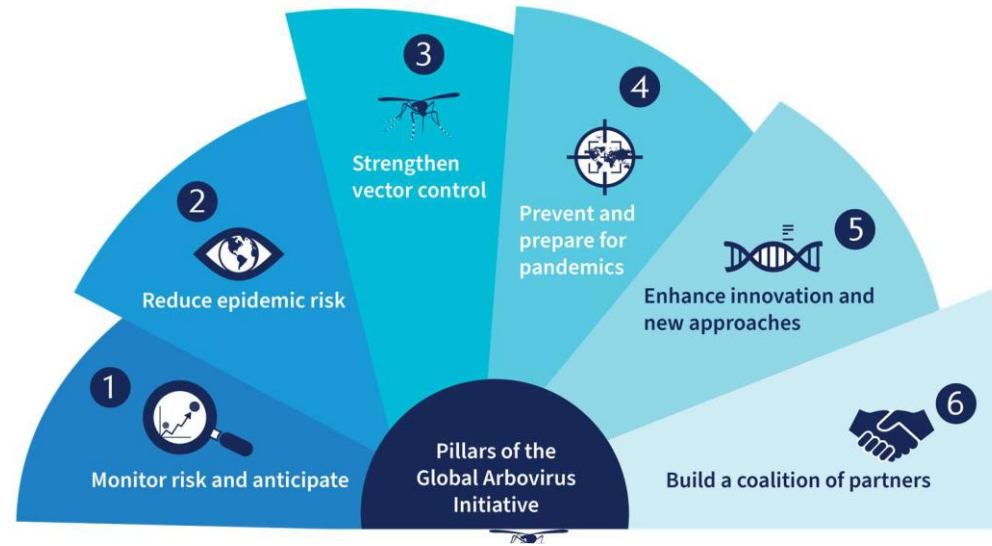


GLOBAL ARBOVIRUS INITIATIVE

Preparing for the next pandemic tackling mosquito-borne viruses with epidemic and pandemic potential



World Health Organization



Pillar 3. Strengthen vector control

<https://www.who.int/initiatives/global-arbovirus-initiative>

Pillar 3 in the GAI: to reduce mosquito densities to limit human infections and prevent transmission of arboviruses with epidemic and pandemic potential, in alignment with the Global vector control response 2017– 2030.

Priority actions:



1. Enhance environmental and vector surveillance



2. Strengthen cross-sectoral vector control

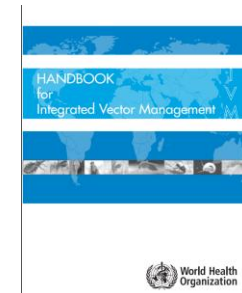


3. Increase preparedness in urban and densely populated areas

WHO tools & Initiatives

➤ **Handbook for integrated vector management**

optimize the use of resources for vector control. The aim of the IVM approach is to contribute to achievement of the global targets set for vector-borne disease control, by making vector control more efficient, cost effective, ecologically sound and sustainable



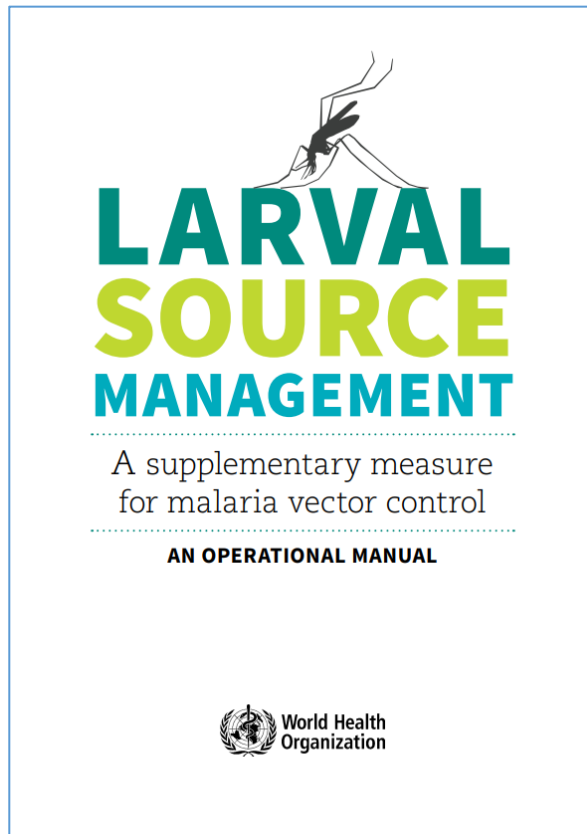
➤ **Eliminating Yellow Fever Epidemics (EYE Strategy, 2017-2026)**

Protect at-risk populations
Prevent international spread
Rapidly contain outbreaks



WHO tools & Initiatives (4)

Larval Source Management-WHO Guidance



<https://iris.who.int/handle/10665/85070>



Under review for
update of guidance

**OPERATIONAL MANUAL
ON LARVAL SOURCE
MANAGEMENT:**

Control of *Anopheles* and
Aedes mosquito vectors

RELEASE OF MODIFIED, TRANSGENIC OR STERILE VECTORS to suppress or replace wild populations



WOLBACHIA: Microbial control of human pathogens in adult vectors. Proved public health value

Replacement strategy

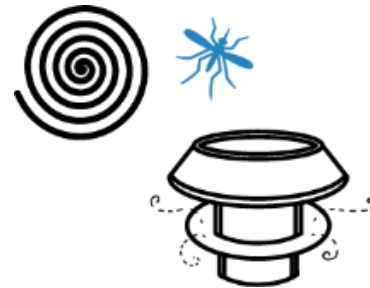
Goal: Establish a dominant *Wolbachia-Aedes* population that is resistant to infection

Suppression strategy (IIT)

Goal: Reduce mosquito population to a level that inhibits disease transmission

Novel Vector Control

SPATIAL REPELLENTS to stop vector entry into households and other areas



Spatial repellent/emanator (Transfluthrin) SC Johnson Mosquito Shield and SC Johnson Guardian are WHO PQ (Aug 2025). WHO recommendation as a supplementary intervention for malaria vector control

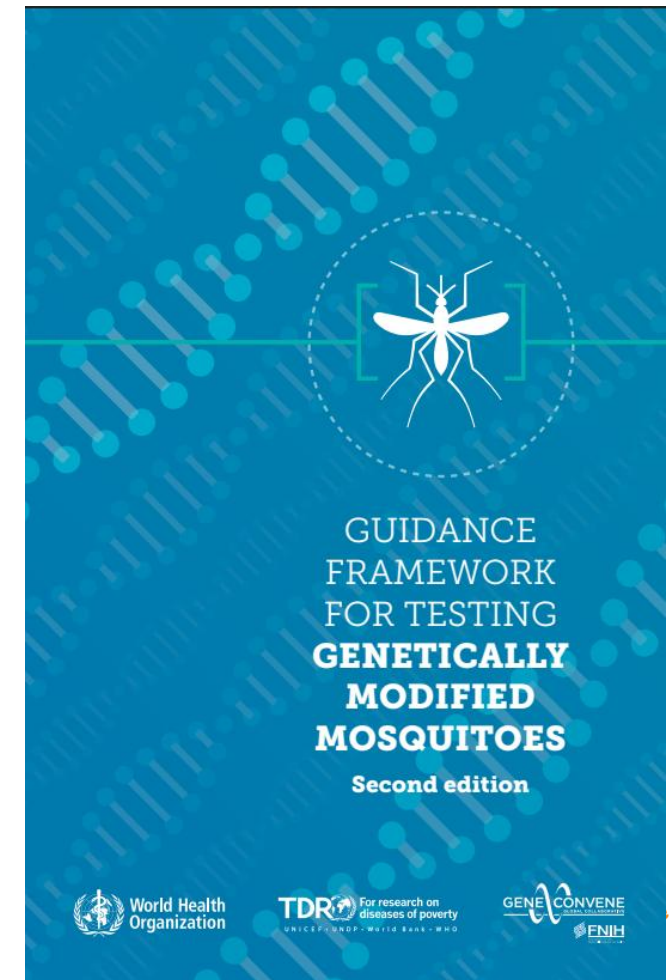
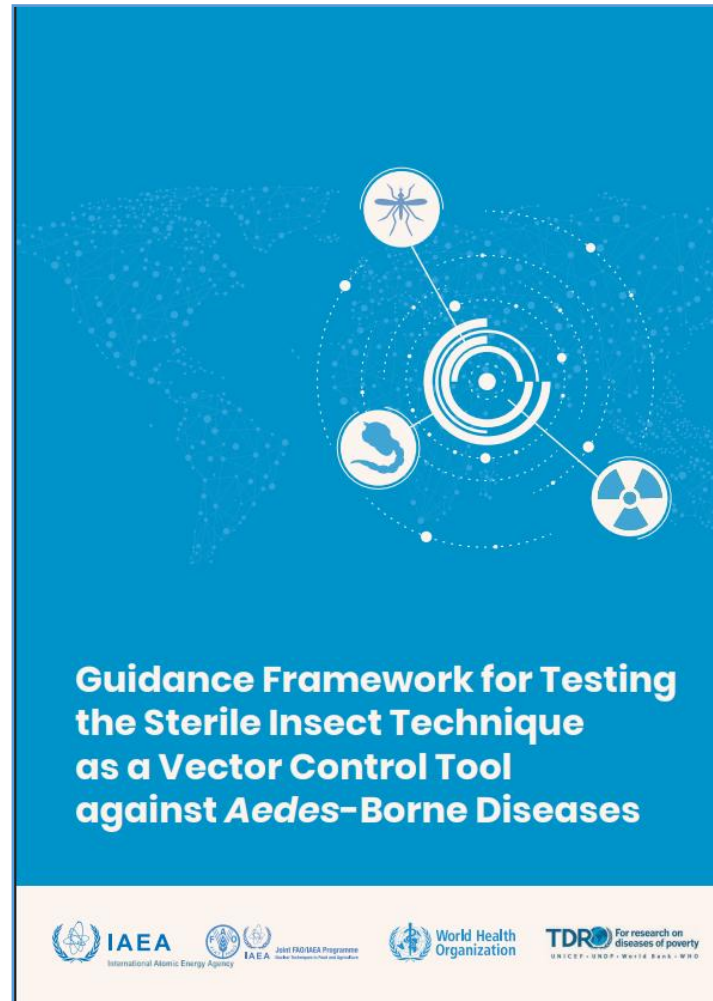
VECTOR TRAPS AND TARGETS with or without toxic baits for control/ surveillance



WHO Guidance on Novel vector control under evaluation SIT & GMMs

Operational manual on indoor residual spraying

Control of vectors of malaria, *Aedes*-borne diseases, Chagas disease, leishmaniases and lymphatic filariasis

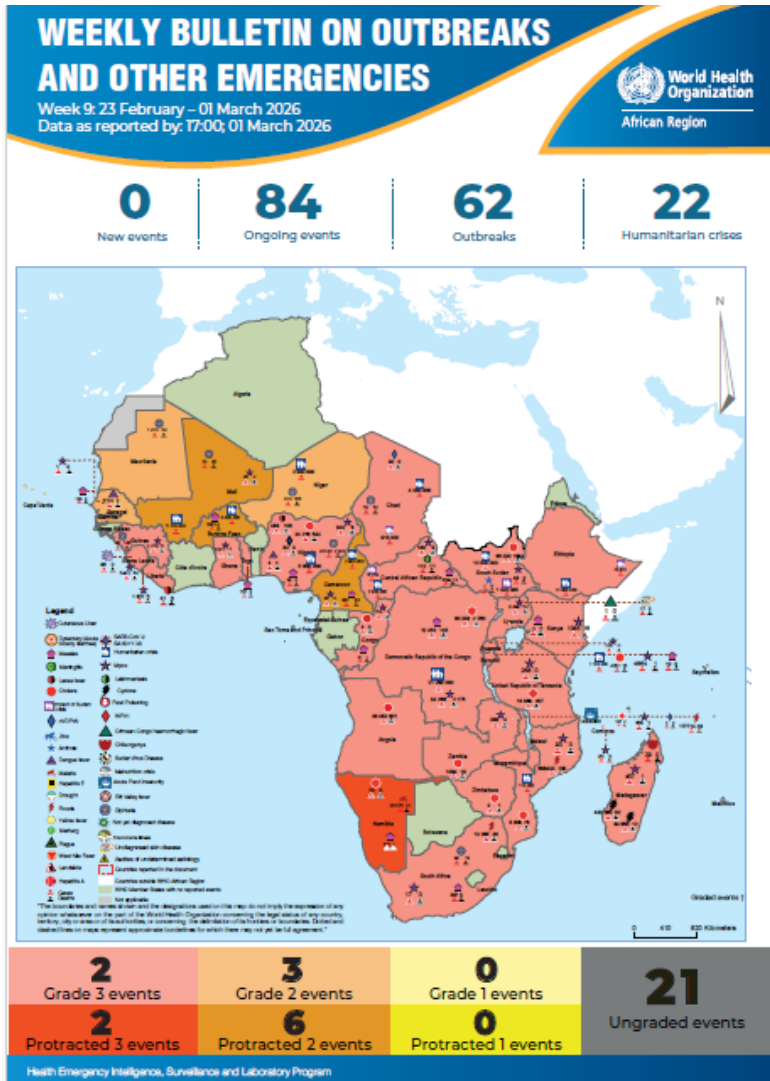


<https://iris.who.int/handle/10665/331679>.

<https://iris.who.int/handle/10665/341370>
Together for a healthier future
Action. Access. Equity.

Activities, Projects & Tools at regional level

WHO Regional Office for Africa - Emergencies in the African Region - Week 9



Week 9: 23 February – 01 March 2026
 (Over 100 public health events reported annually in the region)

- Chikungunya
- Dengue
- Rift Valley Fever
- West Nile Virus
- Yellow Fever
- Zika virus
- CCHF

Mosquitos



Ticks



- Control of Neglected Tropical Diseases (NTD)
- WHO Health Emergencies Programme (WHE)

Arboviruses risk matrix in WHO AFRO from 2020 to 2026

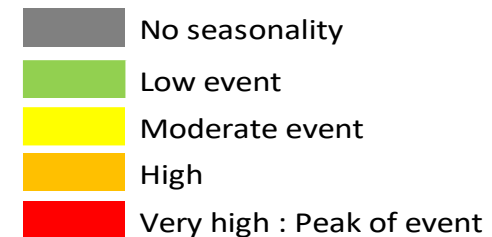
Impact →	Likelihood →				
	Very unlikely	Unlikely	Likely	Very likely	Almost certain
Critical				• Rift Valley Fever(Rwanda)	
Severe	<ul style="list-style-type: none"> • Crimean-Congo HF (Cote d'Ivoire) • Yellow Fever (Guinea Bissau) 	<ul style="list-style-type: none"> • Arbovirus (Equatorial Guinea) • Dengue (Congo Republic) • Rift Valley Fever(Madagascar) 	<ul style="list-style-type: none"> • Chikungunya (Madagascar) • Crimean-Congo HF (Mali) • Dengue (Madagascar) • Yellow Fever (Mali) • Yellow Fever (Tanzania) 	<ul style="list-style-type: none"> • Chikungunya (Kenya) • Dengue (Central African Republic) • Dengue (Angola) • Rift Valley Fever(Mauritania) • Rift Valley Fever(Kenya) • Yellow Fever (Nigeria) • Zika Virus (Burkina Faso) 	<ul style="list-style-type: none"> • Chikungunya (Cabo Verde) • Dengue (Cabo Verde) • Dengue (Burkina Faso) • Dengue (Sao Tome and Principe) • West Nile Virus (Cabo Verde) • Yellow Fever (Gabon) • Yellow Fever (Cameroon) • Yellow Fever (Congo Republic) • Zika Virus (Cabo Verde)
Moderate	<ul style="list-style-type: none"> • Chikungunya (Burkina Faso) • Rift Valley Fever(Central African Republic) • Rift Valley Fever(Cote d'Ivoire) • Rift Valley Fever(Congo Republic) • Yellow Fever (Benin) • Yellow Fever (Burundi) • Yellow Fever (South Africa) • Zika Virus (South Africa) 	<ul style="list-style-type: none"> • Chikungunya (Cote d'Ivoire) • Chikungunya (Guinea Bissau) • Dengue (Guinea Bissau) • Yellow Fever (Senegal) • Yellow Fever (Angola) • Zika Virus (Guinea Bissau) 	<ul style="list-style-type: none"> • Chikungunya (Congo Republic) • Rift Valley Fever(Mali) • Rift Valley Fever(Tanzania) • Rift Valley Fever(South Sudan) • Yellow Fever (Ghana) • Yellow Fever (South Sudan) 	<ul style="list-style-type: none"> • Chikungunya (Mauritania) • Chikungunya (Benin) • Dengue (Mauritania) • Dengue (Benin) • Rift Valley Fever(Senegal) • Yellow Fever (Burkina Faso) • Yellow Fever (Central African Republic) • Yellow Fever (Cote d'Ivoire) • Yellow Fever (Guinea) 	<ul style="list-style-type: none"> • Chikungunya (Senegal) • Crimean-Congo HF (Senegal) • Crimean-Congo HF (Namibia) • Dengue (Cote d'Ivoire) • Dengue (Togo) • Dengue (Kenya) • Dengue (Senegal) • Yellow Fever (Kenya)
Minor	<ul style="list-style-type: none"> • Rift Valley Fever(Namibia) • Yellow Fever (Zambia) 	<ul style="list-style-type: none"> • Rift Valley Fever(South Africa) • Zika Virus (Gabon) 	<ul style="list-style-type: none"> • Yellow Fever (Togo) • Zika Virus (Cote d'Ivoire) 	<ul style="list-style-type: none"> • Chikungunya (Gabon) • Dengue (Gabon) • Rift Valley Fever(Burundi) 	
Negligible					

The risk matrix presents probability in relation to impact and provides a simple overview of the results, clearly showing the priority hazards for preparedness and risk reduction activities.

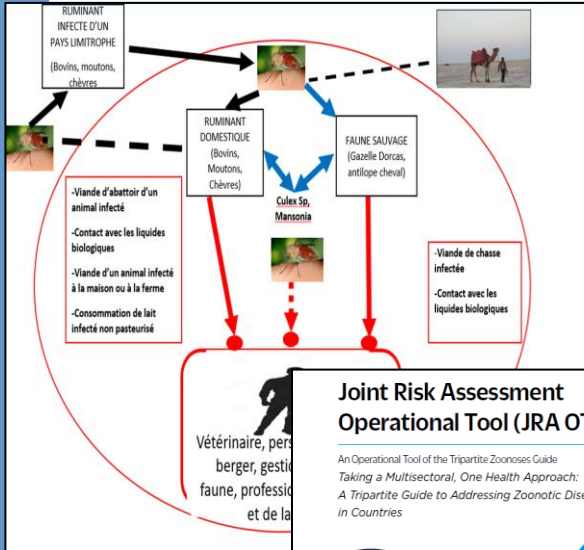
Probability is defined using historical information about the hazard, recent trends in the country or sub-region, and the frequency and seasonality of each hazard

Arboviruses risk calendar in WHO AFRO from 2020 to 2026

Country	STAR Year	Hazard	Risk level	Months												
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Mozambique	2022	Arbovirus	High													
Equatorial Guinea	2023		Moderate													
Cabo Verde	2025	Chikungunya	Very high													
Mauritania	2026		High													
Benin	2025		High													
Madagascar	2025		High													
Kenya	2023		High													
Senegal	2023		High													
Gabon	2025		Moderate													
Congo Republic	2022		Moderate													
Cote d'Ivoire	2024		Low													
Guinea Bissau	2024		Low													
Burkina Faso	2024		Very Low													



WHO Regional Office for Africa - Enhancing One Health Capacities in Countries



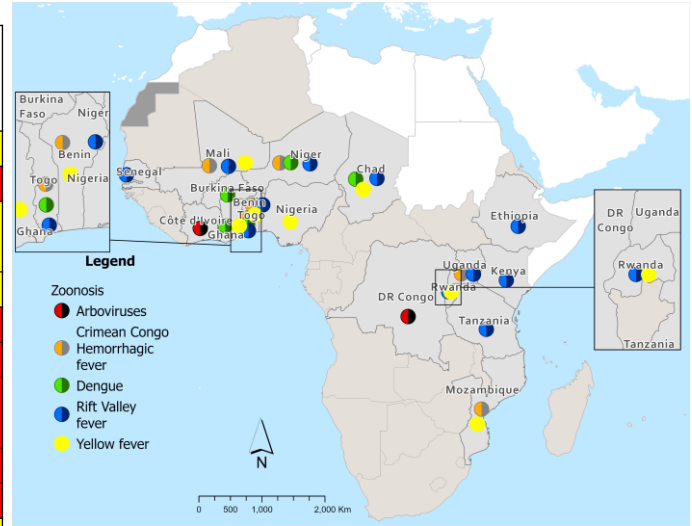
RVF		TZA	SEN	MRT	NER	BEN	ZAF	MLI
Card No	Technical area (cards)							
1	Coordination at high level	Green	Yellow	Yellow	Green	Red	Green	Yellow
2	Coordination at local level	Red	Red	Yellow	Yellow	Red	Green	Red
3	Coordination at technical level	Yellow	Yellow	Yellow	Yellow	Red	Yellow	Yellow
4	Legislation/Regulation	Yellow	Yellow	Yellow	Red	Yellow	Green	Yellow
5	Finance	Red	Red	Red	Yellow	Red	Yellow	Red
6	Communication w/media	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Yellow
7	Communication w/stakeholders	Yellow	Yellow	Yellow	Yellow	Red	Green	Yellow
8	Field investigation	Red	Green	Yellow	Green	Yellow	Yellow	Yellow
9	Risk assessment	Yellow	Yellow	Yellow	Red	Red	Yellow	Red
10	Joint surveillance	Red	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
11	Laboratory	Red	Green	Yellow	Yellow	Red	Yellow	Yellow
12	Response	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
13	Education and training	Yellow	Yellow	Red	Yellow	Red	Yellow	Yellow
14	Emergency funding	Yellow	Yellow	Yellow	Red	Red	Yellow	Red
15	Human resources	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
16	Logisitcs	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Total number of times collaboration was assessed to be good		2	2	0	2	0	5	0
% when collaboration was evaluated to be good		13%	13%	0%	13%	0%	33%	0%

Joint Risk Assessment Operational Tool (JRA OT)

An Operational Tool of the Tripartite Zoonoses Guide
Taking a Multisectoral, One Health Approach:
A Tripartite Guide to Addressing Zoonotic Diseases in Countries



Joint Risk Assessment for RVF



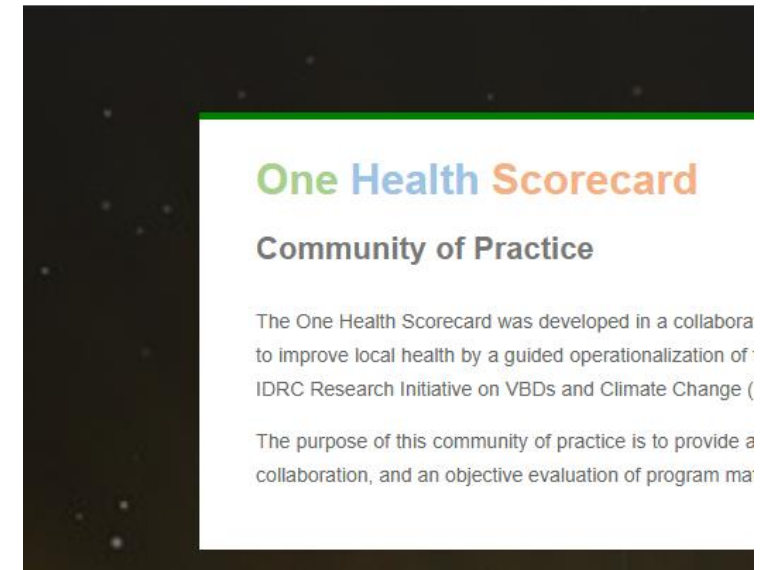
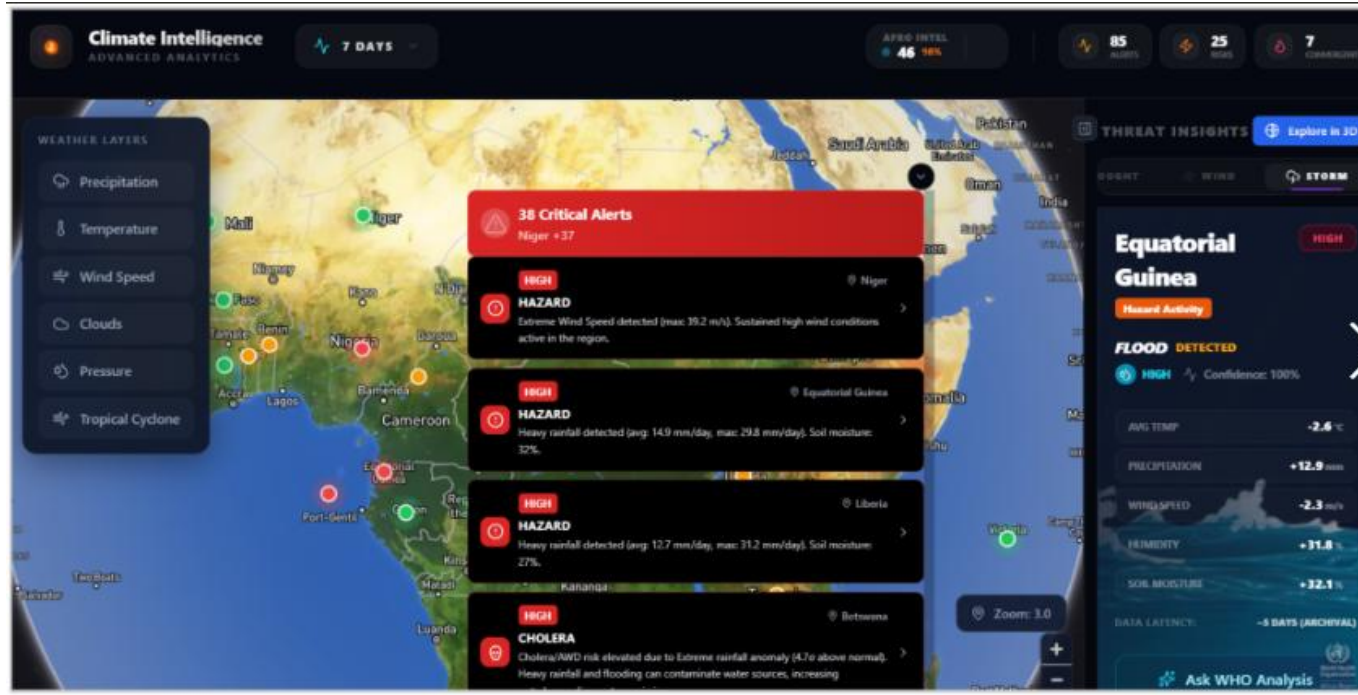
One Health Zoonotic Disease prioritization

Economic Community of West African States Region (ECOWAS): Rift Valley fever, Crimean Congo Hemorrhagic fever, and yellow fever

Level of the cross-sectoral collaboration for the RVF outbreak management (IHR-PVS NBW)



WHO Regional Office for Africa – Innovative tools



- WHO AFRO's Preparedness Data Exchange (PDX)
- AI-powered health security intelligence system
- Covering all 47 WHO African Member States

WHO One Health Scorecard Platform



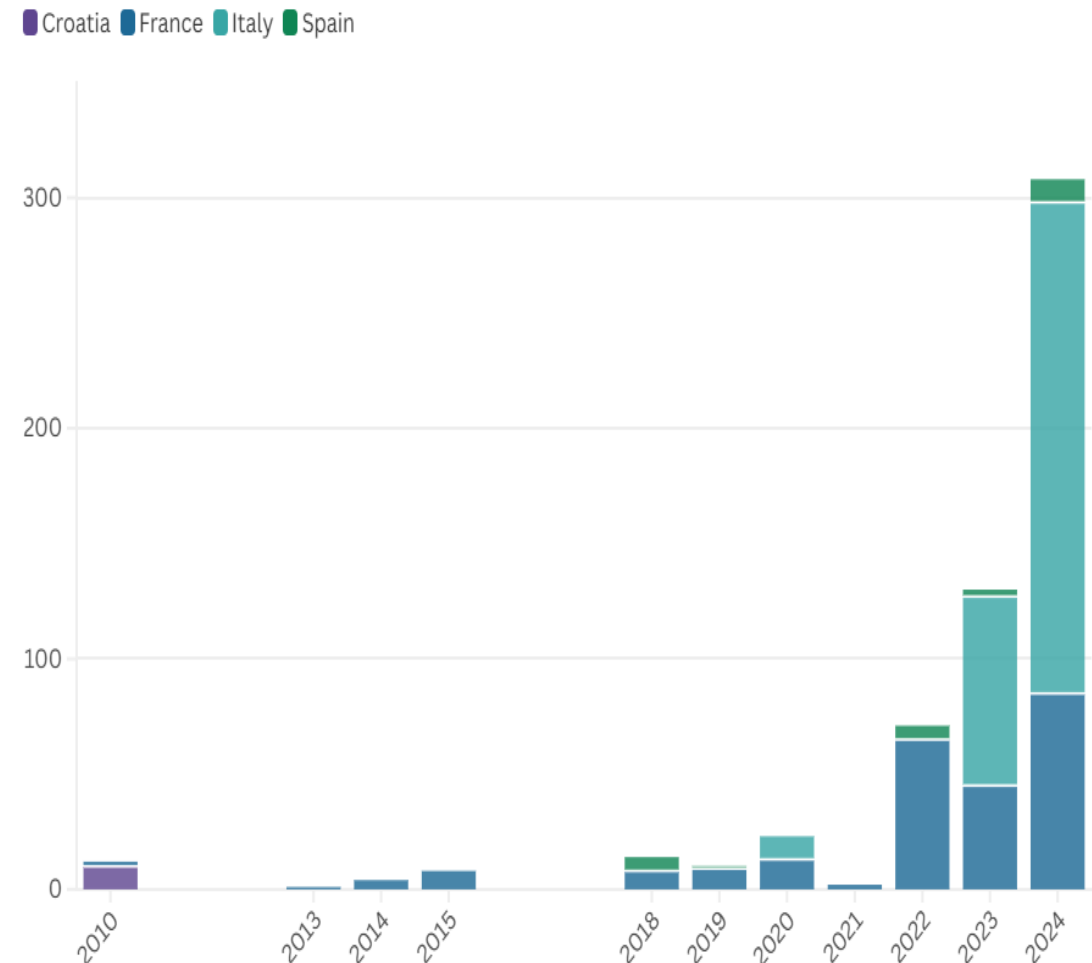
WHO Regional Office for Europe

Background:

- July – Oct 2024
- Dengue - reported by 3 countries:
ESP=10, FRA=85, ITA=213;
- Zika - no reported autochthonous cases
- Chikungunya - reported by 1 country: FRA=1 (July)

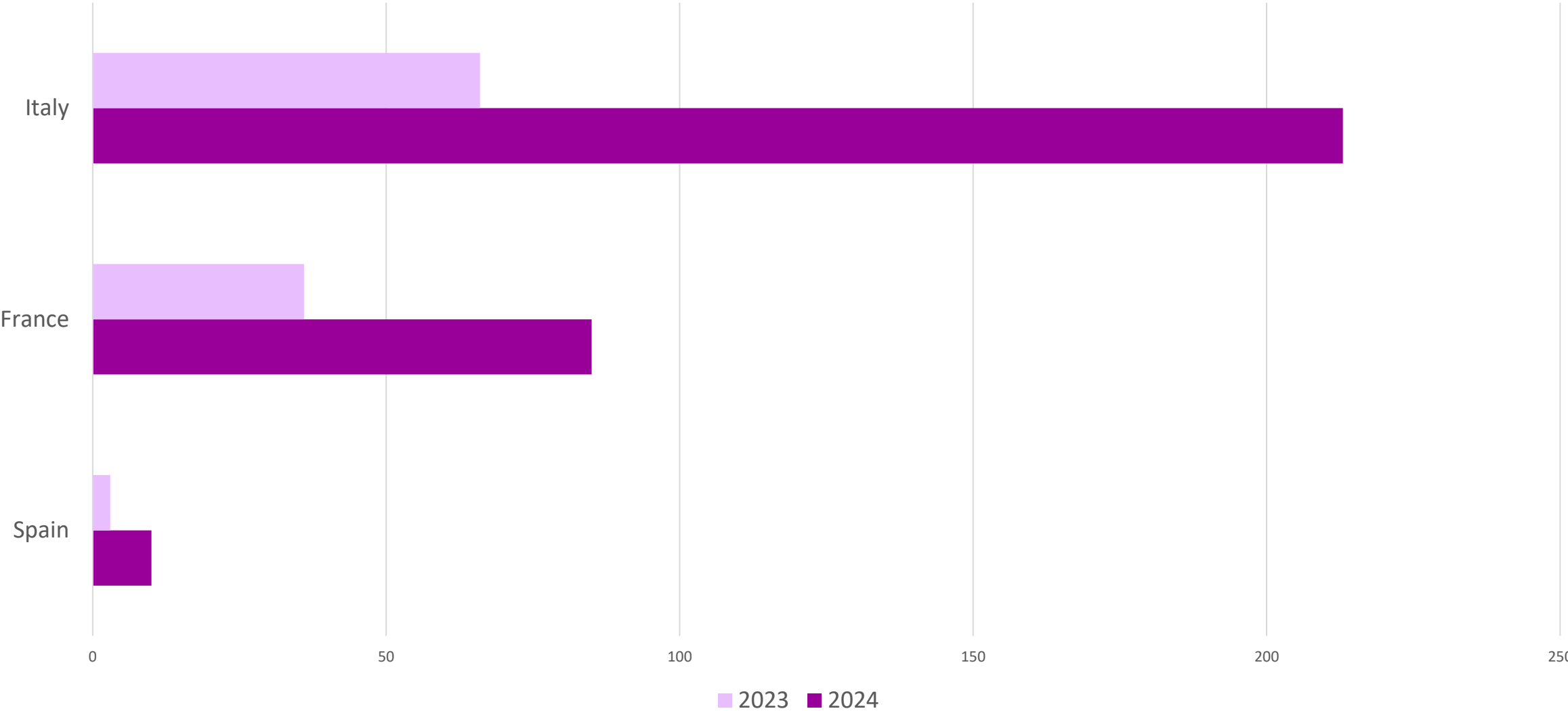
Outbreak in Madeira,
PT (2012): 2187 cases

Cases of autochthonous dengue reported in European Region since 2010, by year



Locally acquired dengue cases EURO Region, 2023 – 2024

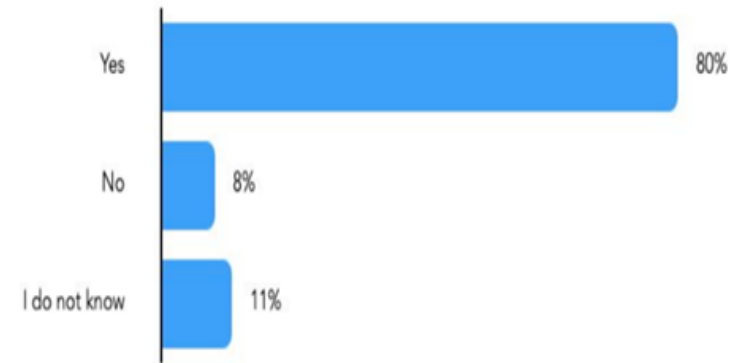
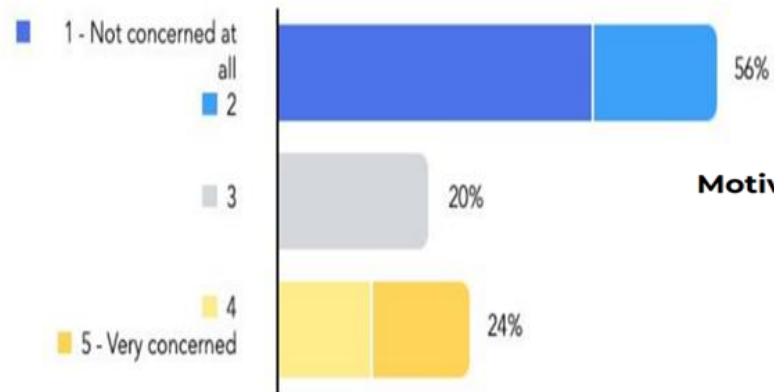
Captured through IHR and EIOS surveillance



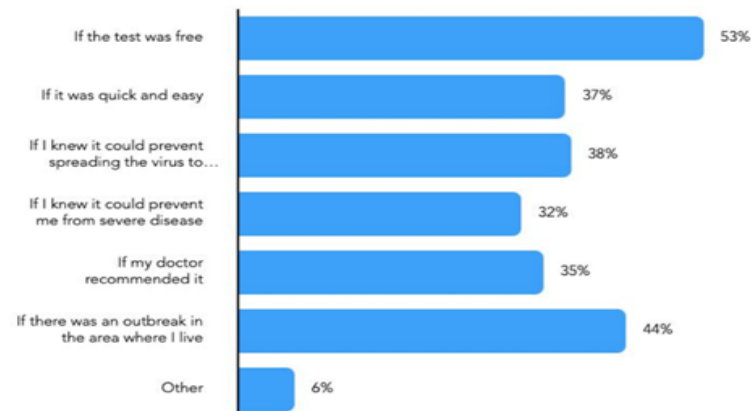
WHO Regional Office for Europe Community Risk Assessment

Suspect dengue: If you suspect that you have dengue, it is important to do a blood test to confirm infection. Would you get tested if you think you might have dengue?

Concern: How concerned are you about getting dengue fever?



Motivation to test: Which of these factors would motivate you to get tested for dengue? (Select all that apply)

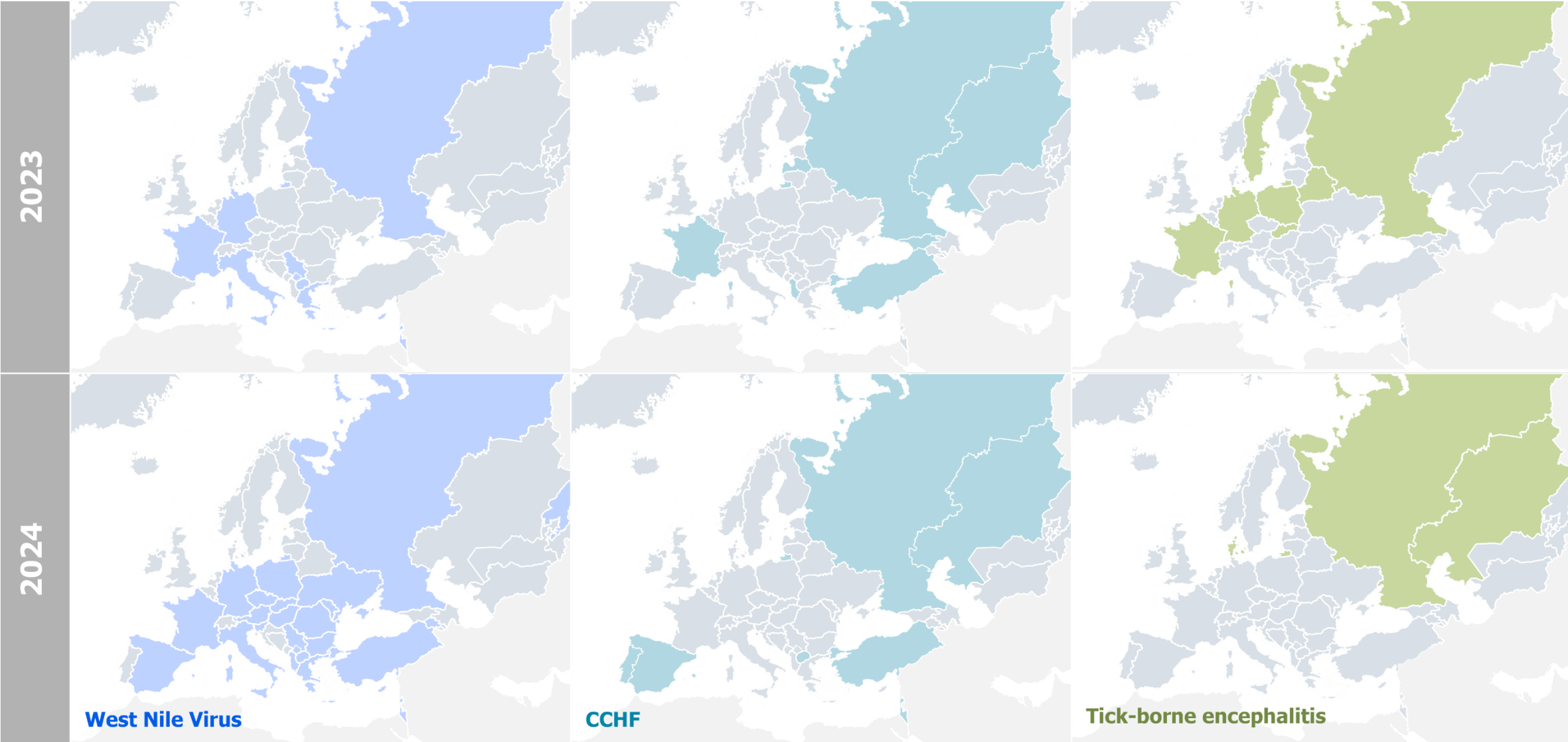


Key Findings

- While most respondents (56%) were not concerned about getting dengue fever, 24% responded that they were 'Concerned' or 'Very concerned'.
- 80% said they would get tested if they thought they had dengue.
- The top four reasons for not getting tested were a perceived lack of risk (36%), the belief that testing is unnecessary without symptoms (21%), uncertainty about symptoms (19%), and uncertainty about where to get tested (15%).
- The most selected factor that would motivate respondents to get tested for dengue was if the test was free (53%). All other factors followed closely behind. Only a small percentage selected 'Other' (6%).
- The majority of respondents described the messages about who should get tested as 'Clear' or 'Very clear'. The following messages were mostly described as 'Helpful' and 'Very helpful' and 67% of respondents said the messages made them more likely to get tested for dengue if they suspected that they were infected.

Detection of WNV, CCHF, TBE in the European Region, 2023-2024

Captured through IHR and EIOS surveillance



2023

2024

West Nile Virus

CCHF

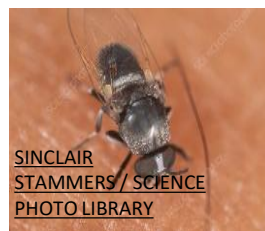
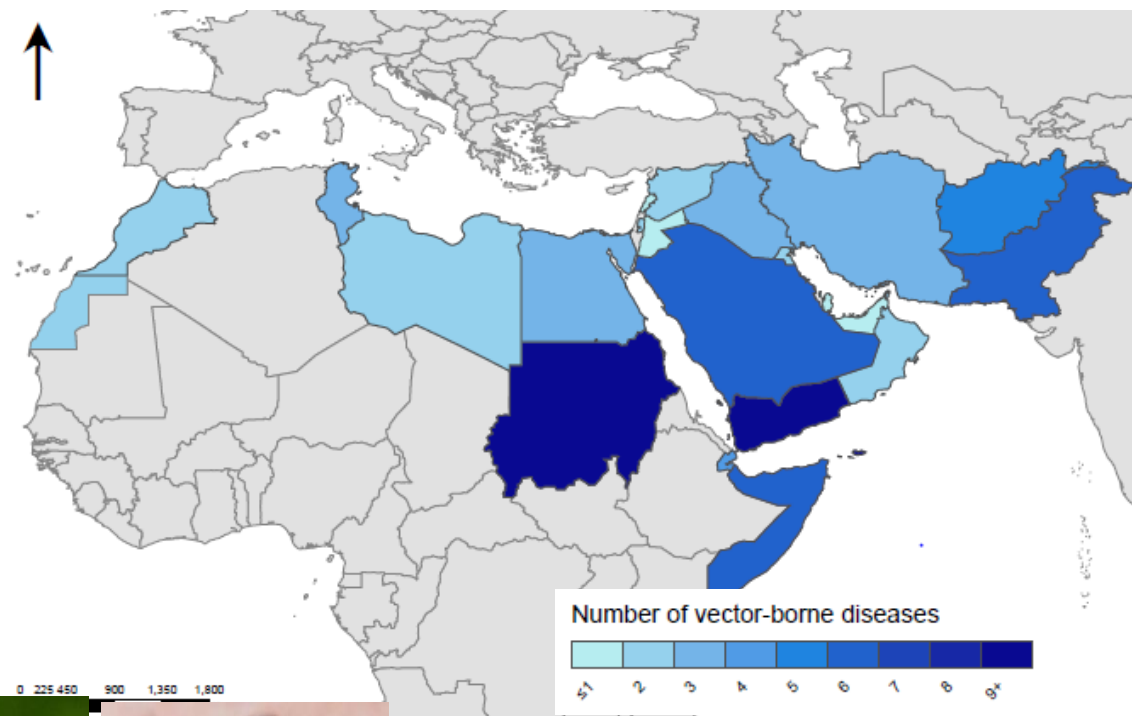
Tick-borne encephalitis

WHO Eastern Mediterranean Regional

Major vector-borne diseases

- **Malaria**
- **Aedes-borne diseases** yellow-fever, dengue and chikungunya
- **Leishmaniasis:** Cutaneous leishmaniasis, visceral leishmaniasis
- **Zoonoses** risk of animal and human outbreaks. Crimean-Congo Haemorrhagic fever (CCHF), Rift Valley Fever (RVF) and zoonotic leishmaniasis (ZCL, ZVL), West Nile Fever (WNF)
- **Schistosomiasis**
- **Onchocerciasis**-sowda form
- **Lymphatic filariasis**

Overlapping Distribution of Reported Vector Borne diseases in Eastern Mediterranean Region (2017-2022)



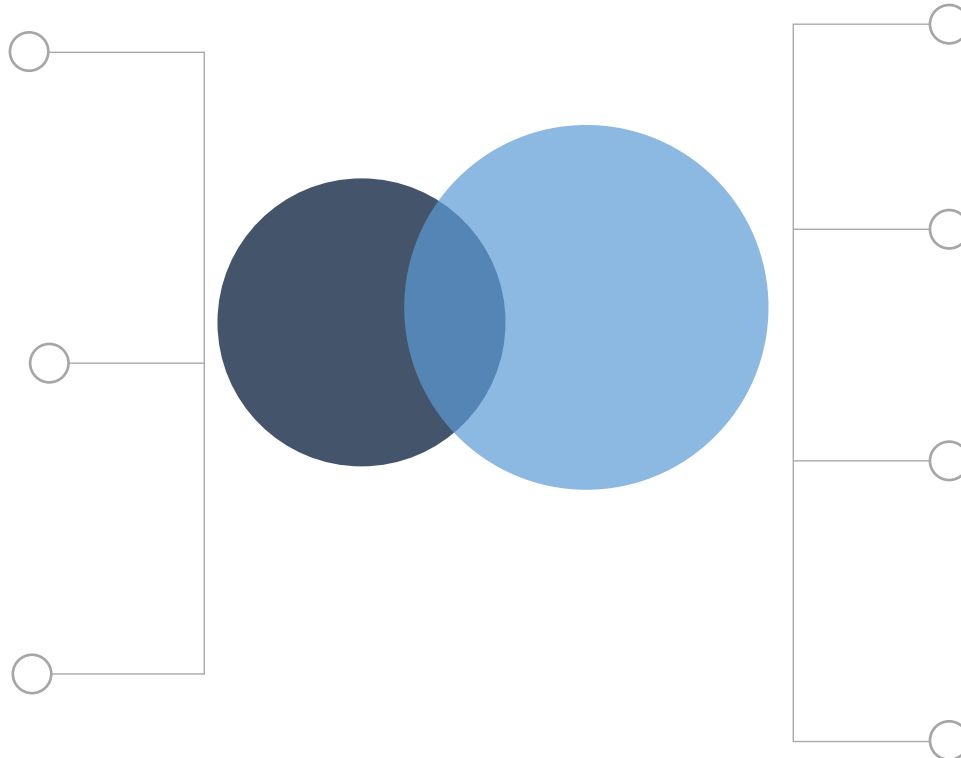
WHO Eastern Mediterranean Regional Building MENA malaria knowledge platform:

Integrating data on malaria's natural extent, vector species distributions, and historical parasite prevalence

Build a **geo-coded inventory** of
dominant and secondary
malaria **vectors**

Build a historical
understanding of malaria
parasite **prevalence**
(endemicity) pre-elimination

Establish the **limits of**
potential malaria
transmission in the region



Refined entomological maps with
up-to-date spatial risk assessments

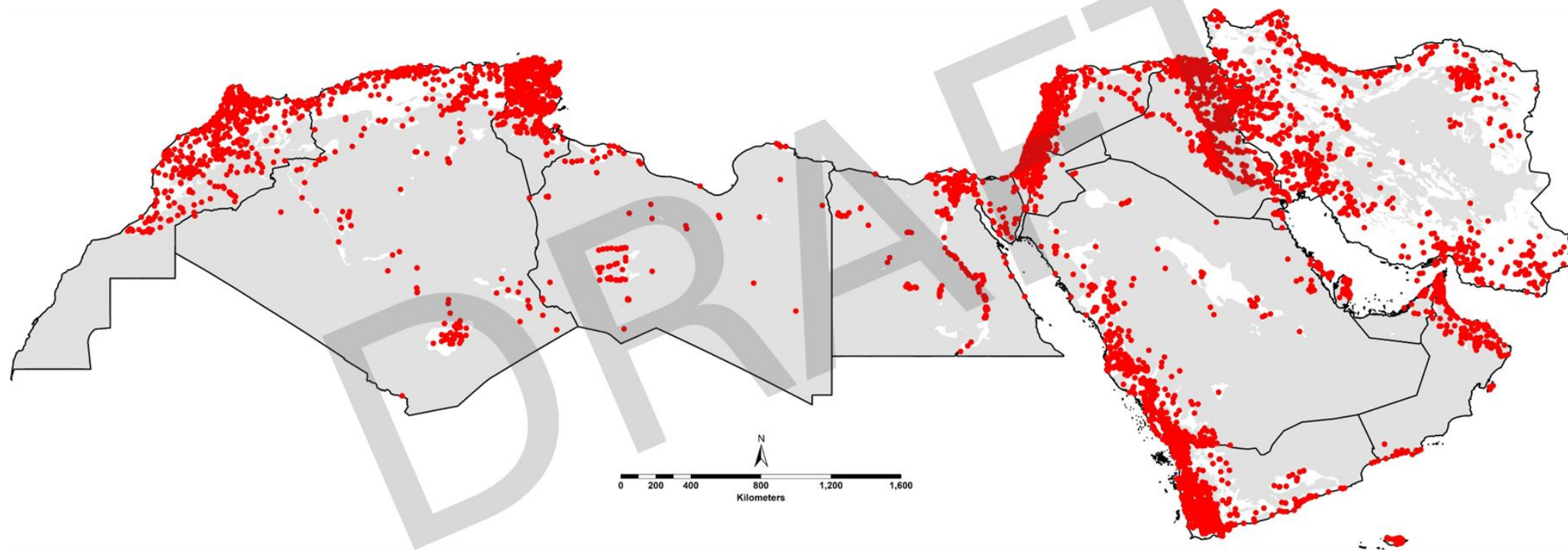
Targeted surveillance, prioritization
and **efficient allocation of**
resources

Dynamic, data-driven **decision**
making to support elimination and
safeguard gains

Strengthened national and regional
capacity in spatial-temporal data
analytics, promoting use of model-
based geostatistics

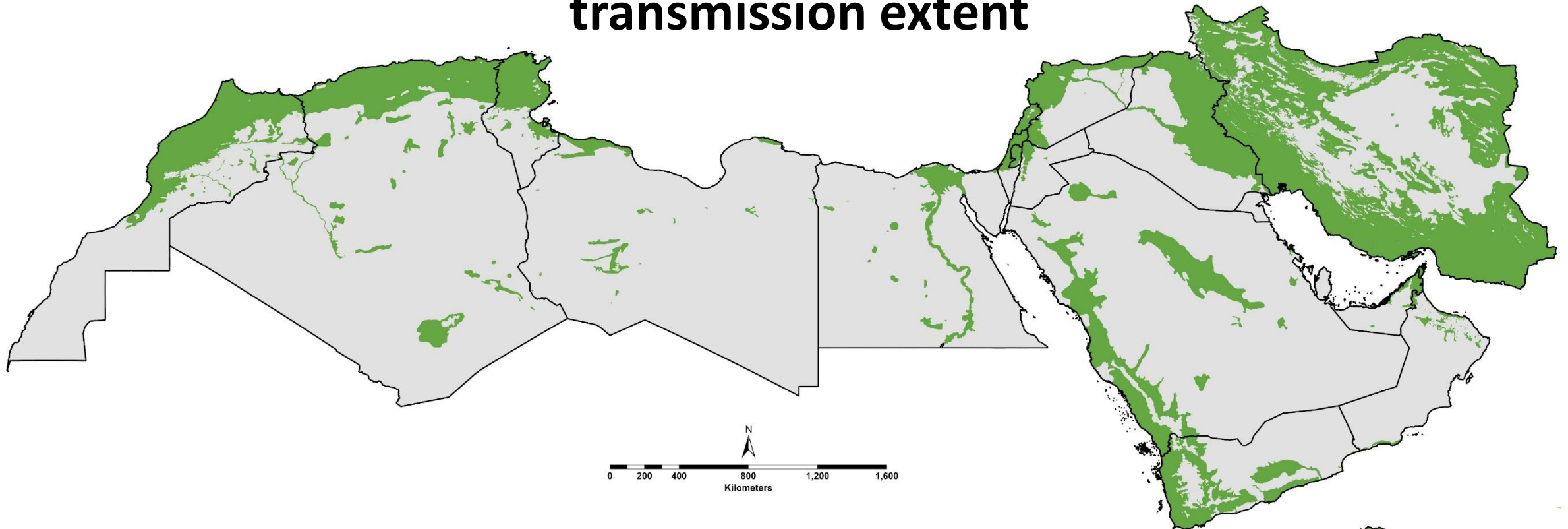
WHO Eastern Mediterranean Regional

Inventory of all Anophelines sampled at **9,516** time-sites at **8,255** unique locations between 1901 and 2025



First updated vector inventory since 1960s; Represents the largest and comprehensive inventory of *Anopheles* mosquitoes in MENA region for over 125 years of fragmented entomological information into a **single, accessible resource**

Final composite **environmentally suitable/historical** malaria transmission extent



Integration with malaria: mapping suitability of vector-borne diseases transmission

Phase 2 (malaria as a pathfinder) – learning & scale-up to VBDs/NTDs

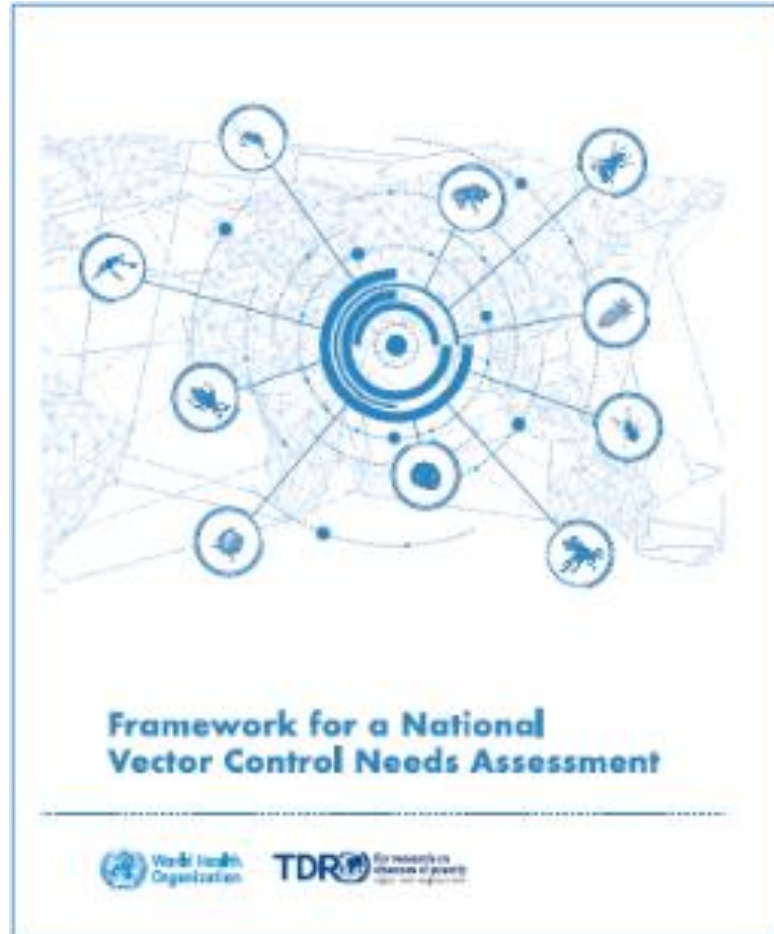
Accessible **vector data** at a regional level

Build a group of **national and regional vector-borne disease modelers** for niche/receptivity modelling

Build an **epidemiological understanding of importation risk analysis**

Tool accessible to countries for **strategy development and integrated monitoring**

Priority activity: Conduct/update vector control needs assessments



<https://iris.who.int/handle/10665/259405>

Country	Countries that have conducted/updated VCNA
Afghanistan	2015
Djibouti	2006
Egypt	2025
Iran	2018
Iraq	2018
Jordan	2025
Morocco	2018
Oman	2020
Qatar	2024
Somalia	2021
Sudan	2019
Syria	2006
Yemen	2023

VCNA guides planning and resource mobilization for implementing the national vector control strategic plans in line with the GVCR priority activity

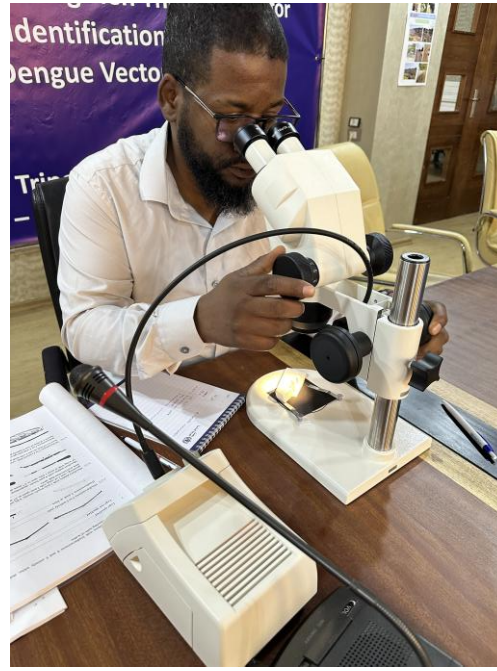


HANMAT established in 2004 and **PIAM-Net** in 2008.

Scope of work: Monitoring and response to biological threats:

- Drug and **insecticide resistance**
- HRP2/3 gene deletion
- **Invasive vectors (*Aedes aegypti*/*Ae. albopictus* and *An. stephensi*)**
- Climate sensitive VBDs

Current Partners: HQ NTD and GMP, CDC, Atlanta US, NEA Singapore, TUMS, IRD, Montpellier AHRI, & TIDRC Jimma University, Ethiopia, LSHTM University of London & LSTM, University of Liverpool UK, Baylor University, Texas US, TUMS, NAMRU-EURAFCENT



Activities, Projects & Tools at Country level examples: Libya & Tunisia

Libya



WHO-ISS: A joint project to mitigate threats with a focus on arbovirus using the One Health approach

Goal/Impact:

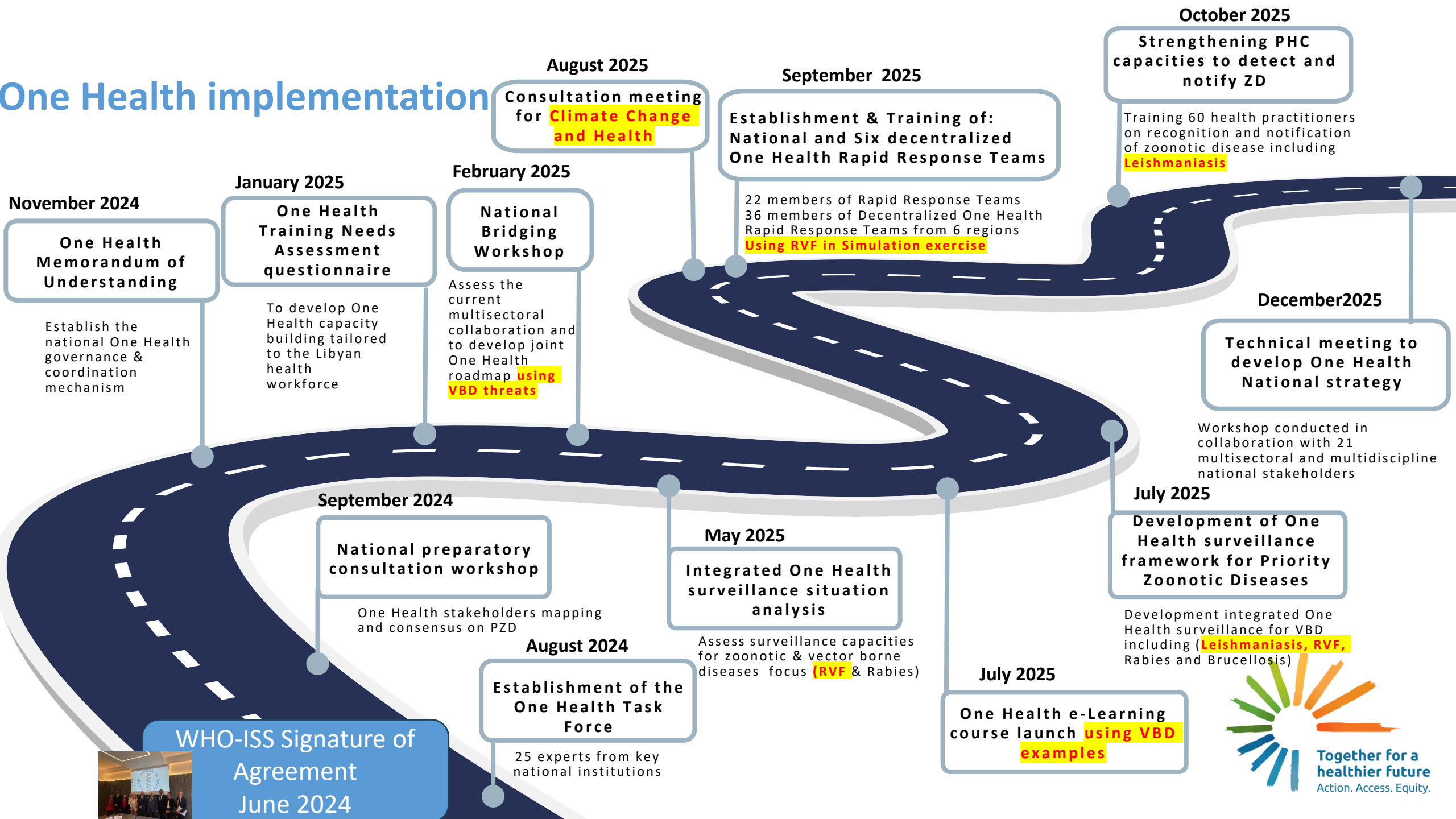
To strengthen Libyan national response to zoonotic infections with a focus on priority arboviral diseases that are endemic and with epidemic or pandemic potential.

Objectives:

- Improve coordination and collaboration among major stakeholders in the control of zoonoses with a focus on priority arboviral diseases
- Improve zoonotic disease surveillance, detection, and response with a focus on priority arboviral diseases through the strengthening of the One Health workforce and surveillance capacities and laboratory testing

Duration: 24 months - June 2024-May 2026

One Health implementation





Situation analysis



Set-up/strengthening of One Health governance and coordination



Planning for implementation



Implementation of national One Health action plans



Review, sharing and incorporation of lessons learned

To develop One Health capacity building tailored to the Libyan health workforce

One Health Training Needs Assessment (TNA)

4 One Health e-Learning training modules

One Health e-Learning module development

Assess surveillance capacities for zoonotic & vector borne diseases focus

Integrated One Health surveillance situation analysis

Establishment & Training of OHRRTs

One Health workforce capacity





Situation analysis



Set-up/strengthening of One Health governance and coordination



Planning for implementation



Implementation of national One Health plans



Review, sharing and incorporation of lessons learned

❑ Establishment & train a **One Health Rapid Response Teams**

Ensure early detection, investigation and response to human, animal and environmental health threats *such as brucellosis, **cutaneous leishmaniasis**, rabies, and **Rift Valley Fever**.*

- **National OHRRT: 30 professionals (core team & roster)**
- **Decentralized OHRRT (Tripoli, Misrata, Sabha, Gharian, Benghazi and Al kofra) : 6 teams 42, professionals**
- **5 days training including 2 days simulation exercise (SimEx)**

❑ **Strengthening Primary Health Care Capacities for the Detection and Management of Zoonotic Diseases**

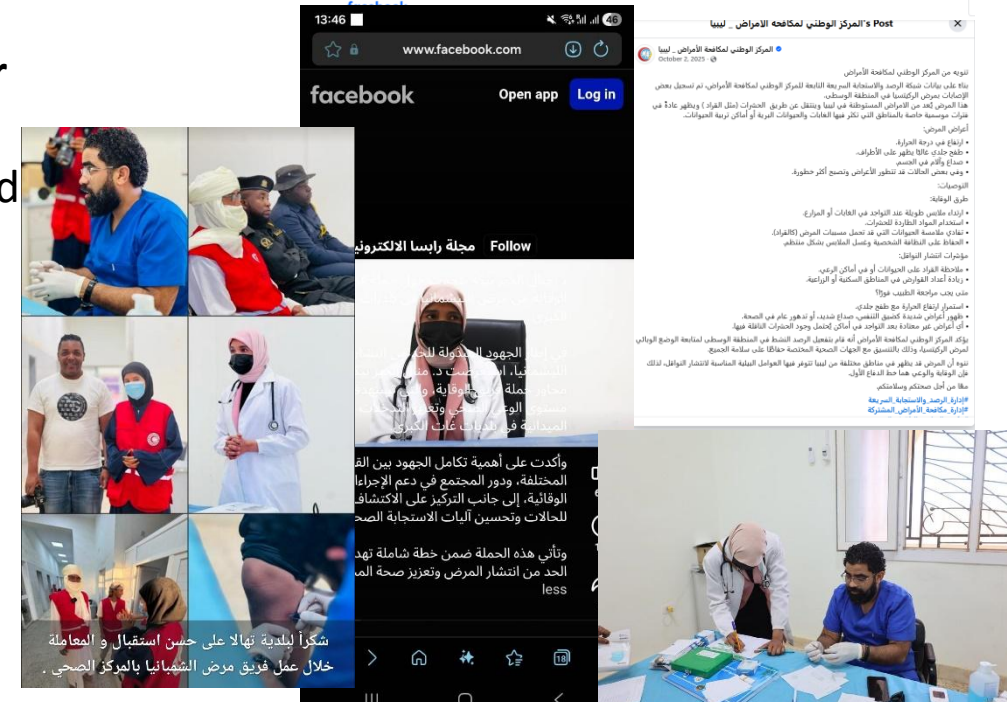
- **60 Frontline primary healthcare workers** knowledge & practical skills needed to recognize and report PZD through national surveillance systems.



Impact: Timely response to Leishmaniasis and rickettsiosis in Libya

Following training on **leishmaniasis detection and case management, vector control** and the strengthening of **One Health Rapid Response Team capacities**, trained national and local teams were able to rapidly support field response activities in southern Libya.

- Earlier detection and reporting
- Faster local response to suspected outbreaks
 - Case management
 - Vector control activity
 - RCCE
- Improved coordination across sectors and local authorities
- **Better protection of vulnerable communities**



Tunisia

Context: Vector-Borne Diseases in Tunisia

Endemic Situation

West Nile Virus

- Human and animal cases reported
- Established vector presence

Risks of Emergence

Dengue → *Aedes albopictus* detected

🔍 **Rift Valley Fever & CCHFV** → Serological evidence in animals

Malaria Status: Malaria-free country

254 imported cases (2024) → ongoing risk

Surveillance & Environment

Active vector surveillance in place

Favorable ecosystems:

- Wetlands
- Irrigation systems
- Peri-urban areas



Aedes albopictus

https://www.caryinstitute.org/sites/default/files/public/2019-10/pr_2019_aedes%20albopictus_cc_cdc_0.jpg

Strengthening Capacity in Vector Surveillance (Tunisia, 2025)

Funding: GLIDE institute – WHO East Mediterranean Regional Office

Reinforce Regular Vector Surveillance

- Trained 30 entomologists, laboratory staff, and field teams through an integrated approach combining theory, hands-on sessions, and field practice.
- Strengthened core competencies in *Anopheles* collection and trapping
- Enhanced field surveillance skills, including larval habitat investigation

Preventing Malaria Reestablishment

Timely identification of *Anopheles* presence and dynamics allows rapid public health response, helping to prevent the reestablishment of local malaria transmission.

Perspectives

- Vector control needs assessment
- Integrated disease surveillance
- Establish Early Warning system for Invasive Vectors



Way Forward: shift to a unified interregional approach to prevent, detect and response to VBDS

- Enables **early warning through shared surveillance data**
- Strengthens **coordinated outbreak prevention and response**
- Ensures **continuity of action in fragile and humanitarian settings**

There is a need to establish:

- A **coordinated platform** for data sharing, cross-sector collaboration and joint planning (with the Quadripartite and across the 3 levels)
- **Collaborative surveillance systems**, including resistance monitoring
- **Sustainable, jointly supported financing mechanisms**
- **Capacity building and workforce** strengthening including Risk assessment, Multisectoral Rapid Response, SimEx Teams across regions
- **RCCE for a behavioral change toward VBD prevention**

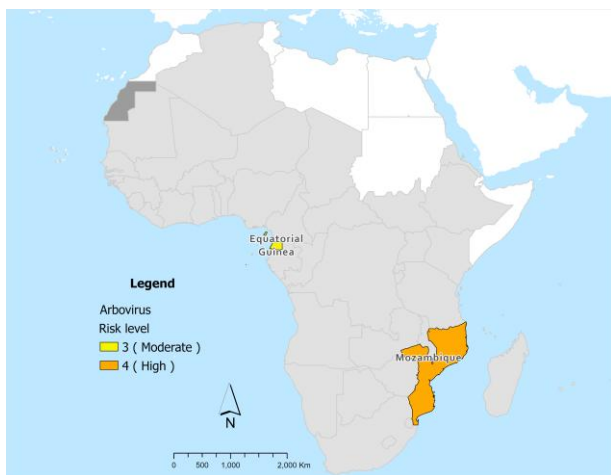
Thank you for your attention



WHO Regional Office for Africa - Arboviruses risk assessment in WHO AFRO from 2020 to 2025

44 countries out of 47 have conducted Risk assessment by using Strategic Tool for Assessing Risk (STAR)

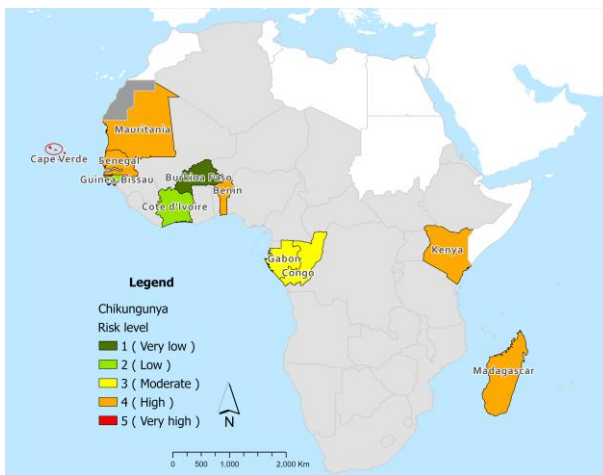
► Arbovirus



2 countries listed **Arbovirus** as priority risk with risk level:

- **Moderate** : Equatorial Guinea
- **High** : Mozambique

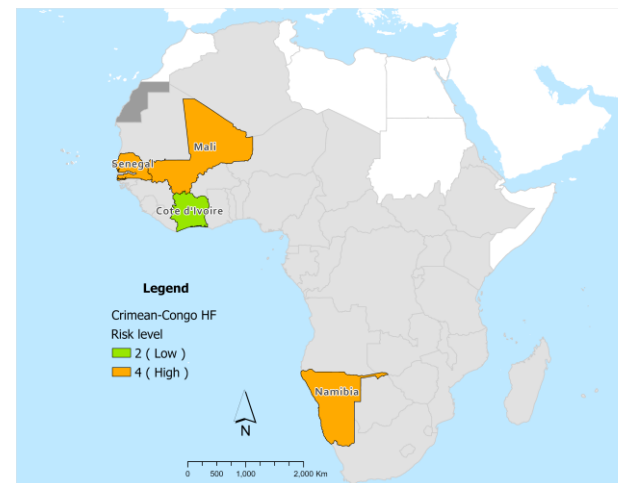
► Chikungunya



11 countries listed **Chikungunya** as priority risk with risk level:

- **Very low** : Burkina Faso
- **Low** : Cote d'Ivoire , Guinea Bissau
- **Moderate** : Congo, Gabon
- **High** : Benin, Kenya, Madagascar, Mauritania, Senegal
- **Very High** : Cabo Verde

► Crimean-Congo HF



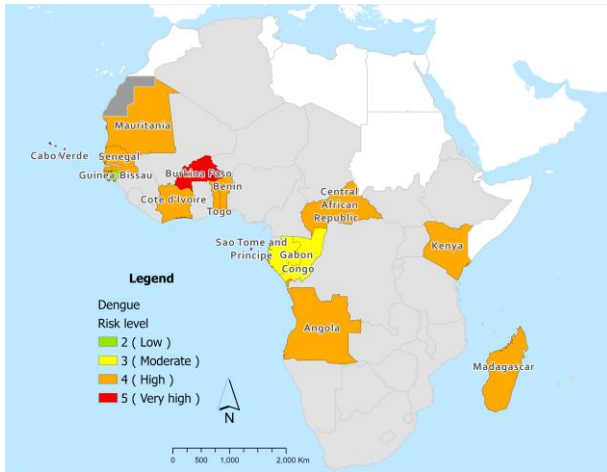
4 countries listed **Crimean-Congo HF** as priority risk with risk level:

- **Low** : Cote d'Ivoire
- **High** : Mali, Namibia, Senegal

WHO Regional Office for Africa - Arboviruses risk assessment in WHO AFRO from 2020 to 2025

44 countries out of 47 have conducted Risk assessment by using Strategic Tool for Assessing Risk (STAR)

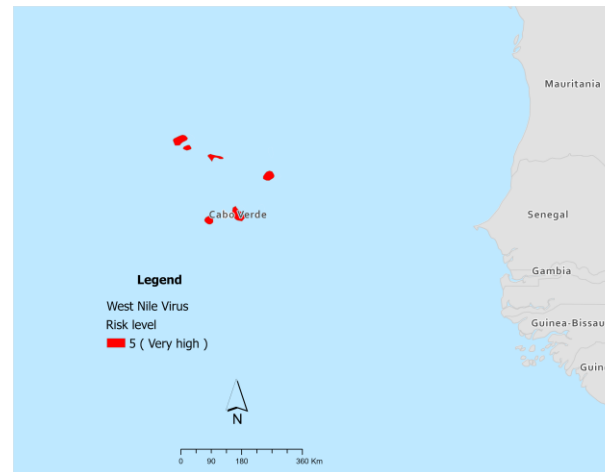
► **Dengue**



15 countries listed **Dengue** as priority risk with risk level:

- **Low** : Guinea Bissau
- **Moderate**: Congo, Gabon
- **High** : Angola, Benin , Central African Republic, Cote d'Ivoire, Kenya, Madagascar, Mauritania, Senegal , Togo
- **Very High** : Burkina Faso, Cabo Verde, Sao Tome & Principe

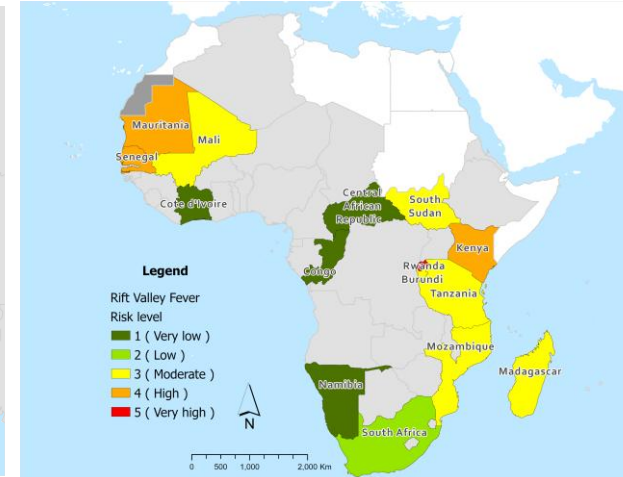
► **West Nile Virus**



1 countries listed **West Nile Virus** as priority risk with risk level:

- **Very High** : Cabo Verde

► **Rift Valley Fever (RVF)**



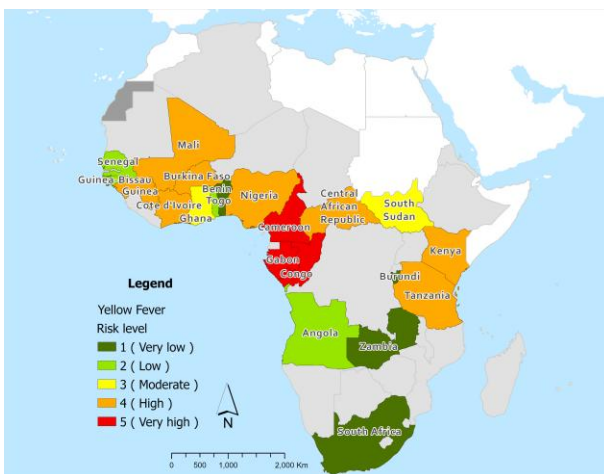
15 countries listed **RVF** as priority risk with risk level:

- **Very low** : Central African Republic, Congo, Cote d'Ivoire, Namibia
- **Low** : South Africa
- **Moderate**: Burundi, Madagascar, Mali, Mozambique Tanzania, South Africa, South Sudan, South Africa
- **High** : Mauritania, Kenya, Senegal
- **Very High** : Rwanda

WHO Regional Office for Africa - Arboviruses risk assessment in WHO AFRO from 2020 to 2025

44 countries out of 47 have conducted Risk assessment by using Strategic Tool for Assessing Risk (STAR)

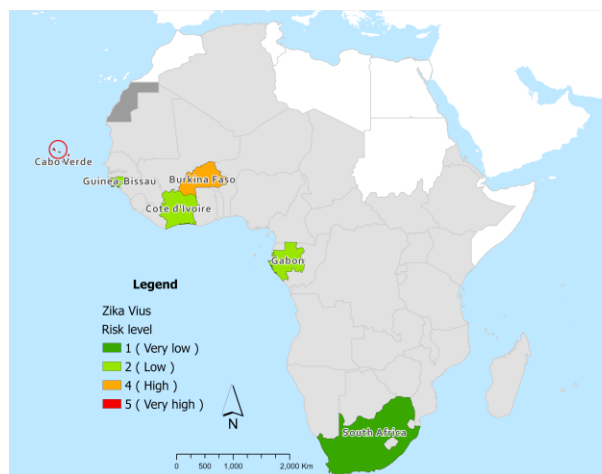
► Yellow Fever



21 countries listed **Dengue** as priority risk with risk level:

- **Very low** : Benin, Burundi, South Africa, Zambia
- **Low** : Angola, Guinea Bissau, Senegal, Togo
- **Moderate**: Ghana, South Sudan
- **High** : Burkina Faso, Central African Republic, Cote d'Ivoire, Guinea, Kenya, Mali, Nigeria, Tanzania
- **Very High** : Cameroon , Congo , Gabon

► Zika Virus



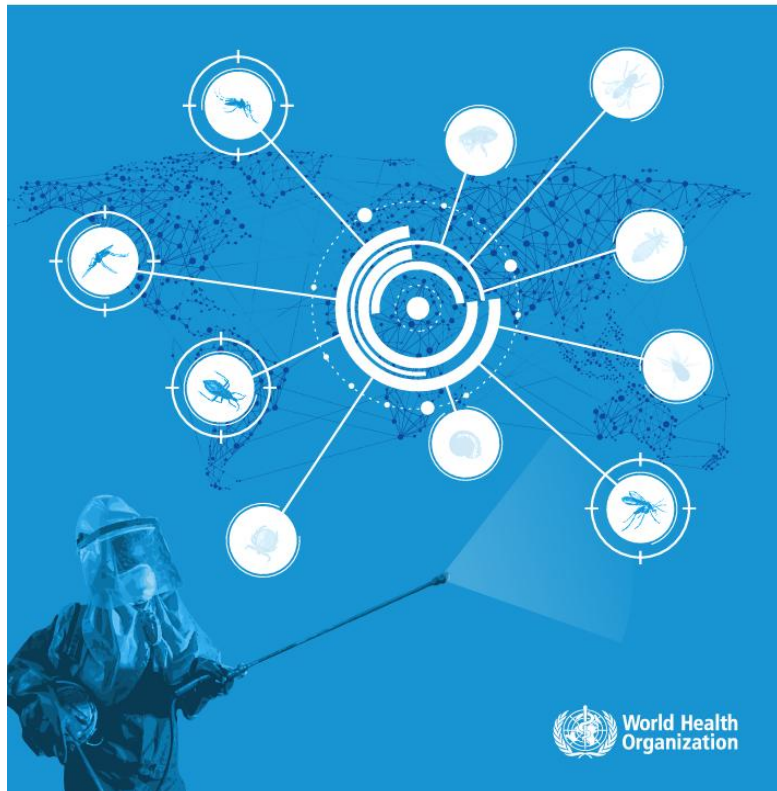
6 countries listed **Zika Virus** as priority risk with risk level:

- **Very low** : South Africa
- **Low** : Cote d'Ivoire, Gabon, Guinea Bissau
- **High** : Burkina Faso
- **Very High** : Cabo Verde

WHO Guidance-Targeted IRS (TIRS)

Operational manual on indoor residual spraying

Control of vectors of malaria, *Aedes*-borne diseases, Chagas disease, leishmaniases and lymphatic filariasis



Spray targets based on known common resting locations of different

Disease	Vectors	Indoor resting locations appropriate for spraying	Indoor locations inappropriate for spraying
Dengue, chikungunya or Zika virus disease	<i>Aedes</i> spp. mosquitoes	Lower portion of walls (up to 1.5 m) of houses – especially for <i>Ae. aegypti</i> , under and behind furniture, front and back of curtains, inside cupboards	Upper portion of walls and furniture (above 1.5 m high), kitchens, bathrooms with tiled walls, rooms housing people who cannot be moved

(source: World Health Organization. (2024). Operational manual on indoor residual spraying: control of vectors of malaria, *Aedes*-borne diseases, Chagas disease, leishmaniases and lymphatic filariasis. World Health Organization.)

WHO PQ Vector Control Product-Insecticides for IRS

<https://extranet.who.int/prequal/vector-control-products/prequalified-product-list>

Selection is based on available insecticide resistance data



WHO Eastern Mediterranean Regional

circa 2024

