



NATIONAL MALARIA CONTROL PROGRAM



Status of larval source management implementation in Uganda

Vector Control Working Group 15th Annual General Meeting

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Geneva Switzerland

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Introduction



- ❑ Larval source management (LSM) is an additional malaria vector control intervention aimed at source reduction of all mosquitoes (malaria transmitting and biting nuisances)

- ❑ Uganda is implementing LSM guided by epidemiological data and WHO criteria
 - **Larviciding: breeding sites that meet the WHO criteria of 3Fs (Few, Findable and Fixed)**
 - **Environmental manipulation: Other breeding sites**

- ❑ Stakeholder engagement and involvement including at the community level is central to all LSM activities/processes in line with the MAAM approach





General objectives of conducting LSM

- To teach the communities to identify breeding sites and destroy them
- To reduce malaria mosquito vectors population in the communities to avoid upsurges
- To involve the district leadership in the management of LSM activities in the communities
- To map the breeding sites in the districts for future management





Specific objectives of LSM

- To spray at least 90% of potential breeding sites in the epidemic districts of Kigezi region with SAFE larvicide
- To spray at least 80% of potential breeding sites in ten epidemic districts of Northern Uganda with SAFE larvicide
- To reduce the malaria test positivity rate among outpatient department cases tested for malaria from $>75\%$ to $< 7\%$ in accordance to UMRSP 2015-2020
- Support elimination whenever feasible





Specific objectives of LSM

- To attain pre-epidemic malaria levels
- Reduce the geographical extent of endemic areas
- To build the capacity of the districts to implement larviciding
- To sustain the gains of LSM in the districts





Role of LSM in Malaria Control and Elimination

- ❑ LSM is an important set of tools for inclusion in the IVM packages to ensure more effective malaria vector control
- ❑ LSM can synergize with primary interventions such as LLINs and IRS and other innovations
- ❑ It provides the dual benefits of not only reducing numbers of house-entering mosquitoes, but, importantly, also those that bite outdoors and reduces population of all mosquito species
- ❑ LSM will further reduce transmission, in a synergistic fashion, and help insecticide resistance (by reducing adult populations) and should be considered in the consolidation phase of control and elimination programmes



- Larval control through environmental management has been advocated for at individual household and community level through IEC
- The district will take lead on the activity following the LSM guidelines and implementation strategy. District vector control and environmental officers work together
- Communities through their chairperson LCIs select the Village Health Teams (VHTs) to do larviciding
- VCOs support the trained VHTs to map breeding sites as per WHO recommendations
- Epidemiological data is used to stratify the village . LCI is involved in this process.
- All family members at the household level take on the responsibility of identification and destruction of breeding sites





Methodology Cont'd



- Identified breeding sites that meet the WHO criteria of 3Fs, are treated by SAFE larvicides. Post application monitoring is done for 21 days
- Drone technology may be applied (mapping, treatment, real time)
- Malaria transmitting mosquitoes and their habitats will be destroyed before they can transmit the parasites to humans.
- Preliminary studies conducted by the University of South Florida, College of Public Health in 2015 in Uganda supplied detailed information on drone technology





Selection criteria of sub counties in Kigezi region

- Level of past/current disease burden/endemicity/risk of transmission(Epidemiological data from health facilities)
- Proportion of population at risk of the different vector-borne diseases
- Capacity of vector control available in the area (number of trained staff, resources available, physical infrastructures etc)
- Availability of other programs to support IVM





Selection criteria cont'd

- Level of political commitment
- Accessibility of the area all-year round
- Type and level of vector control intervention currently implemented
- Level of community willingness to support vector control programs



Breeding Habitats

MOSQUITO FACTORIES



Floating vegetation in artificial dams



Sand pits and marram pits



Brick pits



Sand pit



Mixed pit



Households



More breeding sites in Uganda



VHT treating a breeding site with larvicide during the large scale study in Nakasongola





Breeding sites cont'd





Breeding sites cont'd





Factors contributing to the successful implementation of LSM

- Leadership and clarity of objectives
- Good management
- Detailed knowledge of the local vectors
- Community support
- Collaboration between sectors
- Timely reporting of meaningful data
- Availability of resources
- Good infrastructure development
- Strong entomological surveillance system



Organizational Structure and Background of Presidential Initiative



PRESIDENT OF THE REPUBLIC OF UGANDA

OFFICE OF PRIME MINISTER

MINISTRY OF DEFENCE & VETERAN AFFAIRS

MINISTRY OF HEALTH

NATIONAL TASK FORCE ON MALARIA ELIMINATION

TECHNICAL COORDINATION COMMITTEE

IMPLEMENTING ORGANS

Composition of NTF

1. Office of Prime Minister (OPM)
2. Hon. Minister of Defense
3. Hon. Minister of Health
4. Rep. of Government of Egypt
5. WHO Country Representative
6. INRAD CORP.
7. MoFA
8. MoLG
9. MAAIF
10. MoFPED
11. MoWE
12. NEMA
13. NDA

Organizational Structure and Background of Malaria Free Uganda Initiative

Implementing Organs

1. UPDF Medical Services
2. InRaD Corporation
3. National Malaria Control Programme (**NMCP**)
4. World Health Organization (**WHO**)
5. Vector Control Division (**VCD**)
6. Uganda Virus Research Institute (**UVRI**)
7. UNHRO
8. Natural Chemotherapeutic Research Institute (**NCRI**)
9. Central Public Health Laboratory (**CPHL**)
10. College of Veterinary Medicine, Animal Resources and Bio-security (**COVAB**) – Makerere University
11. Development partners
12. District Local Governments
13. National Environment Management Authority (**NEMA**)
14. National Drug Authority (**NDA**)



Status of LSM-Political support



H.E giving leadership during larviciding meeting



Government Position

Political commitment to fight malaria is reflected in the intention of the Government to eliminate malaria from Uganda through preventive methods based on the World Health Organization (WHO) guidelines.

The MoH is actively promoting Integrated Vector Management (IVM), where multiple interventions are combined to control vector-borne diseases

LLINs and IRS are directed against the adult vector population that enters houses, further suppression of transmission will be achieved by targeting the aquatic stages by reducing vector larval habitats, thus attacking both outdoor and indoor biting vectors. This may be particularly important in areas targeted for





Larviciding leadership at MOH



HON. DR. JANE RUTH



HON. DR. JOYCE KADUCU



DR. DIANA ATWINE



DR. HENRY MWEBESA



DR. CHARLES OLARO



DR. TUSIIME PATRICK



DR. JIMMY OIGO



CHARLES NTEGE



DR. M.A SHADY





Dissemination LSM Findings to MOH Top Management



Timely reporting of data to Ministry Officials



IVM

TREATMENT

DIGNOSTICS

MANUFACTURING

2010

2015

2016

2018

2019

2022

R&D OF LSM
FEASIBILITY



ADOPTION OF NEW VECTOR
CONTROL TOOLS

OPTIMIZE TOOLS FOR TREATMENT
OF SEVERE MALARIA

EXPAND ACCESS TO PREVENTIVE
THERAPY IN PREGNANT WOMEN

EXPAND ACCESS TO DIAGNOSTIC
& TREATMENT

LOCAL PRODUCTION
OF SUPPLIES





Status of LSM Implementation

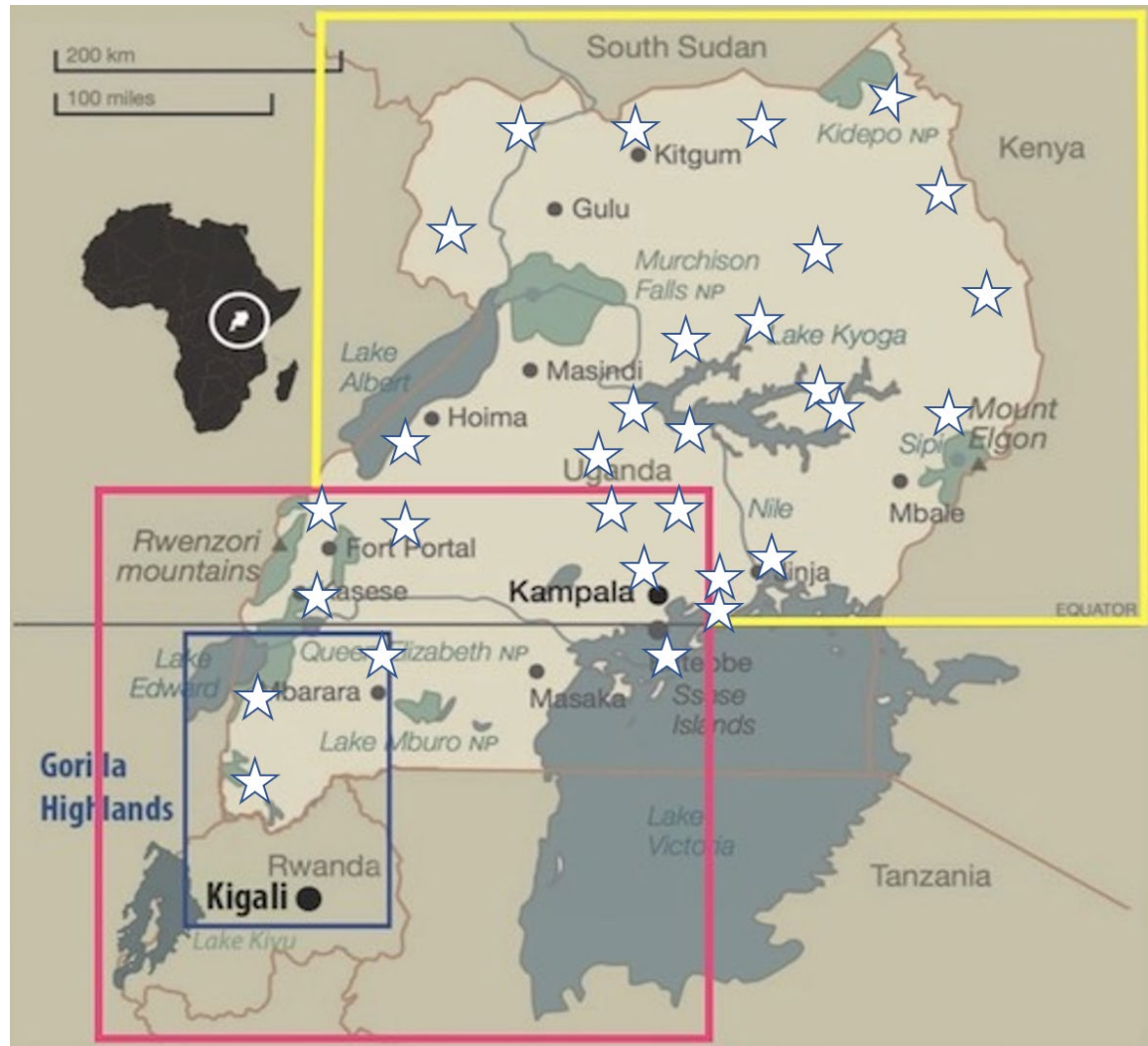
- District sensitization meetings conducted in 3 of the 6 districts in Kigezi region
- Trainers of trainee (TOTs) training conducted in the 3 districts of Kisoro, Kabale and Rubanda
- Procured 15,000kgs of Sunlight Activated Formulation Extract(SAFE) from Innovative Research and Development Cooperation(InRaD) in Egypt
- Mapping of breeding sites that meet the WHO criteria of 3Fs(Fixed, Few and Findable) is ongoing



STRATEGIC PLAN 2010- 2025

UGANDA BIO-SECURITY BORDERS

1. Reduce the burden of malaria in epidemic areas
2. Reduce the geographical extent of endemic areas
3. Support elimination where feasible





Status of LSM Implementation

- Donation of dusters and other materials used in application of SAFE received from InRaD Egypt
- Start up funds for the application of larviciding have been provided by the Government of Uganda
- Application is planned for the last week of February 2020



Thanks for Listening

