PRESIDENT'S MALARIA INITIATIVE

National Policy Guidelines for Integrated Vector Mangement—Rwanda

Integrated Vector Management (IVM) Task Order 2

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Republic of Rwanda

Ministry of Health

National Policy Guidelines

for

Integrated Vector Management (IVM)

2012

Foreword

Although there are a number of health policy guidelines, strategies and related work plans to control malaria and various other vector borne diseases, the Ministry of Health faces a number of challenges in implementing integrated and cost-effective approaches to control these vector borne diseases. The challenges include: inadequate capacity for evidence based decision making, lack of awareness by other sectors and communities of their role in vector control, inadequate institutional frameworks and policies for joint planning and implementation by different sectors, communities and other stakeholders, and tool-focused interventions such as for LLINs, IRS, larval source management, which tend to run largely independent of each other. In order to consolidate the gains made in the control of malaria in the last few years, it is important that the country changes the current parallel management system and embrace an integrated and more cost-effective approach to the control of malaria and other vector borne diseases (MPR, 2011). This recommendation was also made by the stakeholders meeting on the vector control needs assessment that was held in Kigali in February 2011 (VCNA, 2011).

These policy guidelines have therefore been developed to harmonize vector control efforts into an overarching integrated vector management (IVM) policy framework that will address the challenges that plague the current system of vector control. It is my sincere hope that the policy enabling instruments described in this guidance document will anchor strategic vector control interventions and provide a conducive environment that will support and fast track IVM implementation in the country to further reduce the burden due to malaria and other vector borne diseases.

Dr. Agnes BINAGWAHO
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Acknowledgements

The formulation and development of these IVM policy guidelines follows recommendations by a stakeholders meeting to validate the vector control needs assessment (VCNA) report in February 2011. This guidance paves way for the development of an integrated vector management (IVM) strategy which will be implemented at all levels in the country, to control and manage malaria and other vector borne diseases. The policy guidance outlined in this document is an important step for the Malaria and Other Parasitic Diseases Division of the Ministry of Health, in its mandate to harmonize national capacity to control and prevent vector borne diseases in Rwanda.

I would like to extend my appreciation to our Development Partners and key stakeholders, for the material and in-kind support to the policy guidance development process. In particular, I would like to sincerely thank the US President's Malaria Initiative (PMI) for providing financial and technical support through RTI International in the development of the Policy Guidelines. Our appreciation also goes to the Global Fund for HIV, TB and Malaria for financial support..

I would also like to express my appreciation to all those organizations and stakeholders who will directly or indirectly be involved in the execution of the Policy Guidelines. I appeal to all stakeholders to do their part and collaborate with the Malaria and Other Parasitic Diseases Division to ensure that the vision of transforming Rwanda into a malaria-free country as espoused in the new Malaria Strategic Plan (2012-2017) will be realized in the few years ahead.

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Acronyms and Abbreviations

CHWs	Community health workers
GFTAM	Global Fund to fight Tuberculosis, Aids and Malaria
HMIS	Health Management Information Systems
IEC/BCC	Information, Education and Communication/Behavioral Change Communication
IRS	Indoor Residual Spraying
IVM	Integrated Vector Management
LLINs	Long Lasting Insecticide Treated Nets
M&E	Monitoring and Evaluation
MINAGRI	Ministry of Agriculture and Animal Resources
MOH	Ministry of Health
MoEnv	Ministry of Environment
MOPDD	Malaria and Other Parasitic Diseases Division
MPR	Malaria Programme Review
NGOs	Non-Governmental Organizations
NISC	National Inter-sectoral Steering Committee
NTD	Neglected Tropical Diseases
NUR	National University of Rwanda
RBS	Rwanda Bureau of Standards
RBC	Rwanda Biomedical Centre
RDT	Rapid Diagnostic Test
RTI	Research Triangle International
SPH	School of Public Health, Kigali
TRAC*Plus*	Center for Treatment and Research on AIDS, Malaria, Tuberculosis and Other Epidemics
USAID/PMI	United States Aid for International Development/President's Malaria Initiative
VBDs	Vector Borne Diseases
VCNA	Vector Control Needs Assessment
VCTWG	Vector Control Technical Working Group
WHO	World Health Organization
WHOPES	World Health Organization Pesticide Evaluation Scheme

1.0 Background

Over the past few years, Rwanda has made significant progress in malaria control. The Health Management Information System (HMIS) indicates that the overall proportional morbidity due to malaria reduced from 15.7% in 2009 to 3% in 2011, while the proportional mortality reduced from 19.2% to 6.4% in the same period. There was also a 75% decline in test positivity rate between 2001 (56%) and 2011 (13%). These dramatic results can be attributed to a number of focused and aggressive efforts by the Government of Rwanda, complimented by joint efforts with its development partners in implementing curative and preventative interventions. Achievements made include:

a. *Enhanced utilization of malaria diagnosis and enhanced access to curative service:*

An estimated 96% of suspected malaria cases in Rwanda are currently diagnosed through microscopy or rapid diagnostic tests (RDTs); with about 93% of childhood fevers being diagnosed and treated within 24 hours, making it one of the highest rates of parasitological diagnosis and treatment in Africa. Rwanda has also achieved universal coverage of Artemisinin Combination Therapies (ACTs) treatment through the public health system, which includes faith-based facilities and expanded integrated community case management of children under five.

b. *Enhanced vector control and prevention*:

(i) There was an increase from 15% coverage of households with at least one ITN in 2005 to a coverage of 82% in 2010 (DHS 2005; 2010). By February 2011, some 6,142,758 million long lasting insecticidal nets (LLINs) were distributed utilizing various channels that included, antenatal clinics (ANC), expanded program on immunization (EPI) and household campaigns enabling the country to achieve universal coverage target of one LLIN for every two persons (MPR 2011 report).

(ii) The usage rate for LLINs is quite high among some subpopulations most at risk; over 76% of children under five in urban areas and 70% in rural areas use LLINs, while use rate among pregnant women was 87% in urban areas and 80% in rural areas (DHS 2010).

(iii) Indoor residual spraying (IRS) operations began in 2007 with the support of USAID/PMI and by 2011 covered about 98% of targeted structures and protected approximately 1.3 million persons (14% of population) in five high malaria burden districts.

(iv) There has also been significant development in national capacity for entomological surveillance and monitoring, especially over the last 3 years. Seven out of a targeted 12 entomological sentinel sites have been established – linked to district hospitals - and are manned by well-trained technicians who routinely conduct vector surveillance and monitoring activities as part of a national entomological surveillance scheme.

(v) A central-level insectary and associated entomology laboratory has been established, where vector susceptibility and ELISA-based evaluations are now routinely conducted. IRS operations are buttressed by monthly evaluation of wall bioassays to monitor the length of residual effectiveness of the insecticides used for IRS.

c. *Strengthen public education efforts on malaria control*

There is currently a combination of well-designed and targeted IEC/BCC tools and messages on malaria prevention and control that are widely disseminated through multiple channels, including community health workers, focused group discussion and mass media.

d. Health management information system

A credible and robust Health Management Information System (HMIS) is operational, which draws and links information from all health centers and district hospitals for evidence-based decision-making. The association of data from entomological sentinel sites with district hospitals is providing an opportunity to advance the integration of entomological outcomes from vector control into the overall disease data system.

Underlying the above successes is the exceptionally strong government support for malaria control, zero tolerance for corruption, success in mobilizing human resources, as well as community empowerment towards malaria control. The 2011 MPR report notes that should the

trend of success continue and cross-border malaria transmission be addressed, Rwanda can attain a pre-elimination phase of malaria in the next few years.

1.1 Addressing the Challenges to Vector Control

The success made in malaria control in Rwanda needs to be sustained further in order to ultimately disrupt local transmission. A relaxation of these interventions could easily reverse the gains made - an example of which was witnessed in 2009, when the LLINs coverage decreased to less than 25% due to procurement delays, leading to an upsurge in malaria cases country-wide (MPR 2011). Factors that could impede progress include lack of appropriate policies on vector control, limitations to the effectiveness of interventions due to operational practices and development of insecticide resistance in mosquitoes. As malaria transmission is suppressed further, the eco-epidemiology of the transmission will change and along with it, potential variations in the mode of exposure to infective bites, for example, increase in proportion of outdoor or early biting mosquito species as a result of insecticide pressure used indoors. The potential for epidemic outbreaks may also increase.

In order for disease control efforts to remain effective, national capacity for generating, evaluating and utilizing all locally relevant data will need to be further enhanced to enable ongoing refinement/ adjustment of vector control interventions. The country will need to strengthen entomological monitoring for early detection of disease outbreaks, and make adequate preparations for prompt and appropriate response. There should be even stricter enforcement of the inclusion of health and environmental impact mitigation in natural resources development (water, agriculture, housing, etc.) to prevent the creation of environments conducive for vector proliferation and disease transmission. Targeted communities and stakeholders at all levels will need to be empowered to play proactive roles in community-based strategies and enable decentralized decision making in vector control - where the lowest competent authority is able to make appropriate decisions for vector control implementation.

Cognizant of the challenges to VBDs, particularly to malaria vector control, and in response to the recommendations of the WHO for countries to transition to IVM (WHO, 2004; 2008), Rwanda conducted a vector control needs assessment (VCNA) in 2010, during which it:

- Reviewed the current framework and status of vector control for the major vector borne diseases, particularly malaria;

- Identified the drivers/ root causes of existing constraints to the achievement of set goals, including gaps in policy, institutional arrangements, inter-sectoral collaboration, program operations and community empowerment (Table 1);
- Identified opportunities and requirements for addressing those constraints and recalibrating operations to increase efficiencies and maximize sustainable reductions in disease burdens.

Table 1: Some major challenges to vector control in Rwanda

(culled from VCNA report 2011)

Policy
• *Absence of an overarching and harmonized policy on vector control.* • *Absence of a functional inter-sectoral mechanism for regular review of policy effectiveness/impact.* • *Inadequate translation of existing strategies into work plans on vector borne diseases (VBDs), particularly outside of malaria.*
Institutional Arrangements
• *Absence of a substantive and unified vector control department within the Ministry of Health to coordinate and harmonize cross-cutting vector control efforts.* • *Absence of a functional mechanism for intra-sectoral (within MoH) and inter-sectoral (outside MoH) action on vector control.* • *Inadequate human resources and system structures critical to integrated vector control.* • *Need to further harness the full potential of communities for vector borne diseases control.*
Tools, technologies and logistics of intervention
• *Less than maximal deployment of malaria vector control tools: (i) absence of effective monitoring of LLINs utilization and field performance, (ii) gap in the IRS coverage of indicated high risk areas (iii) absence of a contextualized environmental management strategy including larviciding and modification of the significant vector breeding places in the valley areas from man-made activities such as sand weaning and agriculture, and (iv) absence of vector control efforts for other VBDs.* • *Need to proactively prevent and manage the development of resistance to WHOPES approved insecticides in local disease vector populations.* • *Inadequate national capacity for eco-epidemiological and entomological assessments to support decision making and evaluate outcomes and impact of vector control.* • *Inadequate capacity for program monitoring and evaluation.*

A stakeholder workshop, involving over 40 participants, reviewed and validated the VCNA report, in Kigali on 3 Feb 2011 and agreed on the following:

- The VCNA report should be adopted as a reference document for the establishment of an IVM Policy guidelines and Strategic Plan in Rwanda.

- IVM should be adopted as the strategy for all vector borne diseases control in Rwanda.
- The MOPDD will spearhead the IVM strategic plan development and implementation process.
- An inventory of stakeholders who show interest in collaboration and supporting vector control activities should be established.
- A national IVM focal point should be designated.
- A formal national inter-sectoral coordination mechanism for IVM should be established.
- There is need for high level advocacy and resource mobilization for IVM implementation.
- Human and infrastructure capacities to implement IVM should be strengthened at central, district, sector and village levels.
- The need to take advantage and exploit the existing community structures and networks for IVM implementation.

1.2 Linkage with Other Relevant Health Sector guidelines

The new Malaria Strategic Plan (2012-2017) has the vision to achieve a malaria-free Rwanda which will contribute to socio-economic development of the country. This is in line with the Government's commitment to the Millennium Development Goal No. 6 that aims to combat HIV/AIDS, Malaria and other diseases. The VCNA conducted in 2010 revealed that Rwanda does not have an overarching policy that addresses vector-borne disease control, although there are a number of national policies and strategic plans initiated by the health sector that provide vital ingredients to a national IVM Policy and Strategic Plan. These plans and policies are include: the Community Health Policy 2007, the *TRACPlus Strategic Plan 2009 – 2012*, the *National Strategic Plan for the Prevention and Control of Malaria in Rwanda 2008-2012,* the *Strategic Plan for Prevention and Control of Epidemic Infectious and Neglected Tropical Diseases in Rwanda 2009 – 2012*, the *Environmental Health Policy 2008* and the *National Behavior Change Communication Policy for the Health Sector 2006.* These policies, in one way or another, mention the need for collaboration and integration of health systems. In addition, there are other government policies that affect vector borne diseases, either positively or negatively. For example, agriculture policies related to pesticide use and on irrigation can have

a negative or positive impact on vector borne diseases. There are also international and regional policies which provide appropriate context for the implementation of IVM, including the WHO strategic framework on IVM (WHO 2004) and the WHO position statement on IVM (WHO 2008) both of which encourage countries to adopt IVM approaches to the control of vector borne diseases.

With all these policies in place, there is an increasingly conducive environment for Rwanda to effectively transition its vector control efforts towards IVM. This is characterized by:

a. A national desire to adopt a sustainable strategy to further consolidate the successes achieved in the prevention and control of malaria and to accelerate the realization of a pre-elimination phase of the disease as highlighted in the new Malaria Strategic Plan (2012-2017).
b. General recognition of the need to redouble efforts to reduce the burden of other vector borne diseases, including the Neglected Tropical Diseases, where IVM provides an opportunity to more proactively explore multi-disease control approaches.
c. A strong political will, which is driving ongoing efforts to further improve efficiencies within the Ministry of Health.

To further improve on the gains achieved, there have been changes in institutional structure, as well as the mode of work and accountability, including the institutionalization of performance-based systems focused on achieving results. The former Malaria Unit under TRACPlus that was restricted in its functions to tackle other vector borne diseases was restructured into the Rwanda Biomedical Centre (RBC) with the creation of the Malaria and Other Parasitic Diseases Division (MOPDD). In alignment with recommendations of a February 2011 national stakeholders meeting on the findings of the VCNA, the MOPDD is now charged with spearheading national efforts to address all vector borne diseases in the country. The establishment of the MOPDD therefore will enhance coordination within the Ministry of Health and enable a more harmonized engagement of other partners to accelerate overall human resource development, engage in joint planning and resource mobilization, and foster shared accountability among national stakeholders towards vector control.

2.0 IVM Policy and Guidelines

The following sections describe the principles and framework of the IVM policy for Rwanda, including a summary of the policy tools that will be used to implement a proactive national agenda on IVM. This policy provides the basis for the 2012-2017 national strategic plan on IVM, which is outlined separately in a related document.

2.1 Guiding Principles on IVM

Integrated vector management (IVM), defined as "*A rational decision making process to maximize the use of resources for vector control*" (WHO 2008), is recommended by WHO as the desirable strategy for ecologically sound, cost-effective and sustainable control of VBDs. IVM has 6 key principles (Box 1), which, when fully implemented, will ensure comprehensive consideration of all the factors that are critical to the sound management of the local vectors of human diseases and ensure sustainable and significant reduction in the diseases that they transmit. These principles will also serve as the guiding principles for the implementation of IVM in Rwanda.

Box 1: KEY PRINCIPLES OF IVM

1. *Advocacy, social mobilization:* mobilization of all stakeholders and development of appropriate vector control policies to guide actions.
2. *Legislation*: Regulatory and legislative framework for vector control and safeguard of the environment and human health.
3. *Collaboration within the health sector and with other sectors*: supporting frameworks for functional collaboration by all stakeholders.
4. *Integrated approach*: Rational utilization of available resources, through informed selection of non-chemical and chemical vector tools/methods and multi-disease control approaches.
5. *Evidence-based decision-making*: generate and utilize relevant local data on disease eco-epidemiology to support viable strategies and implementation.
6. *Capacity-building*: strengthen critical infrastructure, financial and human resources at all levels for vector control.

2.2 Policy Objectives

The overall objective of the National IVM Policy is to *provide a framework for sustainable mobilization of coordinated national efforts and resources to accelerate the control and ultimate elimination of malaria and other vector borne diseases in Rwanda*.

National preparation for IVM will aim at establishing the following six broad conditions, aligned with the six guiding principles of IVM. The aim will be to enable a comprehensive implementation of ecologically sound, cost-effective, and sustainable vector control interventions in Rwanda. The specific objectives of the National IVM Policy will be to:

1. Embed in the development policies of all relevant sectors, organizations and civil society, IVM guidelines to prevent or minimize the negative impacts of natural resource development on vector borne diseases.
2. Establish appropriate legislative and regulatory regimes for public health insecticides to promote judicious use, safeguard human health and the environment, and enable effective management of insecticide resistance.
3. Establish an appropriately mandated inter-sectoral coordination mechanism to ensure empowerment and active involvement of all stakeholders, including the private sector, for joint planning, resource mobilization and to oversee the implementation of vector control activities.
4. Foster a rational decision making process in the choice, diversification, and deployment of vector control interventions. Efforts will focus on the generation and management of relevant knowledge of the local disease eco-epidemiology, to promote the ecological soundness of interventions, appropriate integration of chemical and non-chemical vector control tools/methods and multi-disease control approaches.
5. Identify and build at all levels, relevant capacities including essential physical infrastructure, technical human competencies, and empowered communities, for an effective management of malaria and other vector borne diseases.
6. Promote cross-border vector borne disease control initiatives aimed at harmonizing and coordinating interventions across the border areas with neighbouring countries.

2.3 Policy Framework

A number of policy instruments will be utilized (Table 2) to achieve the objectives of the national IVM Policy guidelines. These instruments will cover a broad range of areas and will include, among others:

- Measures to facilitate appropriate policy changes through well-targeted information and communication systems. Efforts in this direction will involve the establishment of an appropriate communication infrastructure including trained human resources; establishment of standards and harmonized procedures for storage and appropriate utilization of relevant data by stakeholders; modalities to protect the intellectual property rights linked to the information generated to encourage timely disclosure/ sharing of relevant scientific results on vector borne diseases to improve vector control operations. A concurrent objective in strengthening information and communication infrastructure will be to elicit appropriate changes in attitudes and practices to reduce associated risks (e.g. linked to unauthorized insecticide use), and empowerment of stakeholders.
- Creation of inter-sectoral mechanisms that focus on a performance-based review system, and encourages collaboration and joint action on vector control by the relevant stakeholders.
- Measures to promote the development of human resources focusing on building appropriate skills and competencies on vector control at various levels (Central, District and Sector) and creation of career paths and positions to encourage retention of trained personnel.
- Other policy instruments will focus on strengthening appropriate legislative and regulatory enforcement mechanisms for vector control products.
- Provision of appropriate infrastructure for vector-borne disease monitoring and surveillance.

Table 2. Enabling policy instruments for IVM implementation

Key IVM Principles	Policy Objectives	Policy Instruments
1. Advocacy, social mobilization	Political and administrative hierarchy involved in advocacy through meetings and mass media campaigns	• Government position statement on IVM • Mass media support for IVM • Support IEC/BCC for vector control • Support Local and World Malaria Day
	Communities empowered to participate in vector control	• Support for community based services through CHWs • Community awareness and education programs through IEC/BCC • Support decentralization in decision making • Provide incentive programs for community participation in vector control
2. Legislation and regulation	Effective legislation and regulation in place	• Enforce legislation and regulation on pesticide management • Enforce legislation and regulation on environmental management • Enforce compliance with environmental and health impact assessment in development projects • Encourage subsidies and tax exemptions on vector control products • Develop Best Practices for vector control
3. Collaboration within the health sector and with other sectors	Intra-sectoral collaboration achieved within the health sector	• Ministerial position statement on IVM • Directive on collaboration between health divisions and units • Revise job descriptions to include vector control
	Inter-sectoral collaboration achieved with other sectors and partners	• Government position statement on IVM • MoH facilitate and endorse VCNA report • Establish national inter-sectoral steering committee (NISC) on IVM • Establish a vector control technical working group (VCTWG) • Designate an IVM focal point • Facilitate inter-ministerial meetings • Facilitate institutional arrangements and framework for IVM • Compliance with Health Impact Assessment by sectors • Facilitate cross-border high level planning meetings on vector borne diseases control

Table 2 (Cont'd). Enabling policy instruments for IVM implementation

Key IVM Principles	Policy Objectives	Policy Instruments
3. Collaboration within the health sector and with other sectors	Intra-sectoral collaboration achieved within the health sector	• Ministerial position statement on IVM • Directive on collaboration between health divisions and units • Revise job descriptions to include vector control
	Inter-sectoral collaboration achieved with other sectors and partners	• Government position statement on IVM • MoH facilitate and endorse VCNA report • Establish national inter-sectoral steering committee (NISC) on IVM • Establish a vector control technical working group (VCTWG) • Designate an IVM focal point • Facilitate inter-ministerial meetings • Facilitate institutional arrangements and framework for IVM • Compliance with Health Impact Assessment by sectors • Facilitate cross-border high level planning meetings on vector borne diseases control
4. Integrated approach	Efficiency and effectiveness of multiple diseases control achieved	• Directive on joint planning and implementation of vector control within and outside the health sector • Allocation of resources for M&E
	Generate local information on cost-effectiveness of vector control interventions through operational research	• Allocation and strategic direction for operation research on country-specific programmatic issues • Encourage networking with local and international research organizations
	Encourage appropriate larval source management at the community level; and recognize areas where it is not appropriate	• Evaluation of full utility of larval source management to control breeding of mosquito vectors • Community involvement in larviciding and environmental management through *Umuganda* initiative • Community education on vector identification and control

Table 2 (Cont'd). Enabling policy instruments for IVM implementation

Key IVM Principles	Policy Objectives	Policy Instruments
5.Evidence-based decision making	Efficient epidemiologic and entomologic surveillance undertaken	• Allocation of resources for strong surveillance systems through sentinel sites • Support laboratory services for entomological monitoring • Support decentralized decision making for vector control • Strengthen data management system (integrate into HMIS) and reporting for decision making on vector control • Allocation of resources for strategic direction on operation research on vector control Allocation of resources for M&E on impact of vector control on disease transmission
6.Capacity building	Ensure a critical mass of vector control specialists at national and district levels	• Allocation for human capacity building and career paths • Allocation for IVM training curriculum at all levels • Promote decentralized decision-making on appropriate vector control interventions at district level • Revisit job descriptions to include vector control
	Strengthen infrastructure capacity for epidemiological and entomological surveillance	• Allocation of resources for infrastructure development • Re-organize and appropriately staff the MOPDD to address other VBDs and NTDs • Support exchange and sharing of human and infrastructure resources between sectors • Facilitate inter-sectoral budgeting for IVM

2.4 Policy Implementation Plan

The above policy instruments are prioritized and divided into seven categories of expected outputs as shown in Table 3 to achieve the set objectives when implemented.

Table 3. Expected outputs and indicators on policy guidelines implementation

Expected outputs	Activities	Time frame	Indicators	Responsibility
1. *Advocacy* - High level political and administrative campaigns for IVM achieved	Engage policy makers, civil society and media in IVM advocacy	August 2012	IVM Strategic Plan validated	MOPDD, MoH, Stakeholders, Media
	Resource mobilization	Continuous	Funds available for vector control	Ministry of Health, other Sectors and Partners
2. *Capacity building* - National and district capacities for IVM built and strengthened	Develop IVM training curriculum for basic and mid-level personnel drawn from all relevant sectors	September 2012	IVM training modules available for Trainers of Trainers	MOPDD
	Develop career path and incentives for vector control personnel	Continuous	Critical mass of expertise in entomology and epidemiology	MOPDD
	Strengthen infrastructure for public health entomology	December 2012	Fully functional entomology laboratory	MOPDD, School of Public Health, Kigali Health Institute, National University of Rwanda
3. *Community empowerment* - Communities involvement in personal protection and vector control strengthened	Enhance community awareness and education programs	Continuous	Number of farmers and communities actively engaged in vector control	CHWs, farmers, Local leadership, NGOs, Civil societies
	Encourage decentralized decision making in vector control	Continuous	Health benefits	Health facilities
	Prescribe incentives for participation in vector control	Continuous	Performance based appraisals	All sectors
4. *Collaboration* - between the health ministry and other sectors achieved	MoH issues a position statement on IVM (Ministerial Decree)	August 2012	An IVM position paper available	Relevant sectors
	MoH issues directive for all relevant department and units within the Ministry to collaborate	August 2012	Shared resources	Ministry of Health, MOPDD
	Establish a national inter-sectoral steering committee (NISC) for IVM	September 2012	Inter-sectorial meetings	Ministry of Health, MOPDD, All sectors
	Allow institutional arrangements towards IVM	September 2012	Policy adjustments towards vector control	All sectors
	Allocate inter-sectoral budgets for vector control	Continuous	Sustainable funds for vector control	All sectors
	Hold inter-ministerial meetings on VBDs control	Bi-annual	Joint work plans for vector control	All sectors
	Initiate cross-border inter-ministerial collaboration	Annual	Joint work plans for vector control	Regional health ministers

Table 3 (Cont'd). Expected outputs and indicators on policy guidelines implementation

Expected outputs	Activities	Time frame	Indicators	Responsibility
5. *Evidence-based decision making* - Vector control interventions	Facilitate entomological and epidemiological surveillance	Continuous	Data available, utilized and published	MOPDD, Universities and Research organizations
	Support staff to undertake operational research on programmatic issues of vector control	Continuous	Number of projects that generate new evidence for decision making	NISC, VCTWG, MOPDD, Universities and Research organizations
6. *Integrated approach* - Combinations of vector control interventions undertaken	Conduct operational research on efficiency and cost-effectiveness of chemical and non-chemical methods of vector control	Continuous	Best Practices for vector control adopted	MOPDD, Universities, Research organizations
7. *Enforce legislation and regulations* for vector control	Ensure sectors and development partners undertake Environmental Impact Assessment before development projects are commissioned to mitigate vectors proliferation	Continuous	Environmental Impact Assessment	All sectors and development partners, REMA, RDB
	Ensure compliance with legislation and regulation on pesticide use and management	Continuous	Insecticide resistance management strategy	MOH MINAGRI, MoEnv REMA, RBS etc
	Ensure compliance with legislation and regulation on environmental management	Continuous	Environmental Impact Assessment	REMA
	Instruct on tax exemptions for vector control products	Continuous	Tax relief on pesticides and protective equipment for spray operators	Ministry of Finance, Rwanda Revenue Authority

3.0 Expected outcomes

- All vector control interventions shall be jointly planned and implemented within the broad context of IVM.
- The Government through the Ministry of Health shall establish the necessary institutional framework and systems for planning and managing all vector borne diseases within the context of IVM at national, district and community levels.
- Inter-sectoral collaboration and involvement of all stakeholders including communities in decision making and management processes shall be the foundation of the IVM strategy.
- The Government shall harmonize and enforce local and international legislative and regulatory policy instruments, such as legislation and regulation on the management of public health insecticides and health impact assessment.
- The Ministry of Health shall develop Best Management Practices for vector control
- The Government shall establish the necessary legislative mechanisms for safe and judicious use of insecticides for vector control and enhance the necessary technical and infrastructural capacities.
- Insecticide resistance management shall be an important component of IVM implementation.
- The Government shall strengthen human capacity at national, district and community levels to provide the required implementation and supervisory capacity for IVM.
- The Ministry of Health shall strengthen and empower Community Health Workers in planning, implementation and monitoring of vector control interventions in their respective sectors in collaboration with local stakeholders.
- Advocacy and information dissemination on the importance of communal contributions in IVM shall be a major component of IVM and political hierarchy; electronic and print media will be extensively used in advocacy and social mobilization.
- The Ministry of Health, in partnership with other sectors, shall mobilize resources from all relevant stakeholders, institutions and donors for the control of vector borne diseases.
- The Ministry of Health through the MOPDD shall be responsible for monitoring quality and impact of IVM implementation through evidence-base and operational research in collaboration with local and international institutions.

- The Ministry of Health will initiate cross-border collaboration for disease surveillance and prevention.
- The Ministry of Health shall be responsible for organizing regular formal and informal consultative meetings with all key stakeholders to discuss relevant issues, provide feedbacks, strategic orientation, technical support and resource mobilization and produce annual reports on IVM implementation.
- The Ministry of Health through the national inter-sectoral steering committee (NISC) shall carry out Monitoring and Evaluation of IVM implementation every so often in conjunction with stakeholders, partners and external reviewers.
- Epidemiological and entomological monitoring shall be increasingly strengthened to effectively address resurgence, as the country achieves malaria pre-elimination phase and therefore becomes more epidemic prone.

4.0 References

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