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Implementation of Community-based Larval Source Management for Enhancing Malaria Control in mainland Tanzania. A process narration.

NMCP / Swiss TPH – TEMT Project

4th May 2022



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Background

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Background

- In mainland Tanzania, implementation of ITNs and IRS has helped in reducing malaria prevalence from 18.1% (DHS/MIS-2008) to 7.5% (MIS-2017)
- In enhancing malaria control, the country is planning to deploy Larval Source Management
- National Malaria Control Program (NMCP) with support from Towards Elimination of Malaria in Tanzania (TEMT Project) has planned to support LSM in 15 councils, however, the intervention has started in 3 councils in Tanga region:
 - Handeni DC, Lushoto DC and Tanga CC
- Support from TEMT Project includes financial resources and technical assistance

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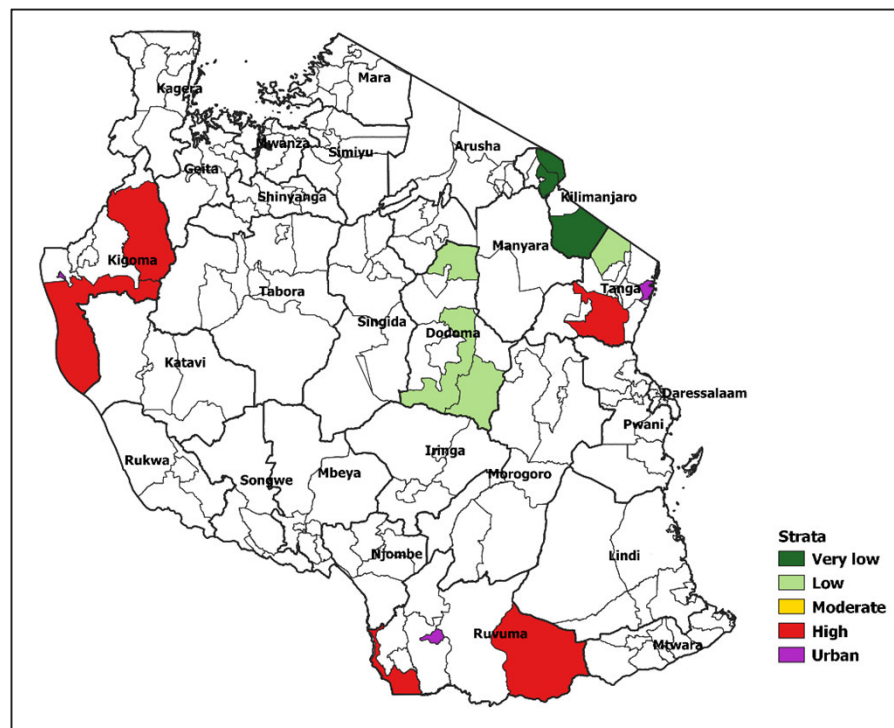
Selection criteria for the 15 councils

- i. To consider representation of all malaria risk strata
 - “very low”, “low” “moderate”, “high” and “urban”
- ii. To consider councils with Malaria Vector Entomological Surveillance (MVES) Sentinel Sites
- iii. To consider councils implementing other interventions, like;
 - LLINs, IRS, MDA, CBS, MEEDs, CmCM and IPTi
- iv. To consider councils with high heterogeneity (within its wards)
- v. To consider councils with bimodal and unimodal rainfall patterns
- vi. To consider logistics in-terms of biolarvicide distribution & supervision



TEMT Project – LSM Implementation Councils

| S / No. | Region | Council | Malaria Endemicity / Risk | Malaria Risk Strata |
|---------|-------------|-------------|---------------------------|---------------------|
| 1 | Tanga | Handeni DC | High | High |
| 2 | | Lushoto DC | Low (High heterogeneity) | Low |
| 3 | | Tanga CC | Moderate (Urban) | Moderate |
| 4 | Kilimanjaro | Rombo DC | Very low | Very low |
| 5 | | Same DC | Low (High heterogeneity) | Low |
| 6 | | Moshi DC | Very low | Very low |
| 7 | Dodoma | Chamwino DC | Low | Low |
| 8 | | Kondoa DC | Low | Low |
| 9 | | Mpwapwa DC | Low (High heterogeneity) | Low |
| 10 | Kigoma | Uvinza DC | High | High |
| 11 | | Kibondo DC | High | High |
| 12 | | Kigoma MC | High (Urban) | High |
| 13 | Ruvuma | Tunduru DC | High | High |
| 14 | | Nyasa DC | High | High |
| 15 | | Songea MC | Moderate (Urban) | Moderate |



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Strategy of LSM Implementation

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Structure of Implementation and Biolarvicides used

- LSM is conducted through a community-based approach
 - Volunteers at the community level (CORPs) implement LSM
 - Supervision follows existing local government structures from the village / street, ward and council levels
- The project uses two biolarvicide products that are manufactured locally at Tanzania Biotech Products Limited, a factory in Kibaha DC, Pwani Region
 - BACTIVEC - *Bacillus thuringiensis* var. *israelensis* (Bti)
 - GRISELESF - *Bacillus sphaericus* (Bs)
- These products are highly selective - target only larvae stages of mosquitoes
- Biolarvicides are safe to humans, animals and the environment



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Biolarvicide application - Frequency

| Spraying cycle | | |
|--------------------------------------|-----------------------|---|
| According to Rainfall Pattern | | |
| Bimodal | 3 spray cycles | Each spray cycle will last for 2 months |
| Unimodal | 2 spray cycles | Each spray cycle will last for 2 months |

| Frequency of spraying per spraying cycle | | |
|--|------|----------|
| Month | Week | Spray |
| 1 | 1 | Yes |
| | 2 | Yes |
| | 3 | Yes |
| | 4 | Yes |
| 2 | 5 | - |
| | 6 | Yes |
| | 7 | - |
| | 8 | Yes |
| Total application per spray cycle | | 6 |

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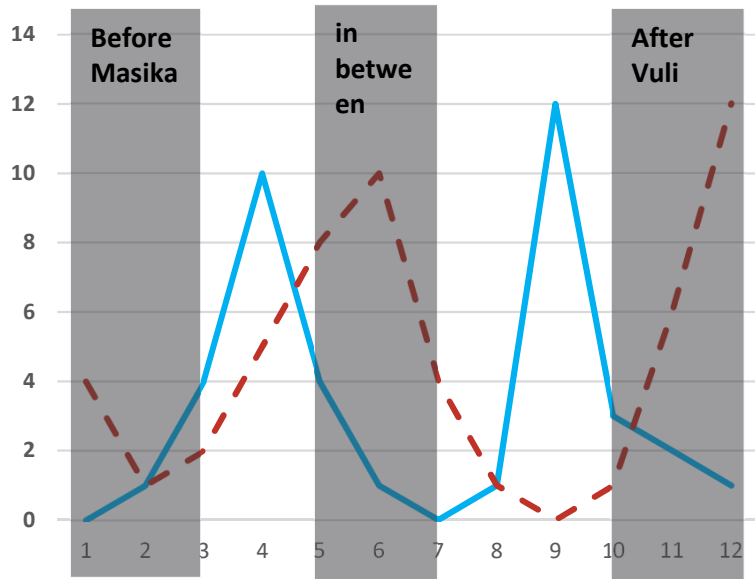
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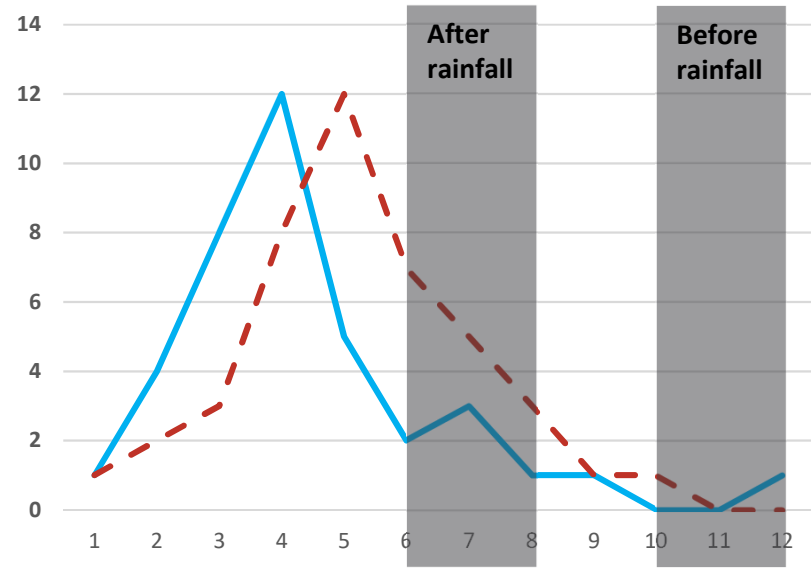
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Bio- larvicide application – Based on rainfall pattern



Bimodal rainfall – Application pattern



Unimodal rainfall – Application pattern

Key Spraying cycle — Rainfall pattern - - - Malaria cases

Status of LSM Implementation

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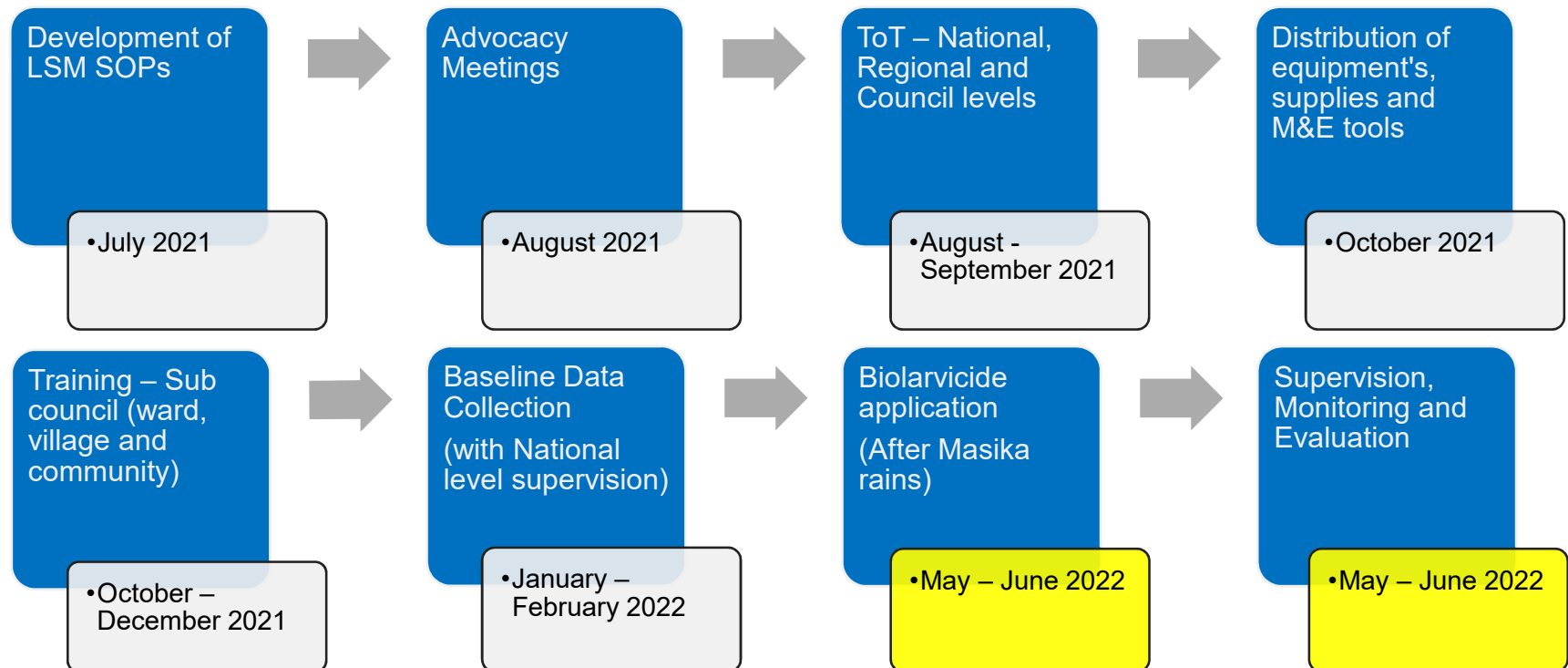


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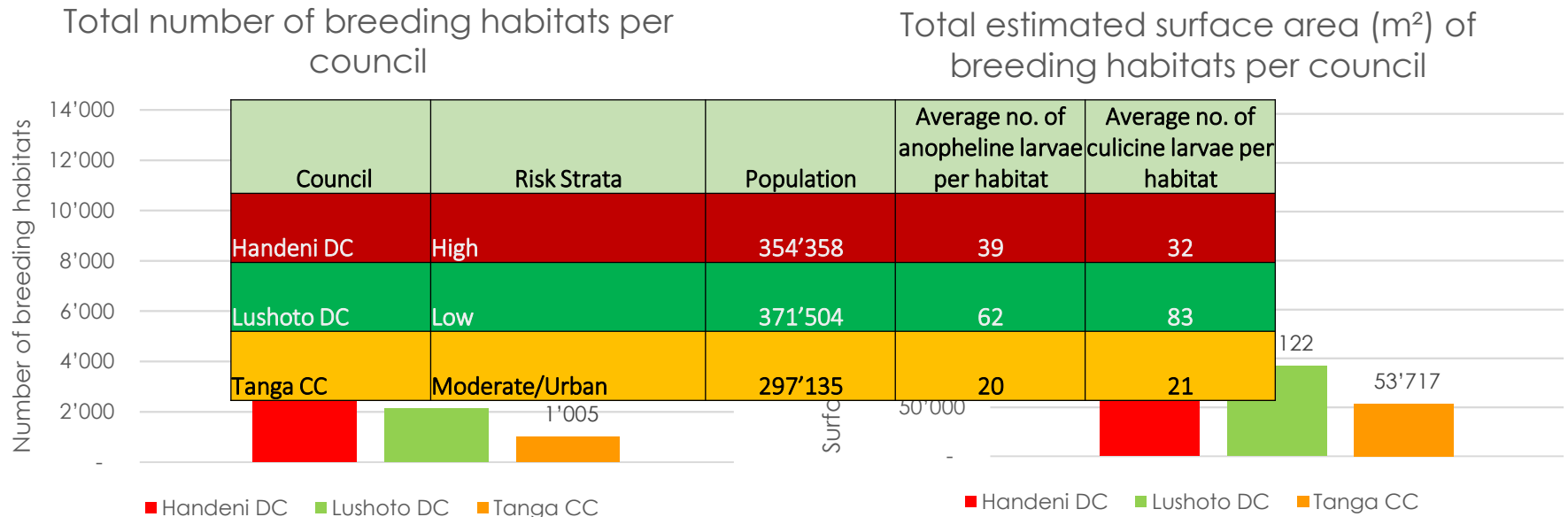


Status of LSM Implementation



Status of LSM Implementation

- Baseline larval habitat data as collected during dry season (before “Masika” season)



Identified Challenges

- Limited experience in conducting community-based LSM application
 - Difficulties in reaching all areas within the villages
 - Difficulties in identifying all breeding habitats especially in rural settings

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Next Steps

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Up-coming activities

- To conduct round one of application of biolarvicide (after “Masika” season) in May – June 2022
- To conduct subsequent rounds as per identified schedule
- Close monitoring and evaluation of LSM implementation
 - Process evaluation
 - Entomological evaluation (larvae and adult mosquito monitoring)
 - Epidemiological monitoring (facility based data)
 - Cost analysis (prospective analysis)
 - Impact analysis

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Thank You

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