



# Framework for a National Vector Control Needs Assessment





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# Preface

The need has never been greater for a comprehensive approach to vector control. The recent unprecedented global spread of dengue and chikungunya viruses and the outbreaks of Zika virus disease and yellow fever in 2015–2016 have highlighted the challenges faced by countries. Most VBDs can be prevented through vector control, but only if it is implemented effectively. This is, however, hampered by numerous challenges that include: lack of capacity and capability (human, infrastructural and institutional) in country programmes; lack of a comprehensive national strategy for vector control and the necessary legal framework; a limited toolbox of interventions; lack of community involvement; and ongoing environmental and social changes that result in the proliferation and geographic expansion of vectors.



In 2016, Member States called upon the World Health Organization (WHO) to provide strategic guidance on a comprehensive approach to vector control in order to improve the control and prevention of VBDs. WHO developed the *Global vector control response 2017–2030* (GVCR) through a fast-tracked process that included broad consultation with Member States and other technical experts. The GVCR received strong support at the World Health Assembly in May 2016, with the adoption of a dedicated resolution entitled *Global vector control response: an integrated approach for the control of vector-borne diseases* (WHA 70.16).

The GVCR provides strategic guidance to countries and development partners on how to strengthen vector control as a fundamental approach to preventing VBDs and responding to outbreaks. To tackle all VBDs and engage across all relevant sectors, vector control programmes need to be realigned and enhanced to improve action and coordination. To this end, one of the priority activities outlined in the GVCR is for countries to conduct or update the vector control needs assessment. Such an assessment should describe the current situation with respect to VBDs, outline the vector control measures being implemented, identify challenges or constraints to optimal implementation, and determine resource needs.

This information can then be utilized to develop or update countries' vector control strategies and to plan necessary activities.

Several WHO guidance documents have components related to vector control needs assessment. Although these have been used by some Member States, none adequately outline all the information required for programmes to embark upon programmatic reforms or to track progress in line with the GVCR. In light of this gap, there is a need for a framework that outlines the process and considerations for conducting a vector control needs assessment based on the technical guidance of the GVCR. This Framework sets the standards for baseline assessment and progress tracking in line with the goals, targets, milestones and priority activities of the GVCR.

It is anticipated that this Framework will be revised on the basis of feedback from operational use, experience from GVCR implementation and progress monitoring, and as otherwise required in light of subsequent WHO guidance.





# Abbreviations and acronyms

AFRO	World Health Organization African Regional Office
DDT	Dichlorodiphenyltrichloroethane
EMRO	World Health Organization Eastern Mediterranean Regional Office
EIA	Environmental Impact Assessment
GVCR	Global vector control response 2017-2030
HIA	Health Impact Assessment
IPM	Integrated pest management
IRS	Indoor residual spraying
IVM	Integrated vector management
LLIN	Long-lasting insecticidal net
MoH	Ministry of Health
NGO	Nongovernmental organization
ToR	Terms of reference
VBD	Vector-borne disease
VCNA	Vector control needs assessment
WHA	World Health Assembly
WHO	World Health Organization





# 1. Introduction

## 1.1. Background

Diseases transmitted by insect vectors – that is, vector-borne diseases (VBDs) – are a major public health problem worldwide. More than 80% of the global population is threatened by at least one major VBD and more than half is at risk of two or more (1). These include parasitic diseases such as malaria, leishmaniasis, lymphatic filariasis, onchocerciasis, Chagas diseases, human African and schistosomiasis, as well as viral infections such as dengue, Zika virus disease, chikungunya, yellow fever, West Nile fever and Japanese encephalitis. Other diseases are of local importance in specific areas or populations, such as tick-borne diseases.

In recent years, for VBDs there has been intensified transmission or expansion of the transmission season in endemic areas, re-emergence in certain areas after a prolonged absence of transmission, and spread to areas where transmission had not previously occurred. Factors likely associated with this change include: the increase in global travel and trade, growing urbanization and climate events.

Despite major reductions in malaria over the past 15 years (2), this disease continues to cause massive morbidity and mortality; in 2015, there were an estimated 212 million clinical malaria cases and 429 000 deaths globally (3). Although impressive gains have also been made against onchocerciasis, lymphatic filariasis, schistosomiasis and Chagas disease, there is growing recognition of the threat from diseases carried by *Aedes* mosquitoes. For example, there has been a rapid increase in dengue cases worldwide, with an estimated 96 million dengue infections annually (4). In 2016, there were large outbreaks of Zika virus disease and yellow fever (5,6).

Member States therefore called upon the World Health Organization (WHO) to provide strategic and technical guidance on a coordinated global approach for the prevention and control of VBDs. The *Global vector control response 2017–2030* (GVCR) (7) was developed through a fast-tracked process that culminated in its consideration at the World Health Assembly in May 2017 and the adoption of a dedicated resolution (WHO70.16) (8). The GVCR sets out ambitious goals to reduce the incidence of and mortality from VBDs, and to prevent epidemics over the period 2017–2030. This strategy will guide the development of region- and country-specific consolidated vector control plans that span multiple VBDs and engage numerous sectors. National implementation of the GVCR will be guided by a comprehensive appraisal of current vector control structures, capacity and partnerships, along with additional requirements to ensure optimal use of resources to tackle VBDs. Therefore, one of the priority activities outlined by GVCR for the period 2017–2022 is for countries to conduct a vector control needs assessment (VCNA).

The VCNA should include a situation analysis and needs assessment to guide programmes in establishing or strengthening their capacity and capability for vector control in a way that coordinates multiple sectors and leverages data for local adaptability. WHO/AFRO and WHO/EMRO released guidance for VCNA in 2003 and 2009, respectively (9–11).

Although these and other VCNA templates (12) have been amended and applied in various formats in numerous countries, in its current format, the available VCNA guidance is not fit for the purpose of supporting alignment with and implementation of the GVCR.

This Framework has therefore been developed to assist programmes in adopting the GVCR guidance for more effective and sustainable vector control. The Framework provides a practical tool to help programmes better understand their situation and document their needs both for baseline assessment and for progress tracking. This assessment process will enable Member States to generate or revise their Vector Control Strategic Plan in line with the GVCR, and mobilize domestic or external resources to address identified needs.

## 1.2 Objectives

The objectives of the Framework for a National Vector Control Needs Assessment are to help countries to assess:

- Current status of VBDs in the country and in neighbouring areas, including outbreaks;
- Epidemiological and entomological aspects related to receptivity and vulnerability to VBDs, including historical status of VBDs, risk of disease introduction, historical and current distribution of vector species, and risk of introduction of invasive species;
- Current status of vector control and capacity for outbreak response;
- Current status of surveillance systems, including entomological and disease surveillance;
- Programme needs (e.g., policy, structural, and infrastructural) to align the vector control programme with the GVCR;
- Constraints and opportunities for programme improvement; and
- Opportunities for addressing VBDs as part of achieving the Sustainable Development Goal targets within the country, including through strengthened inter-ministerial coordination and collaboration.

Ultimately, the VCNA should guide planning and resource mobilization for implementing the national Vector Control Strategic Plan in line with the GVCR.

## 1.3 Scope and outline of the Framework

The Framework is intended to be applicable to a wide range of vector control departments, programmes and units worldwide, across different levels of disease burden and threats, resources, capacities and capabilities. For countries that currently have an operational vector control programme, the guidance may be used for in-depth evaluation and strengthening in line with the GVCR. For countries that do not yet have an established programme, the Framework may be used to assess the needs and opportunities for establishing a sustainable and effective programme aligned with the GVCR.

Considering the comprehensive nature of this Framework, it is important that the scope of the assessment be clearly defined at the outset based on the purpose of the assessment and the programme's available capacity and resources to conduct the assessment. This will ensure that benefits from the assessment are optimized, while costs are kept within reasonable limits.



### 1.5.2 Needs assessment

Assessing the needs and opportunities involved in realigning the vector control programme to the GVCR focuses on the critical determinants of change. “Needs” refer to specific requirements for the change process (e.g., capacity building), while “opportunities” refer to possibilities that already exist in the country that can affect the desired change. It is likely that one or more needs categories will be identified. These include:

- *Political commitment needs:* Securing political commitment at the highest level, for example from the Minister of Health;
- *Policy needs:* Reforming and adjusting the policy framework that provides the enabling environment for effective vector control;
- *Institution building needs:* Strengthening existing structures, institutions and the arrangements between them in order to facilitate vector control. Within this category, subcategories can be further distinguished:
  - *managerial development:* Establishing clear criteria and decision-making procedures to manage the vector control programme;
  - *technical strengthening:* Developing the technical facilities/infrastructure to support the vector control programme;
- *Human resources development needs:* Identifying and training staff at all levels of the programme, supported by a staff development programme of performance-based career opportunities;
- *Intrasectoral and intersectoral collaboration needs:* Facilitating better collaboration within and outside the health sector, as strongly advocated by the GVCR for more effective vector control;
- *Community engagement/mobilization and education needs:* Ensuring proactive community involvement in the planning and implementation of vector control – a fundamental concept of the GVCR;
- *Financial resource needs:* Clearly identifying financial needs and developing a comprehensive strategy to mobilize the required resources. This process will involve the identification of all possible internal (in-country) and external funding sources.

### 1.6 Data collection and usage

The primary tool for collecting data for the situation analysis and needs/opportunities assessment is the VCNA questionnaire (Annex 1). Several methodologies can be used to generate answers to these questions, including a desk review of relevant documentation, administration of the questionnaire, or consultation with stakeholders (e.g. other ministries, departments at national and subnational levels, the private sector, NGOs, donors, implementing partners, research institutions and community organizations).



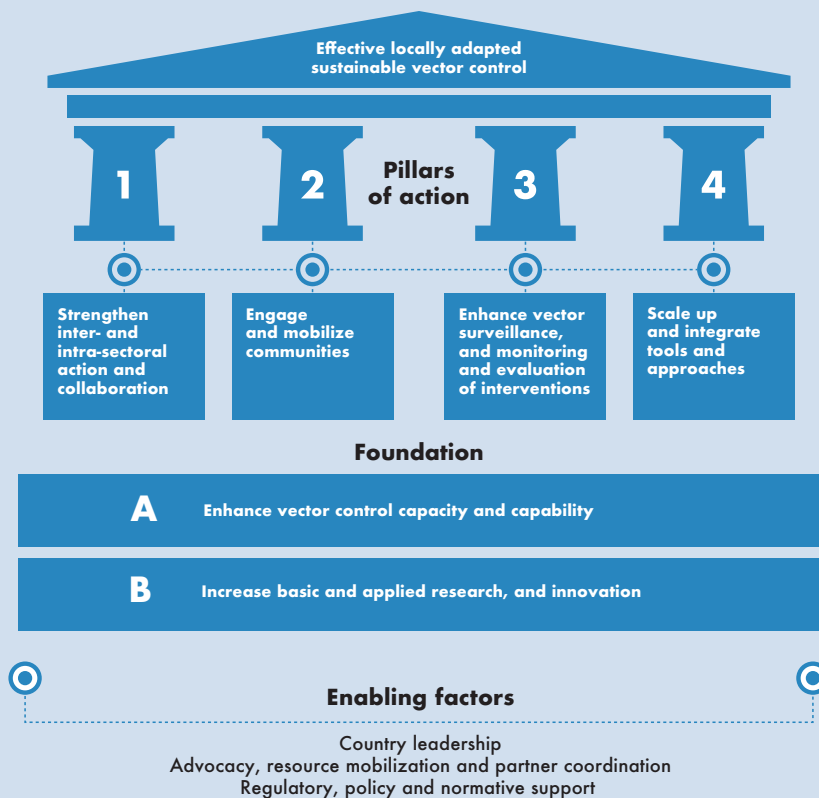
# 2. Assessment dimensions

## 2.1 Overview

The GVCR sets out priority activities along with implementation timelines under each of the foundations and pillars of the response framework. The assessment dimensions of this Framework are aligned with the GVCR framework (Figure 1) in order to assist countries to reorient programmes towards the priority activities and to assess progress with respect to the targets set. The VCNA questionnaire provided in Annex 1 covers each of the assessment dimensions laid out in the GVCR. The following sections look at each dimension, explaining the rationale for its inclusion and outlining how the questionnaire collects specific information related to the dimension; each section also suggests documents to be reviewed and stakeholders to be consulted when answering the questions.

**Figure 1: Global Vector Control Response Framework**

The GVCR aims to reduce the burden of all VBDs through vector control. This goal is to be achieved by building upon the foundations of enhanced vector control capacity and improved basic and applied research through four pillars of action:



## 2.2 Vector-borne disease situation

### *Rationale and content:*

This section sets the scene for the remainder of the situation analysis by outlining the current epidemiology (prevalence, incidence and mortality attributed), geographic distribution and at-risk populations of endemic VBDs. Assessment should also capture information on the geographic areas and populations at risk for epidemic VBDs. This should include an indication on the distribution and bionomics of vector populations, as related to vectorial capacity. Historical information may also be included, along with an outline of the tools used to prevent and control VBDs (e.g., vector control, diagnosis and treatment, vaccines, preventive chemotherapy).

### *Suggested data sources:*

- Technical reports from vector control programme(s)
- Technical reports from MoH information systems

### *Potential people to interview:*

- Senior MoH staff
- VBD programme manager
- Other key stakeholders

## 2.3 Policy framework for vector control

### *Rationale and content:*

An enabling policy framework for vector control is crucial to its success and sustainability. The GVCR advocates for a combined vector control policy that covers all VBDs and incorporates all elements of the GVCR framework (Figure 1). This section of the VCNA documents the policy framework for vector control in the country, including health sector strategic plans and technical guidance, as well as the policies and guidance from other government ministries.

Critical information includes whether national health policy and national vector control policy documents exist; the level of prioritization of VBD control (e.g., for malaria) within the broader context of communicable disease and other health initiatives (e.g., maternal and child health); whether there is guidance on vector control; and, if so, the contextual relationship between the vector control policy and the larger national VBD control policy.

Data should also be gathered on public health pesticide regulation, including the requirements for registration, procurement (including taxes and tariffs), quality control, storage, distribution and sales. The status and main elements of any national plan(s) for insecticide resistance management (13) should be included. The VCNA should also record what structures the country has in place to implement the International Health Regulations (2005) as well as other relevant supra-national and global regulations.

In line with the GVCR recommendations on intersectoral action, other policies outside of the health sector (e.g., in the environmental or agricultural sector) that may support or hinder the goals of vector control and the impact of vector control policies must be identified in order to capitalise on potential synergies or mitigate constraints. Relevant environmental policies include those governing the production, safe use and management of pesticides; Environmental Impact Assessment (EIA) or Health Impact Assessment (HIA) of development projects; and the use of persistent organic pollutants. The mechanisms for monitoring and enforcing these policies should also be detailed.





Core information required on agricultural policies related to vector control include whether there is a national policy for integrated pest management (IPM) and the rational use of pesticides, and whether any pilot projects for IPM have been or are being undertaken. Information should also be collected on whether policies exist to coordinate the use of pesticides for agriculture and public health, and on the capacity for monitoring and enforcing agricultural pesticide policies, especially concerning the illegal use of DDT. The VCNA should also note any policies for rural development that include agricultural extension workers or other cadres of community workers in order to synergise activities such as training, communication or delivery of interventions.

*Suggested data sources:*

- Health policies: National Health Strategy/Strategic Plan, Health and Social Development Plan, etc.
- Intergovernmental cooperation agreements on VBD surveillance and vector control
- VBD control strategies: overarching (e.g., Integrated Vector Management (IVM) Strategic Plan, Vector Control Strategy, etc.) or disease-specific (e.g., National Malaria Control Strategy, National Dengue Control Strategy, etc.)
- Other VBD control guidance, such as national plans for monitoring and management of insecticide resistance
- Policies for urban areas and municipalities, e.g., on health, resilience, urban planning, vector control, sanitation, etc.
- Environmental policies: National Environment Policy, Guidelines on Health/Environment Impact Assessment
- Agricultural policies: National Agricultural Policy, etc.
- Public health pesticides: procurement and logistics policies and procedures

*Potential people to interview:*

- Senior MoH staff from relevant departments
- VBD programme manager
- Head of vector control/vector surveillance
- Vector control staff at subnational level
- Staff of other ministries (e.g., Agriculture, Environment, Education, Water)
- Relevant staff in urban areas/municipalities
- Specifically regarding public health pesticides:
  - Vector control programme manager
  - Programme logistics management staff
  - Government procurement agency for public health goods or central medical stores
  - Public health pesticide regulatory board
  - Partners that work with the vector control programme in the area of procurement and logistics management

## 2.4 Structural framework for vector surveillance and control

### *Rationale and content:*

It is important to understand the existing structure of the vector control unit/department(s) and its relationship to the wider VBD control programme(s), other disease control programmes (e.g., Community Health, Integrated Management of Childhood Illness, Maternal and Child Health and other clinical programmes), environmental health programmes and the MoH as a whole.

The GVCR advocates for greater integration between VBD control programmes. In some cases, this may mean restructuring to place all VBD control programmes under a single umbrella such as by establishing an overarching department. Accordingly, it should be documented whether VBD control programmes operate as discrete single programmes and/or whether there is functional integration by other means (e.g., through joint planning and implementation of activities).

It is also important to note how vector control operations and surveillance are organized at the national, regional/provincial, district and subdistrict levels, as well as the roles and responsibilities with respect to the national-level programme. The VCNA should document the degree to which there is decentralization of data collection, reporting and use in decision-making, and the technical requirements to support these processes. Linked to this is the documentation of the vector control structure in urban areas (typically municipalities), e.g., whether there is a separate municipal health and vector control (sanitation) unit in urban areas.

### *Suggested data sources:*

- Organigrams of the MoH, national VBD control programme and vector control/surveillance unit(s)
- Organigrams of subnational VBD control programmes and vector control/surveillance unit/department(s) (including in urban areas and municipalities)

### *Potential people to interview:*

- Malaria and other VBD programme manager(s)
- Head of vector control/surveillance
- Vector control staff at the subnational level
- MoH department dealing with infectious diseases that include VBDs
- Relevant staff in urban areas/municipalities, e.g., Head of Municipal Health Care Services

## 2.5 Basic/applied research and innovation

### *Rationale and content:*

Basic and applied research has been and must continue to be the foundation upon which vector control is planned and implemented. Basic research is needed to better understand the interactions between pathogens, vectors, and human and non-human hosts. The results of such research can inform the development of innovative approaches to vector control. Applied research is needed to evaluate the effectiveness of vector control, to optimize programmatic delivery of existing and new interventions, and to develop new monitoring tools. The GVCR calls on countries to establish a national agenda for basic and applied research on entomology and vector control, and to review progress at regular intervals.



Staff retention is a major issue in many control programmes, as vector control specialists often move to other sectors such as agriculture or private industry. Clear job descriptions and career structures, along with opportunities for career progression and adequate remuneration are needed to attract and retain capable staff in national and subnational programmes. Furthermore, implementation of the GVCR requires expertise in different areas beyond the core technical fields of vector control, surveillance, and intervention monitoring and evaluation (e.g., in epidemiology, project management, insecticide resistance management, database development and management, geographic information systems, information and communication technologies, behaviour change communication, and community and local authority engagement). Given the extent of these needs, the VCNA should document programme staff, their roles and training (academic or on-the-job), and assess whether the staffing level and skill balance in the programme are adequate to carry out its functions. Options for shared staffing between health and other sectors should also be considered, such as coordinated access to a GIS specialist for the vector control programme and another sector such as urban planning.

Adequate training is imperative, and the VCNA should document whether there are opportunities and procedures for staff training and supervision; institutions offering training or technical support; and registries of experts at the national and regional level.

The VCNA should also document the infrastructural capacity available to the programme both internally and externally including through institutions such as universities. This should include an assessment of equipment, transport, technical and operational facilities (e.g., functional insectary and entomological laboratories to support assessments of vector species, insecticide susceptibility and intervention efficacy), and facilities for research and training. The programme should consider whether this infrastructural capacity is sufficient to meet programme needs.

Once key gaps in capacity and capability have been identified, programmes should formulate a comprehensive plan for developing the necessary human, infrastructural and institutional capacity (e.g., by recruiting additional staff or strengthening training). This plan should identify any additional resources and associated costs involved in achieving its objectives. Opportunities to utilize resources from outside the health sector should be explored, especially since such resources could help to reduce costs.

Suggested data sources:

- Related to human resources:
  - Human resource development plan
  - Organigram of the vector control programme
  - Documents that describe the roles and responsibilities of each organizational unit
  - Job descriptions and career progression pathways
  - Training records
  - Human resource plans from other government ministries, NGOs, implementing partners and stakeholders with which resource-sharing may already be established (or there is opportunity to do so)
- Infrastructural resources:
  - Inventory of equipment and facilities



- Financial resources:
  - Budget of VBD control programme(s)
  - Internal financial reports
  - Financial procedures manual

*Potential people to interview:*

- Head of vector control/vector surveillance
- Malaria and other VBD disease programme manager(s)
- Vector control staff at the subnational level
- Financial department personnel in the MoH
- Accountant of VBD control programme(s) (if this activity is not centralized)
- Senior staff of the MoH
- Senior staff of the Ministry of Finance or other relevant ministries
- Relevant staff in urban areas or municipalities
- Head of research or training institutions and other partners with which resources or infrastructure are already (or could potentially be) shared

## 2.7 Intrasectoral and intersectoral collaboration

*Rationale and content:*

Many of the determinants of VBDs fall outside the scope of the health sector, just as many interventions to improve health can be instigated outside the health sector (e.g., ensuring adequate drainage and filling of aquatic habitats). Indeed, all members of society share the responsibility for reducing disease burden through vector control. In particular, effective coordination of vector control activities is required not only within the health sector (e.g., among national malaria and other VBD programmes, health management information systems division), but also between health and non-health sectors (including other ministries and authorities, development partners, and the private sector). This coordination will ensure a greater impact than isolated, uncoordinated activities by maximizing efficiencies and harnessing the diverse capital available in various areas. To this end, the GVCR calls for the establishment of a national Interministerial Steering Committee (ISC) for multisectoral engagement in vector control. The ISC should be supported by committees, working groups or networks comprised of nongovernmental stakeholders. In order to ensure that programmes are aware of the entomological and VBD situation in neighbouring countries and the broader region, as well as globally, regional and international collaboration is also necessary.

For the VCNA, information should be collected on collaboration within the health sector and coordination mechanisms to facilitate such collaboration. Documentation of intersectoral collaboration should include information on coordinating mechanisms with other sectors, including the presence and functioning of an ISC at the national and subnational level. The assessment should also provide examples of collaboration between sectors and detail the availability of supporting structures or committees that feed into the ISC in order to facilitate collaboration with nongovernmental entities (e.g., private sector, community, donors, NGOs).

*Suggested data sources:*

- Membership lists, terms of reference, meeting agendas and minutes from ISC or other intersectoral meetings (e.g., national Roll Back Malaria Partnership meetings)
- Membership lists, terms of reference, meeting agendas and minutes from subnational ISC meetings
- Agendas and minutes from supporting structure or committee meetings
- Memoranda of understanding between partners
- Description of coordination mechanisms for within health sector and intersectoral collaboration

*Potential people to interview:*

- Chair or members of ISC or other intersectoral entity
- Head of vector control/vector surveillance
- Malaria and other VBD programme manager(s)
- Senior staff of relevant national agencies
- Vector control staff at the subnational level
- Relevant staff in urban areas/municipalities

## 2.8 Engaging and mobilizing communities

*Rationale and content:*

Communities play a major role in vector control; they are key to its success and sustainability. Community engagement and mobilization involves working with local residents to improve vector control and build resilience against future disease outbreaks. For example, participatory, community-based approaches can be used to support communities to take responsibility for and implement vector control. If well executed, such approaches will strengthen the community's capacity to continually identify new issues that require action and build mutual accountability, trust and partnership. Local knowledge and skills can be leveraged through engagement strategies that build upon social/anthropological and behavioural evaluations. Community mobilization and engagement activities should be outlined in a national plan for community mobilization.

Appropriate and effective communication strategies should tailor approaches to local and disease-specific needs and encourage behaviour change. These should use multiple channels (including mass, local and social media) and involve various actors (including community health workers, community leaders, religious leaders, and teachers) in order to promote information exchange and behaviour change.

The VCNA should capture information on i) whether there is a national plan for community mobilization; ii) community engagement/mobilization activities being undertaken; iii) communication strategies being used for information exchange and behaviour change; and iv) monitoring and evaluation of these activities. Other community engagement, such as children through the formal education system, should also be considered.

*Suggested data sources:*

- National Plan for Community Mobilization and Engagement
- National Plan or programmes covering the mandate of the Ministry of Education
- Other programme reports



*Potential people to interview:*

- Head of vector control/vector surveillance
- Malaria and other VBD programme manager(s)
- Vector control staff at the district and local level
- Cadres of community/outreach professionals
- Monitoring and Evaluation Officer
- Donor/implementing partners
- Relevant academicians

## **2.9 Vector surveillance, and the monitoring and evaluation of interventions**

*Rationale and content:*

The capacity of vectors to transmit pathogens and their susceptibility to vector control measures can vary by species, location and time, depending on local environmental factors. Vector control must therefore be implemented on the basis of up-to-date local data generated through appropriate methods. Vector surveillance involves the regular and systematic collection, analysis and interpretation of entomological data for health risk assessment, and for the planning, implementation, monitoring and evaluation of vector control. Vector surveillance should be routinely conducted at representative sites in areas where VBDs are endemic, as well as in those areas with low or no ongoing transmission but that are receptive to pathogen transmission. Surveillance activities must be strategically and purposefully planned based on stratification using epidemiological, entomological and intervention information. Data should be used to: identify areas that require further investigation and the prioritization of resources; detect increases in risk or transmission; and identify specific threats to the effectiveness of vector control (e.g., vector insecticide resistance or behavioural avoidance of interventions). The VCNA should capture information on vector surveillance, including the status of current knowledge on vector species and their bionomics, and the procedures for routine vector surveillance, including sampling locations, parameters measured and frequency. Information should also be recorded on the status, monitoring and management of insecticide resistance.

Monitoring refers to the continuous tracking of programme implementation and performance in order to check progress against predetermined objectives and targets, and adapt activities accordingly. Monitoring verifies whether activities have been implemented as planned, ensures accountability, and detects any problems or constraints early on to allow for corrective action. Evaluation periodically documents whether programme activities are producing expected results in terms of outcomes (e.g., intervention coverage / usage or reduction in vector populations) and impact (e.g., reduction in mortality or morbidity due to VBDs). The VCNA should collect information on monitoring and evaluation indicators and their data sources.

Evidence-based decision making at the national level requires entomological, epidemiological and intervention data. These data should be collected and reported for the lowest feasible administrative level, with harmonization of reporting requirements across administrative levels. Data should be managed in a central data system in order to facilitate the stratification of transmission risk, guide the choice of vector control measures, detect outbreaks, and enable the assessment of the interventions' impact. Data should also be collected outside the health sector (e.g., information on urban planning, housing, water, sanitation, and insecticide usage in the agricultural sector).

The VCNA should capture information on how entomological, epidemiological and intervention data are collected, linked and reviewed to influence programme activities.

*Suggested data sources:*

- Vector control programme reports
- Research institution reports
- Monitoring and Evaluation reports and logical frameworks
- Reports from MoH health information system
- Donor reports

*Potential people to interview:*

- Monitoring and Evaluation Officer
- Head of vector control/vector surveillance
- Malaria and other VBD programme manager(s)
- Donor/implementing partners
- Other departments in the MoH such as the health information unit
- Programme or implementing partner Monitoring and Evaluation Officer (for intervention coverage data)
- Vector control staff at the subnational level
- Implementing partners, donors and NGOs





## 2.10 Scale-up and integration of tools/approaches

### *Rationale and content:*

The GVCR calls for the evidence-based deployment of effective vector control tools that are appropriate to the epidemiological and entomological context. It also calls for sound pesticide management practices to be adopted in order to minimize potential health and environmental risks. Efforts should be made to employ proven vector control methods from within and outside the health sector. Moreover, community engagement and mobilization are critical to the scale up and integration of most vector control interventions. Therefore, the deployment of vector control tools must be informed by local information on vector distribution and disease transmission, including receptivity or potential for disease spread. Monitoring and Evaluation systems should be in place to track implementation and impact. Implementation must be to a high standard and at an optimal level of coverage.

The VCNA should document where, how often and by whom vector control tools are employed for each disease, explaining the rationale for stratification by geographic area or population group and the targeting of interventions. In addition, the VCNA should detail any supervision, quality control and pesticide management procedures employed. The GVCR calls for the monitoring of progress against set targets, one of which is the proportion of the population at risk for a VBD that is covered by appropriate vector control. The questionnaire (Annex 1) explains this calculation, as “appropriate vector control” may differ by geographic area or population group, and coverage may not be uniform.

### *Suggested data sources:*

- Programme records
- Reports from MoH health information system
- Monitoring and Evaluation reports

### *Potential people to interview:*

- Head of vector control/vector surveillance
- Malaria and other VBD programme manager(s)
- Other departments in the MoH such as the health information unit
- Programme or implementing partner Monitoring and Evaluation Officer (for intervention coverage data)
- Vector control staff at the subnational level
- Implementing partners, donors and NGOs

# 3. Assessment Procedures

## 3.1 Procedures for assessment

The assessment process consists of three main phases (Box 2):

1. Preparatory phase
2. Needs assessment phase, which is comprised of two sub-phases
  - a. Situation analysis, including problem analysis
  - b. Identification of needs/opportunities
3. Programme realignment phase

### Box 2: Overview of the VCNA procedure

Phase	Steps and outputs	
1. Preparatory phase	<ul style="list-style-type: none"> <li>▪ Establish an Inter-Ministerial Steering Committee (ISC) and supporting committees, working groups or networks;</li> <li>▪ Identify key stakeholders and invite representation;</li> <li>▪ Convene meeting to establish agenda and terms of reference;</li> <li>▪ Undertake quick, initial situational review (screening &amp; scoping);</li> <li>▪ ISC develops terms of reference and identifies Assessor(s).</li> </ul>	
2. Needs assessment	2a. Situation analysis	<ul style="list-style-type: none"> <li>▪ Assessor undertakes a comprehensive situation analysis and identifies critical bottlenecks preventing the optimal functioning of the current programme and the achievement of set goals;</li> <li>▪ Assessor prepares a report on the situational analysis, clearly identifying existing constraints and gaps, as well as recommendations on how these can be overcome;</li> <li>▪ ISC reviews and reaches conclusions on initial priority strategies in line with the GVCR.</li> </ul>
	2b. Identification of needs and opportunities	<ul style="list-style-type: none"> <li>▪ Assessor determines needs and opportunities based on the priority strategies of the ISC and develops a report;</li> <li>▪ ISC appraises the needs assessment report and documents its observations as an annex;</li> <li>▪ Feedback from supporting committees, working groups or networks should also be sought.</li> </ul>
3. Programme realignment phase	<ul style="list-style-type: none"> <li>▪ Vector control programme develops or revises the existing Vector Control Strategic Plan based on the needs assessment report and in line with the GVCR;</li> <li>▪ Vector control programme submits draft Vector Control Strategic Plan to ISC for review;</li> <li>▪ Vector control programme identifies roles of partners in the implementation of the Strategic Plan;</li> <li>▪ Vector control programme mobilizes resources for the Strategic Plan;</li> <li>▪ Vector control programme and partners implement the Strategic Plan;</li> <li>▪ Vector control programme monitors and evaluates progress.</li> </ul>	



## 3.2 Preparatory phase

### 3.2.1 Role of the Inter-Ministerial Steering Committee

The ISC makes recommendations in order to inform decisions made at a higher political level. To ensure the highest level of participation and engagement in VBD control, the process of conducting the VCNA should seek broad stakeholder involvement that includes other ministries (e.g., the Ministry of Agriculture) and sectors (e.g., the private sector and NGOs), as well as affected communities and development partners. This stakeholder involvement should ideally be channelled through the national Inter-Ministerial Steering Committee (ISC) that many countries will have already established under previous Integrated Vector Management (IVM) initiatives. The national ISC will be comprised of Ministers or high-level staff from government ministries with activities related to VBDs and their control. The Committee should be chaired by a high-level staff member from the MoH. If an ISC has not been established in the country, there may still be existing inter-ministerial structures that could easily be adapted to ensure broad participation in the VCNA. Membership of the ISC should be as stable as possible in order to ensure continuity.

As advocated by the GVCR, the ISC should be supported by committees, working groups or networks that engage the broader stakeholder community. In countries where these supporting committees have already been established, they can be involved from an early stage. Where these committees do not already exist, it may be more efficient to identify the broad stakeholder group immediately after the situation analysis, as the majority will be identified in the process. The ISC should establish clear criteria to determine the legitimacy of the stakeholder membership and decide on the definitive composition of the broad stakeholder group.

The ISC will oversee the needs assessment, and will contribute to the subsequent process of implementation, adjustment and reform. While the ISC will not conduct the assessment itself, there are several key points in the assessment process when its involvement will be necessary. These are:

- Approving adapted tools for the situation analysis;
- Deciding on who will carry out the assessment;
- Drawing up terms of reference for the needs assessment (for the situation analysis and then for the identification of needs/opportunities);
- Appraising the situation analysis report and agreeing on priority strategies;
- Appraising the report on needs/opportunities and recommendations;
- Reviewing the Vector Control Strategic Plan;
- Overseeing the adoption of the Vector Control Strategic Plan by the larger stakeholder body.
- Supporting implementation of the Vector Control Strategic Plan as required by the programme.

### 3.2.2 Screening and scoping

Any assessment must start with a screening and scoping exercise to set the focus and boundaries of the assessment. The vector control programme manager should undertake a quick, initial situational review, determine a realistic timeline and define content requirements. The manager should also identify and highlight the broad targets for vector control outlined in the GVCR. The recommendations that emerge from the screening and scoping exercise should be submitted to the ISC for discussion and approval.

### 3.2.3 Drawing up terms of reference

A pivotal task is to draw up terms of reference (ToR) for the needs assessment based on the agreed-upon objectives. Building on the screening and scoping exercise, the ISC should formulate the ToR in clear and unambiguous language. The ToR will lay out the framework for conducting the assessment and establish the benchmarks against which the outcomes will be appraised. The ToR must clearly define the expected product (the assessment report) and its deadline for submission.

Based on factors such as timeframe, resource availability, quantity and reliability of available data, and the vector control programme's level of development, the ISC must decide on the appropriate level of comprehensiveness for the situation analysis.

### 3.2.4 Identifying and selecting assessor(s)

An important step in the procedure is selecting the individual(s) or institution that will carry out the assessment, as this will determine the quality of the assessment to a considerable extent. The ToR will to some extent prescribe the choice of Assessor, which should ideally be conducted by a person external the vector control programme to avoid any conflict of interest. If the improvement of the vector control programme is likely more related to the policy/managerial sphere, then expertise in public administration and management may be beneficial. If it is anticipated that the vector control programme will need to overcome mainly technical constraints, then a suitable vector control specialist should be identified. If selecting an external consultant, the cost of contracting out the assessment should be considered. Regardless of whether the assessment is conducted in-house or contracted out, the vector control programme should play an intrinsic role. Stakeholders from the ISC, supporting committees, subnational levels and other organizations should be called on, where necessary, to complete portions of the assessment and fill gaps in knowledge.

### 3.2.5 Adapting the VCNA questionnaire tool and considering other methodologies

Annex 1 provides a list of indicative questions that could be used for the needs assessment, grouped according to the foundational framework and pillars of the GVCR. The questionnaire tool can be adapted in line with country requirements by deleting questions or elaborating on other topics that emerge in the process. The ISC should review and approve the set of questions used.

In addition to the questionnaire, it may be necessary to incorporate other data collection methods. For example, programmes could conduct a desk review of relevant documents, as suggested in Section 2, or hold individual/focus group discussions with relevant personnel.



### **3.3 Needs assessment**

#### **3.3.1 Situation analysis**

The Assessor should conduct the situation analysis using the adapted questionnaire, along with other data collection methods. The Assessor should consult other ministries/sectors (e.g., research/education and subnational programmes) where necessary, which may necessitate visiting departments and ministries outside the MoH; for example, the regulatory body for insecticides sometimes operates within the Ministry of Agriculture. As a second step, the Assessor should conduct an analysis of the problems/constraints faced by the vector control programme and/or obstacles anticipated in its future development. The Assessor should propose some solutions for resolving these problems in a way that better aligns the programme with the GVCR.

The optimal outcome of the situation analysis is a written situation analysis report that describes the situation, barriers and constraints faced by the programme, and presents opportunities and recommendations for overcoming these barriers and aligning the programme with the GVCR. This document will provide the benchmark against which change is planned, needs are assessed and results are measured.

#### **3.3.2 Inter-Ministerial Steering Committee review of the situation analysis report**

The situation analysis report should be submitted to the ISC for review. Drawing on the findings of the report, the ISC should develop an outline for what the vector control programme should look like after a specific period of time (e.g., 5 or 10 years). This outline should reflect the principles set out in the GVCR and define the processes of change that must take place. This, in turn, will form the starting point for the actual needs assessment.

#### **3.3.3 Determining needs and opportunities**

The same Assessor that conducted the situation analysis could also conduct the needs assessment though ideally this should be done by someone else to ensure objectivity and balance in the overall assessment. It will be necessary to set up specific ToR detailing the scope, output and timeline of the needs assessment. The needs assessment should consider what the programme can do to better achieve the global targets for VBD reduction laid out in the GVCR framework. The needs and actions proposed will be specific to the country in question and should be documented in a written report.

#### **3.3.4 Appraisal of assessment by the national Inter-Ministerial Steering Committee**

The ISC should appraise the needs assessment report and document its observations as an annex. Feedback from supporting committees, working groups or networks should also be sought.

The report should be appraised in terms of the agreed-upon criteria. The appraisal process may involve one or more feedback loops whereby the report is returned to the Assessor for clarification and/or improvement. In particular, the procedural rigour of the assessment should be evaluated for its conformity to the ToR, its lack of bias and the strength of its evidence base. Once the assessment's procedural rigour has been established, the ISC should appraise the recommendations for their technical soundness, economic feasibility and social acceptability.

### 3.4 Programme realignment phase

Based on the situation analysis and needs assessment reports, the vector control programme should develop or revise its existing Vector Control Strategic Plan in line with the GVCR. This new/revised Plan should include a realistic budget and timeline for implementing the various activities designed to address programme needs.

The draft Vector Control Strategic Plan should be submitted to the national ISC for its review. The vector control programme and MoH should use the costed Strategic Plan to negotiate and mobilize domestic and/or external resources to carry out the activities. Information collected in the VCNA (e.g., describing the burden of VBDs) can be used to advocate for increased resource allocation. The mobilization of resources is critical for addressing the needs identified in the VCNA exercise and changing the status quo. The implementation of the Strategic Plan should always be accompanied by monitoring and evaluation.

Throughout this realignment phase, it is important that the programme's responses, for example to outbreaks, are not weakened. Therefore, any programme realignment or restructuring should be well planned and occur in a staged fashion, ensuring that capacity to deal with outbreaks and emergencies is retained at all times.



### 3b. Environmental policies

- Are there policies and regulations governing the production and/or safe use of pesticides?
- Are there policies on Environmental Impact Assessment (EIA)/Health Impact Assessment (HIA) of development projects? Are EIA/HIA being carried out? Explain how these are done. Are they mandatory? Are vector control issues included in the EIA/HIA? Are VBD control programme personnel involved?
- Are there mechanisms for the monitoring and enforcement of policies?
- Is the national government party to the POPs (persistent organic pollutants) convention?
- Is there a structure for developing plans to comply with the provisions of the convention?
- Is there an authorized laboratory to carry out pesticide residue analysis in food and environmental samples? If so, provide the name of the laboratory, its location, number and qualification of technical staff, type and number of analyses carried out in the past year. List any other laboratories that carry out pesticide residue analysis in food and the environment.

### 3c. Agricultural policies

- Is there a national policy for Integrated Pest Management (IPM) and rational use of pesticides?
- Are there policies on promoting research on alternatives to pesticides including IPM?
- Are there any pilot projects for IPM?
- How does the Ministry of Agriculture deliver information on pest control to farmers?
- Is there a legal instrument banning the use of DDT for agricultural purposes?
- Is there capacity for monitoring and enforcing agricultural pesticide policies, especially concerning the use of DDT for agricultural purposes?
- What groups of chemicals are promoted for use in agriculture?
- Is there a forum where the agriculture sector meets with the health sector to discuss policy issues relating to pesticide use?
- Are there policies and implemented plans for rural development that include agricultural extension workers?
- Are there policies covering agricultural practices and livestock farming that have an impact on VBDs? e.g., pig farming and Japanese encephalitis, livestock and human African trypanosomiasis, irrigation and schistosomiasis, etc.





### 3d. Public health pesticide regulation

#### *Legal instruments*

- Describe the existing legal instrument(s) that address the regulation of the following elements of public health pesticide management, specifying the name of legal instrument, relevant articles/provisions and responsible enforcement agencies for registration: importation; formulation and repackaging; storage and transport; distribution; waste management, including disposal of pesticide containers; licensing; control of labelling; control of unauthorized use of pesticides; control of pesticide advertisements; control of professional pest control operators; control of quality of pesticides; monitoring of pesticide residues in food and the environment; control of public health pesticide application equipment. Also describe the existing legal instruments for the control of other groups of pesticides (e.g., agricultural pesticides).
- Specify and describe other chemical-related legal instruments that address elements of pesticide management. For each instrument, specify the objectives of the legislation, relevant articles/provisions, responsible ministries or bodies, pesticide use categories covered and the enforcement agency in the areas of occupational safety and health, environmental protection, transportation of hazardous chemicals, and others (specify)
- Specify and describe other legal instruments that address elements of pesticide management not related to chemicals, such as biological vector control agents. For each instrument, specify as listed in the point above.

#### *Regulatory body and registration requirements*

- Is there a national regulatory body for public health management and use of insecticides and other vector control products? In which Ministry does this body sit?
- What are the registration requirements for public health insecticides? Describe the registration process (risk assessment, efficacy, timeline, fees, etc.) noting the agencies involved. Provide information on the committees and subcommittees involved, as well as their responsibilities.
- Are public health pesticide products registered for specific uses/applications? If so, provide the list of registered vector control pesticides, household insecticides and professional pest management pesticides. State whether registered public health pesticides are gazetted and whether the list is made publicly available.
- Is there a certification scheme for public health pesticide application equipment? If so, briefly describe the scheme and name the responsible authority. Provide the name of the testing centre(s), location, number and qualification of technical staff, and type and number of equipment tested in the past year.

#### *Public health pesticide procurement*

- Do mechanisms exist to control entry of public health pesticides into the country, including collaboration with customs departments and neighbouring countries?
- Describe the procurement procedure for vector control pesticides and application equipment. Briefly discuss how decisions on procurement and use are made. If centrally procured, name the responsible agency/unit and state, if procurement is through tender. List any limitations in the existing procedure for procurement. If not centrally procured, provide information on who makes the decision and how the procurement is carried out. Describe the mechanism in place to check the quality of the products.
- Are taxes and tariffs for vector control products waived?
- Are statistics available on imported or locally manufactured vector control pesticides, professional pest management pesticides and household insecticides? If so, summarize the statistics for the past year.

### 3e. Tourism policies

- Are there policies in the tourism sector that can impact VBD transmission or control? Describe these and indicate where they are being implemented.

### 3f. Municipal policies

- Are there regulatory or legislative actions (e.g., laws or bylaws) that have been introduced to support vector control (e.g., granting property access for mosquito control, etc.)? Explain these, and indicate where they are being used and how they are being enforced.
- Are there other municipal policies that can impact VBD transmission or control? Describe these.

### 3g. Other policies

- Are there policies in other sectors (not described in the above sections) that can impact VBD transmission or control? Describe these.

### 3h. International Health Regulations

- What structures/procedures does the country have in place to implement International Health Regulations?

## 4. Structure of vector control programme

### 4a. Overarching structure of the VBD control programme

- Describe the structure of the VBD control programme(s) (e.g., malaria control programme at the national level)?
- Is there a single department responsible for all VBDs? If not, is there existing collaboration between VBD control programmes?
- Provide an organogram of the VBD control programme(s) and how it relates to the MoH as a whole.
- Does the organizational structure provide a framework for the programme to carry out its core functions with clear lines of reporting and authority?
- Are the roles and responsibilities of the organizational units clearly defined?

### 4b. Structure of the vector control unit/department

- Is there a single unit/department responsible for vector surveillance and control?
- If not, is there existing collaboration between units/programmes responsible for vector surveillance and control?
- Provide an organogram.
- Has there been any restructuring or decentralization? What programme level is responsible for vector control and vector surveillance?
- Does the organizational structure provide a framework for the programme to carry out its core functions with clear lines of reporting and authority?
- Are the roles and responsibilities of the organizational units clearly defined?
- Is there a unit to provide technical support for regional and district operations? If yes, specify.



## 6. Capacity and capability

### 6a. Human resources:

- Is there a human resource development plan?
- Are roles and responsibilities of staff clearly defined, including skill and experience requirements? Are these reflected in their job descriptions?
- Are there opportunities for career progression at each administrative level? Are career pathways defined? Outline these pathways.
- Are staff available with the following skillsets/experience? Tick if the skillset is available.

Programme level	National	Regional / provincial / state / departmental	District	Municipality
Mosquito larval surveys				
Adult vector surveys (e.g., use of light traps, baited traps, human landing catches)				
Environmental management and manipulation				
Larviciding				
IRS				
Maintenance of reference insect colonies				
Insecticide susceptibility testing				
Data management				
Statistical analysis				
Survey design				
Mapping / GIS				
Monitoring and evaluation				
Project management				
Stakeholder engagement				
Behaviour change communication				
Epidemiology				
Public health				
Operational research				
Stakeholder engagement				



*National level:*

- List the staff at the national level and their qualifications.

Name				
Job title				
Work remit, e.g., planning, implementation, monitoring and evaluation				
Training (academic, e.g., diploma, MSc, PhD or on-the-job training)				
Institution trained at				

- Do staff have the appropriate skills to perform all the duties required by their jobs?
- Is the staffing level in the programme adequate to carry out its functions? Give more detail on any gaps. Refer to the list of skillsets when completing this table.

Job title				
Skillset(s)				
Training level required				
Number				

*Region / province / state / department:*

- List the staff at the next administrative level and their qualifications.

Name				
Job title				
Work remit, e.g., planning, implementation, monitoring and evaluation				
Training (academic, e.g., diploma, MSc, PhD or on-the-job training)				
Institution trained at				

- Do staff have the appropriate skills to perform all the duties required by their jobs?
- Is the staffing level in the programme at region / province / state / department level adequate to carry out its functions? Give more detail on any gaps. Refer to the list of skillsets when completing this table.

Job title				
Skillset(s)				
Training level required				
Number				

District and municipality level:

Level	District		Municipality	
Cadre				
Training (academic, e.g., diploma, MSc, PhD or on-the-job training)				
Institution trained at				
Number of staff currently in post				

- Do staff have the appropriate skills to perform all the duties required by their jobs?
- Is the staffing level in the programme at the district and municipality level adequate to carry out its functions? Give more detail on any gaps. Refer to the list of skillsets when completing this table.

Job title				
Skillset(s)				
Training level required				
Number				

Other human resources:

- What other human resources are available to the programme (e.g., municipal governments, non-health ministries, research institutions, implementing partners, etc.)? Provide detail on these resources, including number of staff, job titles, skillsets/experience, training and location.

## 6b. Training:

- Is there a system for training new personnel? Explain how this happens at national and subnational wlevels. What training is provided and by which institution(s)? Are teaching materials and guidelines available for such training?
- Is there a system for refresher training of vector control personnel once they are in-post? What training is provided and by which institution? Are teaching materials and guidelines available for such training?
- Is there a scheme for coaching/mentorship/supportive supervision of staff at all administrative levels? Explain.
- List the names of national and regional institutions offering training/education or technical support. Indicate whether the programme partners with these institutions.

Institution (address including country)				
Location				
Training offered				
Level of training				
Programme partner?				



- Has a registry of experts who could provide technical support to the programme been developed?
- What proportion of staff trained in the past 5 years has the vector control programme retained at each administrative level?

Programme level	National	Regional	District	Municipality
Location name				
Number of staff trained in previous 5 years				
Number of staff trained in previous 5 years still working in the programme				

### 6c. Infrastructural resources:

- Is there a functioning insectary and an entomological laboratory available for use by the programme? Give the location, facilities available (equipment, established colonies, etc.) and functioning of this resource.

Programme level	National	Regional	District	Municipality
Insectary or entomological laboratory				
Location				
Facilities (describe equipment, any insect colonies established, human resources, etc.)				
Comment on functioning				

- What functional vector control equipment (e.g., transport, sprayers, etc.) is available at national and subnational levels?

Programme level	National	Regional	District	Municipality
VBD				
Large equipment e.g., vehicles, sprayers, etc.				
Number				
Condition of equipment, other comments				

- Is the vector control equipment sufficient for programme needs compared to the requirements outlined in the most recent vector control/IVM strategic plan?

Programme level	National	Regional	District	Municipality
Equipment required				
Number				

### 6d. Financial resources:

- Is there an annual government allocation for the planning, implementation, and monitoring and evaluation of vector control activities for the different VBDs? Provide a detailed breakdown of the amounts for the different budget items for the previous year – including costs for staff overall at different administrative levels.
- Indicate any shortfalls in funding levels (in percentages) and steps taken to overcome the shortfalls, if applicable.
- Are there international donations or loans for implementing vector control activities for the different VBDs? If so, provide brief information on the sources and amounts for the previous year, where available.

## PILLARS of GVCR

### 7. Intrasectoral and intersectoral collaboration

#### 7a. Intrasectoral collaboration:

- Is there collaboration within the health sector? Outline these links. Is this collaboration operating effectively? What structures or procedures exist to formalize this collaboration?
- Is there collaboration with the health sector in neighbouring countries and regionally? List and explain these efforts.

#### 7b. Intersectoral collaboration

*National Inter-Ministerial Steering Committee:*

- Has a national Inter-Ministerial Steering Committee for VBD control been established?
- If a national inter-ministerial task force has not been established, is/are there existing committee(s) that could take on this function for coordinating cross-sectoral VBD control activities?
- What are the ToR for this committee, when do they meet (give dates of all previous meetings), and what is the composition of the committee?

Name			
Job title			
Ministry			
Activities			

- Explain how the committee functions and how accountability of partners is ensured?
- Is the collaboration operating effectively?
- Are there supporting structures or committees of nongovernmental entities (e.g., research institutions, donors, private sector, etc.) that feed into the Steering Committee?

*Subnational Inter-Ministerial Steering Committee:*

- Have subnational Inter-Ministerial Steering Committees for VBD control been established?
- What are the ToR for these committees, when do they meet (give dates of all previous meetings), and what is the composition of the committees?





Name			
Job title			
Ministry			
Activities			

- Explain how the committees function and how accountability of partners is ensured?
- Is the collaboration operating effectively?
- Are there supporting structures or committees of nongovernmental entities (e.g., research institutions, donors, private sector, etc.) that feed into the Steering Committees?

*Current intersectoral activities:*

- Is there currently active collaboration with other sectors? Outline these activities, including dates. Possible sectors include communities, water and sanitation, housing, agriculture, education, waste management, etc.
- Is there collaboration between the VBD programme and the non-health sector in neighbouring countries and regionally? List and explain these efforts.

## 8. Engaging and mobilizing communities

- Is there a national plan for community mobilization or is this included in the VBD strategy or policies? Outline community engagement/mobilization activities currently being undertaken or undertaken in the last 5 years.

Vector-borne disease			
Community mobilization activity			
Location			
Date / frequency			
Comment			

- What communication strategies and outlets are employed to increase the uptake and adoption of interventions and behaviour change? Outline the activities currently being undertaken or undertaken in the last 5 years.

Vector-borne disease			
Communication activity	Messages		
	Method of reaching community		
Location			
Date / frequency			
Comment			

- Are community engagement/mobilization and communication strategies based on an understanding of communities developed through social science research?
- Is there monitoring and evaluation of community engagement/mobilization and communication strategies? Explain how this is being done.

## 9. Vector surveillance, and monitoring and evaluation of interventions

### 9a. Vector surveillance

- What are the most important vector species? Give details on vector bionomics and behaviour.

Type of vector-borne disease			
Primary and secondary vectors			
Habitat			
Information on vector species	Feeding behaviour		
	Resting behaviour		
	Adult/larval ecology		
Date of survey			
Publication / Name of report			

- Have sentinel sites been set up in representative endemic sites and areas receptive to pathogen transmission? Explain how these sites were selected.
- Is routine entomological surveillance also conducted at other sites (e.g., in municipalities)? How are these sites selected?
- For each vector type, outline what vector parameters are measured during vector surveillance? How often are these parameters collected? Where is this surveillance conducted (sentinel and other sites)?

Type of vector-borne disease			
Vector species			
Vector parameter measured			
How measured			
Where measured			
Frequency of measurement			

### 9b. Insecticide resistance monitoring

- Is there routine monitoring of insecticide/molluscicide resistance? In what vector species?
- Which institution is responsible for such activities?
- How often is this monitoring done and in how many sites/other locations?
- Does the monitoring look at phenotype or also genetic mechanisms?
- Give information on studies to investigate insecticide resistance. Provide the most recent information on susceptibility status.

VBD			
Vector species			
Insecticide			
Mortality %			
Date			
Mechanism determined?			



- Are bioassay tests to monitor the efficacy of insecticides on sprayed surfaces and treated nets using susceptible reference strains routinely undertaken? If yes, briefly describe the process and areas where these tests were done over the past year. If no, provide reasons as to why the control programme has not been able to carry out such tests.

### 9c. Data systems

- Explain the systems for collecting intervention, entomological and epidemiological data. How are these data stored, and how are data exchanged between national and subnational levels? How often are data exchanged?
- Is there linking of entomological and epidemiological surveillance and intervention data? How are these data brought together (e.g., through shared database such as DHIS2)? What are the mechanisms for review and taking action on these data? How do these data inform what action is to be taken as a programme?
- Is there data-sharing with in-country research/implementation partners on entomological and epidemiological indicators? Are data-sharing agreements in place?
- Are data reported to WHO? How frequently and through what mechanism?

### 9d. Monitoring and evaluation

- What indicators are used for the monitoring and evaluation of vector control? Include intervention data (e.g., coverage) and both entomological and epidemiological indicators, and think about the whole pathway, not just impact on disease burden.

VBD			
Indicate nature of indicator <sup>1</sup>			
Indicator			
Data source, e.g., health information system, community survey, etc.			
Frequency collected			

- Is there sharing of monitoring and evaluation data across sectors (e.g., agricultural use of insecticides, meteorological data on climate)? What data are collected/provided, how often does this happen and from which institution, and how are these data acted upon?

<sup>1</sup>This information should be taken from monitoring and evaluation logistical frameworks, and incorporate indicators of input (e.g., number of LLINs purchased), process (e.g., number of mass campaigns conducted), output (e.g., number of LLINs distributed), outcomes (e.g., intervention coverage, vector population reduction) and impact (e.g., disease burden reduction).

## 10. Scale-up and integration of tools/approaches

### 10a. Vector control interventions and stratification

- What vector control tools are recommended for each disease?
- Are vector control interventions stratified according to geographic area or population group on the basis of burden, epidemiology, vector behaviour and acceptability of the intervention, etc.? Explain how this stratification is done for each disease.

VBD			
Intervention (include type of insecticide or molluscicide)			
Indicator			
Frequency of application			
Name of implementing agency/partner			

- What other interventions are used against VBDs (e.g., mass drug administration, vaccination)? Where and under what circumstances are these interventions implemented, and what coverage is achieved?

### 10b. At-risk population coverage

- What proportion of the at-risk population for each VBD was covered by appropriate vector control in the previous year? What is this figure expected to be for the current year?

Examples provided

Disease	<i>Malaria</i>	<i>Malaria</i>
Location / population group	<i>District A</i>	<i>Region B</i>
Recommended vector control intervention package for location / population group	<i>LINs and IRS</i>	<i>LINs</i>
At risk population or area	<i>500 000</i>	<i>800 000</i>
Average coverage	<i>80% LIN, 50% IRS = 65%</i>	<i>80% LIN</i>
At-risk population covered with appropriate vector control	<i>325 000</i>	<i>640 000</i>
Proportion of at-risk population covered with appropriate vector control	<i>74%</i>	



### **10c. Supervision and quality control procedures**

- Is supportive supervision performed at provincial, district and municipal levels to ensure the quality of programme implementation? If yes, describe.
- Is there effective performance appraisal for vector control staff at provincial, district and municipal levels?
- What quality control and quality assurance procedures are in place?

### **10d. Regulation of vector control products**

#### *Insecticide use*

- For which VBD programmes are records of the usage of vector control pesticides available? For each disease, obtain a copy of the record of usage for the past year, according to the compound, formulation type and concentration, type of application and amount of formulated/active ingredient used. List the VBD programmes for which such pesticide usage data are not available and provide reasons for the lack of data.

#### *Quality control of public health pesticides*

- Are there facilities for ensuring the quality of pesticide products, such as GLP-certified facilities? If so, provide the name(s) of the laboratory, its location, certification(s), number and qualification of technical staff, number and type of analyses (e.g., registration, import control and market sampling) carried out over the past year on household insecticides, vector control pesticides and professional pest management pesticides. Is post-marketing surveillance of insecticides and other products conducted? If so, what are the procedures for this surveillance?
- Are there perceived problems with poor quality, counterfeit or obsolete pesticides?

#### *Pesticide poisoning*

- Is there a central unit that collects pesticide poisoning data for the whole country? If so, provide the name of the unit and contact details including URL. Does the unit provide information on the treatment of poisoning? Is there any formal collaboration between the unit and the pesticide regulatory authority? List other centres that provide information on pesticide poisoning treatment.
- In the absence of a central unit, provide a list of existing units that collect pesticide poisoning data.
- Is there a standard format for reporting poisoning events? If so, obtain a copy. Also, if available, request a copy of the annual report on poisoning events.
- Is there a legal requirement for the notification of pesticide poisoning incidents? If so, provide relevant information.

#### *Formulation and repackaging*

- Provide information on formulation and repackaging facilities for public health pesticides, including their location, amount and type of pesticide formulated/repackaged, and corresponding capacity.

*Pesticide storage, waste management and disposal*

- Provide information on national and local authorities' storage facilities for vector control pesticides including their location, storage capacity and conditions.
- Briefly describe activities undertaken by national and local authorities on the proper management of vector control pesticide stocks, including stock planning and recording, stock inspection, and training on stock management.
- Provide information on bulk storage facilities for household and professional pest management pesticides including their location, storage capacity and conditions.
- Provide information on facilities where obsolete vector control pesticides are stored, including location, storage capacity and conditions. Also provide available information on household and professional pest management pesticides.
- Briefly describe the facilities and common practices for the disposal of public health pesticides. Include any mechanism for collecting small quantities of obsolete pesticides. Briefly describe the mechanisms used for collecting and disposing of public health pesticide containers.
- Are there personnel with skills and qualifications for understanding and implementing a programme for the safe use and disposal of pesticides at the national/regional/district level? Is this expertise within the MoH vector control unit or elsewhere?

*Prevention of exposure to pesticides by vector control staff*

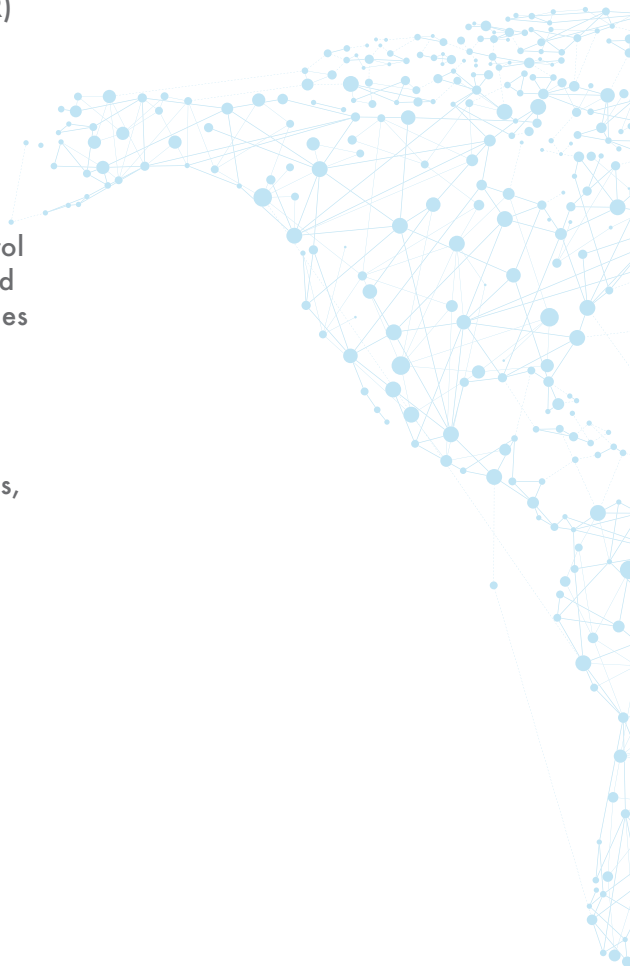
- Do vector control personnel receive periodic training in the safe use of insecticides?
- Are proper protective clothing and supplies available for vector control staff?



The Global vector control response 2017-2030 (GVCR) provides a new strategy to strengthen vector control worldwide through increased capacity, improved surveillance, better coordination and integrated action across sectors and diseases.

One of the priority activities outlined in the GVCR is for countries to conduct or update their vector control needs assessment. This information can then be utilized to develop or update countries' vector control strategies and to plan necessary activities.

This **Framework for a National Vector Control Needs Assessment** sets the standards for baseline assessment and progress tracking in line with the goals, targets, milestones and priorities of the GVCR.



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