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Guidelines on Subnational Malaria Elimination Verification in India

National Center for Vector Borne Disease Control

Directorate General of Health Services
Ministry of Health and Family Welfare, Government of India

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Abbreviations

API	Annual Parasite incidence
ET	Evaluation Team
EC	Evaluation Committee
GoI	Government of India
GTS	Global Technical Strategy
MoHFW	Ministry of Health & Family Welfare
NCVBDC	National Centre for Vector Borne Disease Control
NFME	National Framework for Malaria Elimination
NIMR	National Institute of Malaria Research
NSP	National Strategic Plan
SMEAC	Sub-National Malaria Elimination Advisory Committee
SNMEV	Sub-National Malaria Elimination Verification
UT	Union Territory
WCO	WHO Country Office
WHO	World Health Organization

Glossary

Malaria elimination: Interruption of local transmission (reduction to zero incidence of indigenous cases) of a specified malaria parasite species in a defined geographical area as a result of deliberate activities. Continued measures to prevent re-establishment of transmission are required[1]. **(Note: The certification of malaria elimination in a country will require that local transmission is interrupted for all human malaria parasites.)**

Sub-National Malaria elimination: Interruption of local transmission (reduction to zero incidence of indigenous cases) of all human malaria parasites species in all areas of a district or state/UT for at least the past 3 consecutive years (36 months), as evidenced by the relevant data/records. Continued measures to prevent re- establishment of transmission are required.

Malaria free: Describes an area in which there is no continuing local mosquito-borne malaria transmission and the risk for acquiring malaria is limited to infection from introduced cases.

Malaria case: Occurrence of malaria infection in a person in whom the presence of malaria parasites in the blood has been confirmed by a diagnostic test.

Note: A suspected malaria case cannot be considered a malaria case until parasitological confirmation. A malaria case can be classified as indigenous, imported, induced, introduced, relapsing or recrudescent (depending on the origin of infection); and as symptomatic or asymptomatic. In malaria control settings, a "case" is the occurrence of confirmed malaria infection with illness or disease. In settings where malaria is actively being eliminated or has been eliminated, a "case" is the occurrence of any confirmed malaria infection with or without symptoms.

Case investigation: Collection of information to allow classification of a malaria case by origin of infection, i.e. imported, indigenous, induced, introduced, relapsing or recrudescent

Indigenous case: A case contracted locally with no evidence of importation and no direct link to transmission from an imported case.

Imported case: Malaria case or infection in which the infection was acquired outside the area in which it is diagnosed.

(Note: Average Incubation period of 14 days should be considered while taking travel history for classification of cases)

Introduced case: A case contracted locally, with strong epidemiological evidence linking it directly to a known imported case (first-generation local transmission).

Relapsing case: Malaria case attributed to activation of hypnozoites of *P. vivax* or *P. ovale* acquired previously.

Recrudescent Case: Malaria case attributed to the recurrence of asexual parasitemia after antimalarial treatment, due to incomplete clearance of asexual parasitemia of the same genotype(s) that caused the original illness.

Focus, malaria: A defined and circumscribed area situated in a currently or formerly malarious area that contains the epidemiological and ecological factors necessary for malaria transmission.

Note: Foci can be classified as active, residual non-active or cleared.

Malaria receptivity : Degree to which an ecosystem in a given area at a given time allows for the transmission of Plasmodium spp. from a human through a vector mosquito to another human

Malaria reintroduction : The occurrence of introduced cases (cases of first-generation local transmission that are epidemiologically linked to a confirmed imported case) in a country or area where the disease had previously been eliminated

Note: Malaria reintroduction is different from re-establishment of malaria transmission.

Malaria risk stratification : Classification of geographical areas or localities according to factors that determine malaria receptivity and risk of importation

Malariogenic potential: Potential level of transmission in a given area arising from the combination of malaria receptivity and importation risk of malaria parasites

Note: The concept of malariogenic potential is most relevant for elimination and prevention of re-establishment when indigenous transmission is mostly or entirely eliminated.

Population at risk: Population living in a geographical area where locally acquired malaria cases have occurred in the past 3 years.

Re-establishment of malaria transmission : The occurrence of indigenous malaria cases (cases of second-generation local transmission) in a country or area where the disease had previously been eliminated.

WHO's operational definition of re-establishment of malaria transmission is the occurrence of at least three indigenous cases of the same species in the same focus for three consecutive years

In the Indian context, re-establishment of malaria transmission shall be considered to have occurred when at least three indigenous cases of the same Plasmodium species are reported within the same district for three consecutive years.

Preamble

This document aims to provide guidelines and processes for verifying subnational malaria elimination in India. It outlines the criteria, activities and evaluations necessary to validate zero indigenous malaria cases in States, Union Territories (UTs), and Districts, ensuring the interruption of transmission and preventing the re-establishment of malaria. The document emphasizes that all States, UTs and Districts should strive for malaria elimination, regardless of transmission intensity. While the ultimate goal is malaria elimination for all malaria-endemic regions, this guidance is primarily intended for district/state which are achieving zero indigenous malaria cases and preparing for Sub-National malaria elimination verification (SNMEV) at the district or state/UT level.

1. Introduction

India is making significant progress toward achieving zero indigenous malaria cases by 2027, with the broader goal of malaria elimination by 2030. Between 2015 and 2024, malaria cases and deaths declined by 78.1% and 77.6%, respectively. The National Framework for Malaria Elimination (NFME), launched in February 2016, has been instrumental in driving this progress. Aligned with the WHO Global Technical Strategy (GTS) for Malaria 2016–2030, the NFME outlines criteria for the categorization of States/UTs and prescribes tailored interventions based on their epidemiological status.

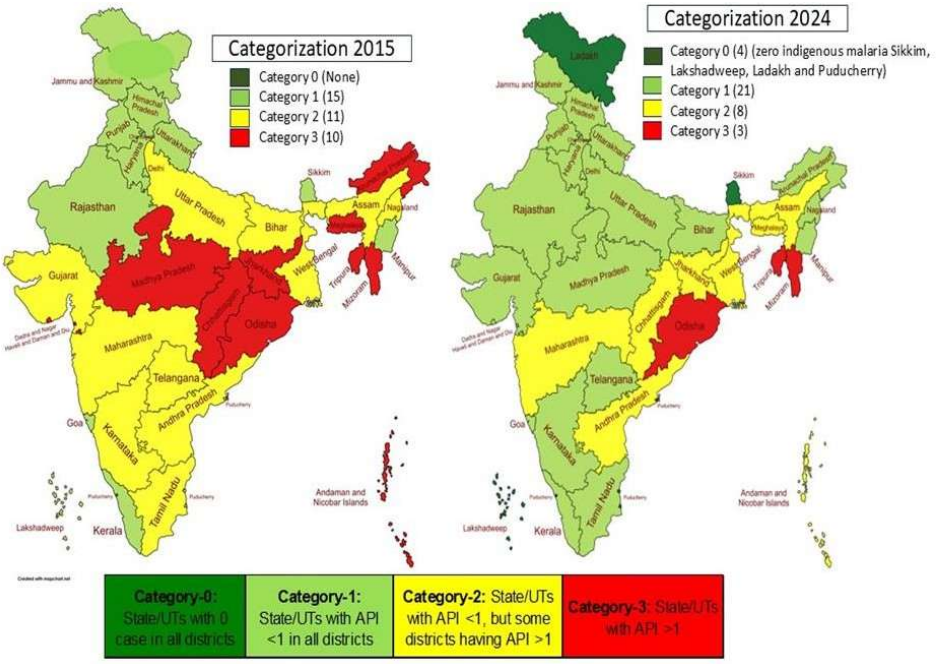


Figure-1 : Categorization of States/UTs — Comparison Between 2015 and 2024

In alignment with the NFME, the National Strategic Plan-1 (2017-2022) was developed with a focus on district-based planning, implementation, and monitoring.

Subsequently, the National Strategic Plan-2 (2023–27) was developed by NCVBDC and launched by the Hon'ble Minister of Health & Family Welfare, Government of India, with the objective of further intensifying malaria elimination efforts. This initiative has significantly contributed to the reduction in both malaria cases and related deaths. The NSP-2 emphasizes district-level stratification and the implementation of tailored interventions. Under this plan, districts are categorized into four groups based on their malaria status.

Table : Categorisation of districts of India

Category	**Definition**
Category 0 (Prevention of re-establishment)	Districts having zero indigenous cases
Category 1 (Elimination phase)	Districts having API <1 per 1000 population
Category 2 (Pre-elimination phase)	Districts having API ≥ 1 but < 2 per 1000 population
Category 3 (Intensified control phase)	Districts having API ≥ 2 per 1000 population

As outlined in the National Framework for Malaria Elimination (NFME) and reinforced in NSP-2, SNMEV serves as a strategic mechanism to guide districts in adopting targeted elimination strategies and preventing the re-establishment of transmission. **Districts categorized under Category 0 for a minimum of three consecutive years shall undergo verification through a phased approach**. This process is designed to foster healthy competition, elevate malaria elimination as a priority within district and state administrations and strengthen India's readiness to achieve national malaria elimination in alignment with WHO guidelines.

2. Overview of subnational malaria elimination verification

India is advancing towards subnational malaria elimination verification process as outlined in the National Framework for Malaria Elimination (2016-2030). Although, Sub-National Malaria Elimination is a country led effort, is expected to emulate WHO's Malaria elimination certification procedures[1]. This alignment will ultimately prepare the districts and states/UTs across the country for National certification of malaria by 2030.

For Certification of Malaria Elimination by World Health Organisation (WHO) requires applicant countries to provide evidence that:

- local malaria transmission has been fully interrupted, resulting in zero indigenous human malaria cases for at least Three consecutive years.
- an adequate program for preventing re-establishment of indigenous transmission is fully functional throughout the country.

For Sub-National Malaria Elimination, the DISTRICT is the operational unit. Verification of malaria-free status in each district will further enable States/UTs and the nation to achieve the final goal more effectively.

Note- Districts that have reported zero indigenous cases in the past **Three consecutive years** and < 03 cases of the same species in subsequent years , may be considered for Sub-National Malaria Elimination Verification (SNMEV), subject to SMEAC's discretion. **Eligibility requires a documented and adequate plan for Prevention of Re-establishment (POR) and the availability of all requisite documents as outlined in Annexes 3 and 4.**

3. Oversight and Management

National Center for Vector Borne Diseases (NCVBDC) under Ministry of Health & Family Welfare (MoHFW), Government of India, is responsible for deciding the method and granting malaria-free status to the districts or the entire State, that meet the criteria for subnational malaria elimination as outlined in this Guideline. WHO will provide technical assistance to NCVBDC for SNMEV process.

3.1 Constitution of Subnational Malaria Elimination Advisory Committee (SMEAC) at National level and its Terms of Reference (ToR):

A national-level committee, **Subnational Malaria Elimination Advisory Committee (SMEAC)** has been constituted to oversee the subnational verification process (Annexure-1).

Terms of Reference for SMEAC :

- Approval of draft guidelines for subnational malaria elimination verification in India.
- The Selection of districts for phase- wise verification based on the epidemiological indicators of previous 5 years prior to the last indigenous case reported in that district/state (analysis

[1] Preparing for certification of malaria elimination. Second edition. WHO. Geneva. 2022.

report will be presented by NCVBDC) and based on completeness of dossiers submitted by states.

- Guide the evaluation team to carry out field evaluation.
- Review the reports submitted by the evaluation teams after their field visits (each report being presented by Team Lead of the respective evaluation team).
- Examine and finalize the report with recommendations within 1 month of receiving.
- Each member, excluding the Chairperson, may undertake 2-3 field-visits to eligible districts as part of the SNMEV process. However, the same member shall not participate in the SMEAC meeting convened to deliberate on the verification outcomes of those districts.

Constitution of Evaluation Committee at National level and its Terms of Reference ToR:

An Evaluation Committee, a pool of experts , has been constituted **(Annexure-2) of the following groups of Officers/Officials/Experts as indicated below-**

a) Officer/Official from NCVBDC
b) Senior Regional Director /Regional Director
c) State Programme Officers ,Malaria
(Note: SPOs may undertake evaluation exercises only in other states)
d) Independent Experts
e) WHO-India Officials
f) GFATM Managers at NCVBDC

SMEAC, in consultation with NCVBDC will form the **Evaluation Team (ET)** by selecting **Six members—one from each of the Six groups mentioned above** . Before the field-validation process, the ET will review the Dossier and conduct field visits for validating of the data and information presented in the dossier (Annexure 4).

Terms of Reference (ToR):

- Review the reports and supporting documents/dossiers submitted by states and districts for sub-national malaria verification & submit the report to SMEAC and NCVBDC.
- Plan and conduct field visits as guided by SMEAC and NCVBDC.
- Field visit to be conducted as per the checklist and guidance provided by SMEAC and NCVBDC.
- To verify the data provided in the dossiers in the field using field tools for evaluation.
- After field visit, report to be presented by Team Lead of the respective evaluation team to the SMEAC & NCVBDC.
- Preparation of reports and submission to SMEAC within 15 days of visit.

4. Criteria and Steps of for SNMEV

The criteria used in verifying subnational elimination is similar to those for national certification. **States/UTs/Districts reported Zero Indigenous cases for Three consecutive years are eligible for SNMEV**.

The eligible state/union territory/district need to submit three major documents to claim zero indigenous cases in their area are:

1. Subnational Elimination Report(**Annexure 3)**
2. Check-List of documents available (**Annexure 4)**
3. Plan to prevent re-establishment of transmission (**Annexure 6)**

Steps for subnational malaria elimination verification

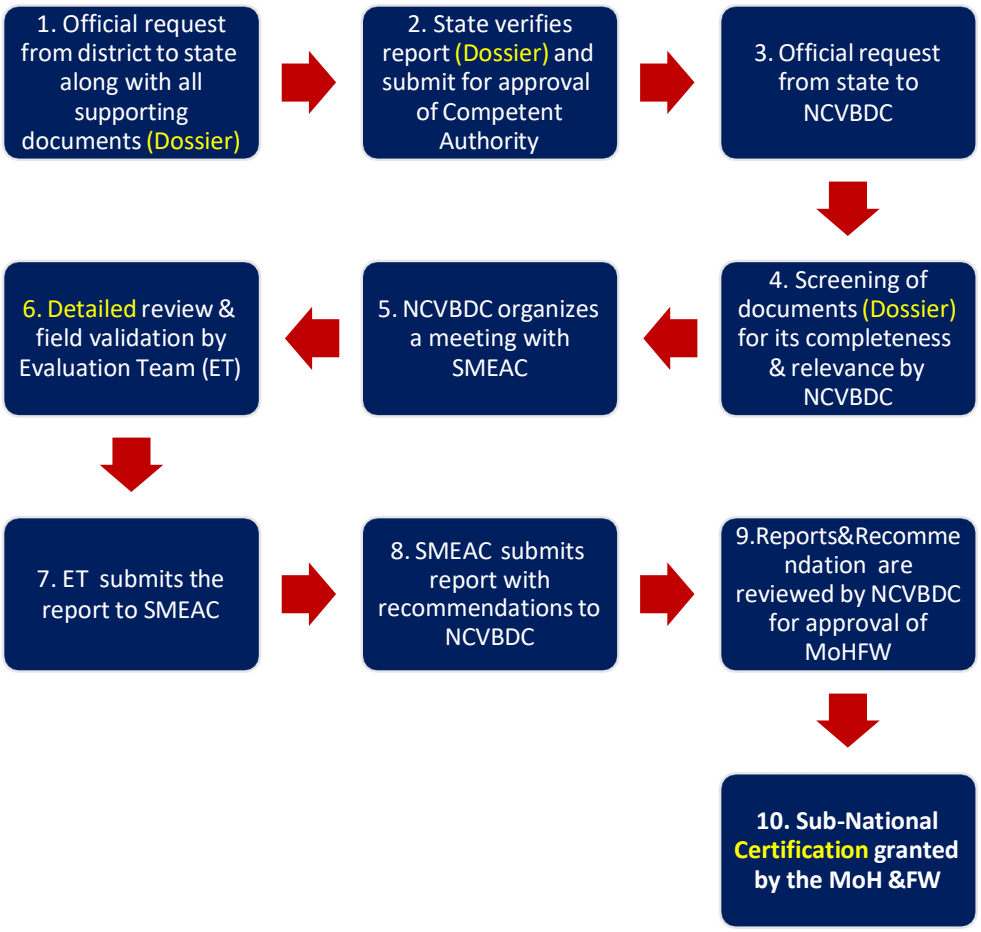


Figure 2: Steps for subnational malaria elimination verification

The State/UT/district will do self-assessment about its Malaria-Free status with all relevant documentations that has to be submitted to NCVBDC. The purpose of self-assessment is to ensure the availability of the evidence that the criteria for verification have been met. The performance of the surveillance and response system should be a priority in the self-assessment. Results of the self-assessment and any other evaluations should be recorded and kept for verification. If required, the state has flexibility to form an expert group team to verify districts claiming for having achieved zero indigenous case.

1. A letter will be sent from district to State for verification of zero indigenous case with dossier for approval.
2. The State reviews and verifies the dossier. State may request district to revise the document if any discrepancies are recorded. The district will revise and take corrective actions in the field and resubmit the dossier to the State for approval.
3. Thereafter, a letter from State to NCVBDC will be sent for verification of zero indigenous case along with subnational malaria elimination report / dossier through Competent Authority or an approved letter of Competent Authority of the respective State.
4. Once the request is received by NCVBDC, the screening of dossier will be done by SMEAC for its completeness and relevance. If the Dossier provided by State/UT/District is incomplete or irrelevant, the state will be notified for necessary supplementation of information through NCVBDC.
5. Member secretary from NCVBDC will organize a meeting and coordinate with SMEAC to take a decision for identification of districts for verification and constitute ET.
6. SMEAC will assign an ET to review the dossier and conduct field verification**(Please see the Box below). **The principles for selecting locations for field visits are the same as for national certification and it will be finalized by SMEAC.** The generic agenda for an independent ET to determine the activities in the field is given at Annexure 7. The agenda may be finalized by SMEAC committee as per resources available.
7. Based on the findings of field visit an ET will prepare a report and submit to SMEAC through NCVBDC within 15 Days following evaluation.
8. SMEAC will review the report submitted by evaluation team and submit to NCVBDC along with recommendations within a week.
9. Thereafter, NCVBDC will review the report, and approval will be taken from MoH&FW to declare malaria free status.
10. Sub-national certification granted by MoH&FW

Box 1: Activities during Field Visit:

a) **Initial Briefing**: ET meets State Health Authority at State HQ to outline the visit's purpose.
b) **Orientation at State VBD Office**: ET is briefed by the State VBD Office. State VBD Office provides an overview of the health system, current malaria status, and future plans to sustain elimination.

c) **District Travel Support**: State VBD Office facilitates ET's travel to districts. However, State officials will not participate in the verification process to ensure impartiality.

d) Thereafter, the ET moves toward the selected district. At District HQ (District VBDs Office),ET evaluates the human and financial resources invested in malaria elimination programme and assesses its sustainability.

e) Later, ET reviews and verifies the documents and records submitted with the Dossier (including the database of malaria, line listing of cases, records of imported cases, surveillance particularly IHIP reporting system and case investigation/foci record etc.) by the District

f) Afterwards ET selects Blocks and Urban area (at least 1 Block & 1 Urban Local Body) to be visited [following must be considered before selection - the location where the last indigenous case occurred; areas with high malariogenic potential; localities with past outbreaks; areas with multiple potential malaria vectors; and locations with vulnerable population, such as Migratory population ,Population residing in High Risk Area (with history of past outbreaks, last active foci , hard to reach area with malariogenic condition), , refugees etc.].

g) ET is expected to visit govt. and private hospitals, laboratories, pharmacies, CHCs,PHCs/UPHCs, HWCs/AAMs and the village/ward to evaluate the extent and the quality of malaria surveillance system, preventive and curative services and recording & reporting process and to assess their sustainability. ET selects Govt. & Pvt. Health Facilities (at least 1 Pvt. Should be visited) to be visited (based on the reporting quality in IHIP).

h) The team interviews Health Care Providers (including ASHA, ANM/MPW,CHO) at SC/AAM/HWC-level; BPM/BMO at Block level and and equivalent staff within Urban Local Body (ULB) ; Laboratory Technicians, Nursing-Staffs, Physicians/Paediatricians and Superintendent at Health Facilities; District-VBD Officer and staffs of District VBD Cell (VBD-Consultant, Entomologist etc.) followed by CMO to verify the information provided in the Dossier and to get a holistic understanding of the NVBDCP in that district.

i) The laboratory activities and reports pertaining to vector surveillance, regional entomological units and their activities, insecticide resistance reports, Focal spray/IRS may be included.

j) The team will debrief their findings after the field visits have been completed to State/UT/District Health Authorities .

Note: methodology for verification is given in Annexure 5 and Generic Agenda for an independent evaluation mission is given in Annexure 7.

5. Certification of Malaria-Free status

The MoHFW is encouraged to publish and announce Certification of malaria-free status of District/State/UT. This initiative will inspire other subnational areas to actively pursue malaria elimination efforts. Once malaria free status is achieved, States/UTs and districts should focus on the measures to prevent re-establishment of transmission and sustain their malaria-free status.

Annexure 1: Composition of the Sub-National Malaria Elimination Advisory Committee (SMEAC)

The members of the SMEAC are as follows:

Sl. No.	Name of the Member	Role
1	Director General of Health Services (DGHS), MoH&FW / Additional DGHS,MoH&FW	Chairman
2	Director, NCVBDC	Member
3	Director, National Institute of Malaria Research (NIMR) Delhi	Member
4	Director VCRC, Puducherry	Member
5	Additional Director, NCVBDC	Member Secretary
6	Advisor, NCVBDC	Member
7	Dr. Rinku Sharma, Joint Director, NCVDBC	Member
8	Team Leader Communicable Diseases, WHO India	Member
9	Sr. Regional Director, Raipur	Member
10	State Programme Officer, Himachal Pradesh	Member
12	Dr. P.K. Sen, Former Director NCVBDC	Member
13	Dr. Kalpana Baruah, Sr Consultant and Former Additional Director NCVBDC	Member
11	Deputy Health Officer, MCD	Member
14	Dr. Suman Lata Wattal, Former Joint Director, NCVBDC	Member
15	Dr. Roop Kumari, Former NPO (Malaria), WHO India	Member

Annexure 2: Members of the Evaluation Committee

The members of the Evaluation Committee for Sub National Malaria Elimination Verification are as follows:

1	Officer/Official from NCVBDC	• Dr. Sudarshan Mandal , Sr.CMO • Dr. A.R. Pasi , Joint Director • Dr. Sambit Pradhan, Assistant Director • Dr. Manpreet, Medical Officer
2	Senior Regional Director /Regional Director	**Regional Office for Health & Family Welfare (ROHFW)** - Chennai, Bangalore, Shimla, Bhubaneswar, Shillong, Ahmedabad, Chandigarh, Kolkata
3	State Program Officer	**State** - Meghalaya, Madhya Pradesh, Gujarat, Karnataka, Odisha, Tripura, Uttar Pradesh, Punjab, Uttarakhand, Bihar, Jharkhand
4	Independent Experts	• Dr. Parveen Bharti, NIMR • Dr. Himmat Singh, NIMR • Dr. Anju Viswan, Scientist, VCRC • Dr. Shampa Nag, Independent Consultant, Former Principal Consultant Caritas India • Dr. P K Srivastava Former Joint Director, NCVBDC • Dr. Ramesh Dhiman, Former Scientist G, ICMR-NIMR, Technical lead, TCIF • Dr Keshab Burman, Former VBD officer, Assam. • Dr. Shubhashisha Mohanty, Joint Director, Odisha • Dr Kajal Debgupta, Former SPO, Tripura. • Ms. Neelam Tirkey, TCIF • Dr P. Mahapatra, Former RMRC Scientist, Dibrugarh • Dr. Sridharan Subramaniam, Former Chief Entomologist, Tamil Nadu • Dr. J.C. Paliwal, Former Entomologist, Madhya Pradesh • Dr.Mala Chabra , Sr.Consultant ,Deptt.of Microbiology,RML Hospital , Delhi

		• Dr.Samir Gulati, Professor , LHMC , NEW DELHI • Dr.Anupam Dey , Professor & Head, Deptt.of General Medicine , AIIMS Bhubanswar • Dr. Upendra Baitha, Additional Professor,Deptt.of Medicine, AIIMS,Delhi • Dr Neelam Roy , Director Professor and Head of the Department, Deptt.of Community Medicine, ABVIMS and Dr. R.M.L. Hospital • Dr Sanjeet Panesar , Associate Professor , , Deptt.of Community Medicine, ABVIMS and Dr. R.M.L. Hospital • Dr.Sanjib Gogoi,Associate Professor ,LHMC,New Delhi • Ms. Vartika, Former GF Consultant, NCVBDC
5	WHO-India Officials	• Dr. Shahwar Kazmi, Technical Officer • Dr. Soumyadeep Chaudhuri, National Coordinator Malaria, WHO-India, NCVBDC • Mr. Naveen Agarwal, WHO IHIP Focal Point • Zonal Malaria Coordinators (Mizoram, Kalahandi, Chhatisgarh and Tripura), WHO-India • NTD coordinators, WHO-India
6	GFATM Managers	• Dr. Samiksha Arora (Manager, Training & SNV GFATM) • Dr. Mahima Chaudhary (Manager, M&E GFATM)

Note : **SMEAC, in consultation with NCVBDC** will form the **Evaluation Team (ET)** by selecting **Six members—one from each of the Six groups**

Annexure 3: Outline of District Malaria Elimination Report

1. **General information (200 words)**
   - Geography
   - Climate
   - Population
   - Description of health system and organization of health services

2. **Malaria in the State/district (300 words)**
   - History
   - Epidemiology
   - High-risk area, Vulnerable population and hard-to-reach areas
   - Last indigenous malaria case and foci in the district
   - Entomological aspects of malaria transmission: for example: malaria vector species prevalent and their Insecticide-susceptibility report n the State/UT/District where LLIN & IRS being used

3. **Strategies and activities undertaken to eliminate malaria (500 words)**
   - Legislation and regulations relevant to malaria elimination
   - Stratification and targeted strategies
   - Surveillance and response systems-RRT
   - Capacity Building: (No. and % of MOs, HWs, FLWs , trained at least once in past 3 years
   - Indicators related to early and complete treatment (Treatment Gaps, Treatment completion rate etc.)
   - Vector control and entomological surveillance
   - High-risk area and vulnerable population and hard-to-reach areas (Forest, island etc.)
   - Public health education and community engagement (IEC/BCC); Utilisation of CSR funds; Advocacy meetings; Media sensitization etc.
   - Monitoring and evaluation
   - Inter-departmental coordination or multi-sectoral collaboration
   - Cross-border coordination and collaboration

4. **Planning for prevention of re-establishment of malaria transmission (500 words)**
   - Overview
   - Stratification by receptivity and risk of importation
   - Availability of Emergency Preparedness & Response Plan
   - Surveillance to detect imported cases and response system
   - Availability of Buffer stocks for Drugs and Kits/Vector control and entomological surveillance
   - Screening of Migratory Population
   - Public health education

- Inter- departmental and multi-sectoral collaboration (District and State Coordination Committee)
- Strengthening of Cross-border coordination and Cross-notification
- Monitoring and evaluation of the plan to prevent re-establishment of transmission

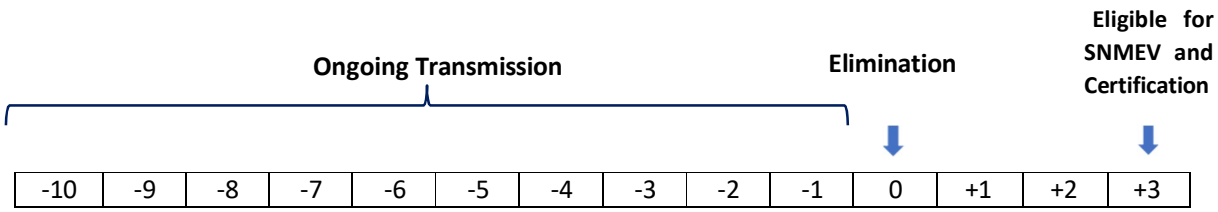
5. **Proposed budget (PIP) for malaria**

Annexure 4: Model Check-List of documents/reports – [To be submitted with SNME in the Dossier]

The time chart below illustrates the period that each required document or record should cover. *Elimination* refers to the year **following** the year in which a district reports its last indigenous case. "-10" (or "–1") represents 10 years (or 1 year) prior to the Zero-Year, i.e., "0" — the first year after the last indigenous case was reported, when transmission was still ongoing. "+1" and "+2" represent the second and third years after the last indigenous case.

A district becomes eligible for certification from "+3" onwards, i.e., after three consecutive years of zero indigenous cases.

The reference period to be covered by each required document or record is highlighted in **Orange** in each row of the table.



SN	Annexure	State level	District level	Block/ULB-Level/ Health facility/ laboratory	Functional Mandate
1.	**Request from State to National authority/NCVBDC for validation of achieving zero indigenous malaria case in the district of State/UT.**	**√**			**State**
2.	**Certificate of approval of State Health Authority**	**√**			**State**
Surveillance					

3.	**Guidelines and SOPs for malaria surveillance** *To assess that the design of the surveillance system is appropriate for detection of imported cases and for prevention of re-establishment*	√	√		**State and District**
4.	**Annual malaria surveillance reports /IHIP reporting** *To show changes in malaria transmission over time*		√		**District**
	-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3				
5.	**Malaria case database -** Line Listing of Malaria cases (if possible linked with IHIP portal)	√	√	√	**District; Block & ULB**
	-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3				
6.	**Malaria case investigation and notification forms** *The original case investigation and notification forms must be provided to permit evaluation of the completeness of data collection and accuracy of case classification*		√	√	**District ; Block and Health Facility**
	-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3				
7.	**Focus register, including focus investigation forms and maps (hotspots/high risk areas)** *Including reports on focus management and response to demonstrate effectiveness of activities to interrupt transmission in the last foci*		√		**District**
	-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3				
Diagnosis					

8.	**SOPs and bench aids for malaria diagnosis** *To demonstrate that laboratories have correct guidance, aligned with that of national guidelines*	√	√	√	**State; District; Block & ULB**
9.	**Reports (or records) of quality control and assurance activities for diagnosis** *To demonstrate that the quality of malaria diagnosis is assured in the district/state and the capacity is likely to be sustained. i.e. Microscopist are trained, cross checked of slides*	√	√	√	**State; District; Block & ULB**
10.	**Laboratory Register** *To validate case notifications against source material and to assess the quality of surveillance data*			√	**Health Facility**
Case management					
11.	**National malaria treatment guidelines** *To determine whether guidelines are aligned with current national drug policy guidelines.*	√	√	√	**State; District;Block & ULB**
12.	**Patient log or register** *To determine the completeness and quality of malaria treatment and to assess the consistency of surveillance data*			√	**Health-Facility**
Vector control					
13.	**Guidelines or SOPs for entomological surveillance and vector control**	√	√		**State & District**

	To determine whether guidelines are appropriate and aligned with national guidelines				
14.	**Annual reports of entomological and vector control activities** *To understand how the country arrived at zero indigenous cases* -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 *appropriate to prevent re-establishment*	**√**	**√**		**State & District**
Enabling environment to support elimination and prevention of re-establishment of transmission					
15.	**Reports/ Minutes of meeting (MoM) of multi-sectoral collaboration** *To demonstrate that multi-sectoral collaboration was in place during the elimination phase and will support the country's plan to prevent re-establishment* -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3	**√**	**√**		**State & District**
16.	**Reports/MoM of cross-border coordination activities** *To document cross-border collaboration to support elimination and prevention of re-establishment* -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3	**√**	**√**		**State & District**
17.	**Documentation of health education and community awareness-raising (brief note may be submitted and verified by evaluation team)** *To demonstrate that health education and community engagement were used to*		**√**		**District**

	achieve elimination and will support the country's plan to prevent re-establishment													
	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	+1	+2	+3

Annexure 5: Methods for verification of malaria free status in Subnational areas

Component	Element	Standard	Methods	Sites
1.Self-assessment report		Subnational elimination report is complete	Desk review	
2. Implementation of elimination strategy and quality of implementation	Testing of blood samples from patients with fever	Sample logs are available in laboratories. Sample logs are complete and up to date. Number of blood samples tested for malaria is appropriate and comparable to that defined in the work plans.	Visit laboratories in health facilities, and review sample logs.	Laboratories
	Quality-assured diagnosis	Slides are cross-checked monthly, and the results of cross-checking of slides are available. Diagnosis is quality assured.	Review the record and feedback received on cross-checking of slides. Randomly select negative slides, examine the quality of the blood smears and staining, and verify the results	Laboratories
	Case notification	All detected cases are reported.	Review sample logs and patient logs. Cross-check the number of positive cases detected in the	District HQ (Program) Health facility

			laboratory and the number of complete case notifications and match the data with those in the subnational malaria database.	
	Case treatment	All cases were treated with a complete course; P. vivax cases completed radical treatment	Review patient logs and treatment records	Health facilities
	Case investigation	Case investigation forms are filled in completely. Adequate evidence is provided and supports the case classification	Review all case investigation forms and verify case classification.	District HQ (Program) Health facility
	Focus investigation and response	Every active focus has a report on focus investigation and response. Response and management of focus are in line with national strategic plan.	Review focus investigation reports.	Health facility
		Laboratory technicians are competent in identifying Plasmodium parasites.	Laboratory technicians are selected from different health facilities to assess competence.	Laboratories
4. Programme Management	Support implementation of elimination strategies	Annual action plans and annual reports on implementation is available	Check the availability of the plans.	District HQ (Program) Health facility
	Malaria programme structure and human resources	Full time availability of district malaria officer/VBD officer in the respective district. Percentage of vacant position in malaria	Review records	District HQ (Program)

		program in respective district. (If vacant position, -How diagnosis, treatment/surveillance is carried out in their absence)		
		Training is provided to various cadres of staff.	Review training records.	District HQ (Program)

Annexure 6: Checklist of elements for prevention of re-establishment of malaria transmission

Critical element	Milestones
1. Subnational plan for prevention of re-establishment of transmission *The plan should define the objectives to be achieved, the activities to be conducted, the entities responsible for conducting the activities, the resources necessary at central and subnational levels and the timeline for implementation. The plan should be reviewed regularly to adapt to changes in malariogenic potential.*	1.1 The district plan is appropriate with clear roles and responsibilities of different sectors and endorsed by the government. 1.2 A sufficient budget is allocated for implementation of activities, and finances have been mobilized to support the plan.
2. Subnational programme structure *All programmes require a central structure for oversight of implementation of national strategies, to provide technical leadership, set policies and guidelines, coordinate national training, and evaluate overall progress.*	2.1The State/UT/District structure is effective in overseeing implementation of activities, coordinating training, monitoring disease trends, reporting malaria cases and coordinating outbreak response.
3. Diagnosis *The network of laboratories (or testing centres) is*	3.1 Laboratories or diagnostic (testing) centres are well staffed and equipped with adequate diagnostic capacity and good record-keeping.

functional and can provide quality-assured parasitological confirmation of malaria infection to all populations. *A microscopy quality assurance system is in place and functional.*	3.2 All microscopists and other staff receive regular training, refresher training.
	3.3 Written SOPs and bench aids are available in all laboratories.
	3.4 Microscopists and laboratory technicians follow SOPs, as evidenced by good-quality-stained blood slides and accurate readings.
	3.5 Laboratory consumables and reagents are supplied continuously, with no stock-outs.
	3.6 Rapid diagnostic tests are available at health facilities.
	3.7 Peripheral health facilities staff including ASHA, ANM/MPW are trained in using Rapid diagnostic test kits.
4. Case management *A system that provides good-quality curative services is functional throughout the subnational area.*	4.1 Written national treatment guidelines are available in all health facilities that provide malaria treatment and are aligned with WHO guidance
	4.2A programme to raise awareness among health care providers is in place to maintain vigilance in the subnational area
	4.3 Training in malaria diagnosis and case management, including updated malaria information, is provided to health practitioners who provide malaria diagnosis and treatment.
	4.4 A functional referral system is in place to refer patients with severe malaria to hospitals.
	4.5 Sufficient treatment courses are available when and where needed; stock-outs of antimalarial drugs are prevented.
5. Surveillance and response system *A system of early detection, treatment, mandatory notification, case and focus investigation is in place throughout the country. The capacity and the quality of case investigation, malaria outbreak investigation and response are maintained; all malaria cases are investigated, and the collected information is kept in the national case database.*	5.1 Written surveillance guidelines (SOPs, guidelines) for passive, proactive and reactive case detection, case reporting and case investigations are available, aligned with NSP and WHO guidelines.
	5.2 Regular task-based training in surveillance is provided to State/UT/District or health facility staff responsible for case notification, investigation and classification.
	5.3 Private clinics and providers that see patients with fever are trained in appropriate surveillance procedures.
	5.4 By law, malaria is a notifiable disease, and a protocol for case notification exists, including for the private sector.
	5.5 All suspected cases are tested for malaria by microscopy or with rapid diagnostic tests and results are reported.
	5.6 Case-based data are reported to State/UT/ district and national levels according to protocol. Preferably through IHIP.

	Regular reports to be sent to national program even for zero case/ no. of imported cases.
	5.7 Private, military, police, faith-based and nongovernmental organization clinics also report case-based data to the health.
	5.8 The strategy and guidelines for the proactive case detection strategy (objectives, high-risk populations, geographical units, timing) are available, appropriate and implemented.
	5.9 Case investigation forms elicit minimal essential data (patient demographics, residence, illness history, diagnostic test results, treatment, travel history) for case classification, are available and are fully completed for each case.
	5.10 All cases are classified correctly according to national guidelines and are reviewed by technical officers
	5.11 Protocols to investigate and respond to malaria outbreaks are included in the country's outbreak response system.
	5.12 Contingency plans for rapid deployment of supplies (diagnostic tests, antimalarial treatments and vector control) are in place in case of outbreaks.
6. Entomological surveillance and vector control *Entomological surveillance and vector control should be continued, with emphasis on areas of high malariogenic potential (i.e. receptive areas with a risk of importation).* *Capacity to respond to possible resurgences with appropriate vector control should be maintained.*	6.1 Written SOPs for entomological surveillance and vector control are available, aligned with National guidance for preventing re-establishment and implemented.
	6.2 Entomological zones and Sentinel sites for entomological surveillance have been established according to national guidelines.
	6.3 Prevalence of malaria primary and secondary vectors along with their basic behavioral characteristics are known for.
	6.4 Vector control is used at optimal coverage in areas with significant malariogenic potential.
	6.5 The coverage, quality and effectiveness of vector control are routinely monitored in areas with significant malariogenic potential.
	6.6 Insecticide resistance status of the insecticide used in past (published/unpublished record)
	6.7 Vector control staff are trained within the past 3 years.
	6.8 to ascertain that focus investigation and response are supported by entomological team.

	6.9 Equipment and insecticide are available, and their quality is assured.
7. Multi-sectoral collaboration *Coordination and collaboration with non-health sectors ensure optimal coverage and use of interventions by high-risk populations, and the implementation of interventions achieve impact and efficiency.*	7.1 A mechanism for coordination among sectors is established and functional at subnational level. Minutes of the meetings are available.
8. Raising awareness and provision of prevention strategies *Early detection can be improved, and re-establishment of malaria transmission can be avoided if the population at risk of malaria is aware of the risk and is provided with information, measures and strategies to prevent infection and obtain diagnosis and treatment.*	9.1 At points of entry, travelers are provided with information on malaria, including guidance on where and when to seek care.
	9.2 A programme to raise awareness among people travelling to malaria-endemic State/UT/District on preventing malaria is in place.

Annexure 7: Generic Agenda for an independent evaluation mission

***Agenda will we provided by SMEAC**

Day & Date	Activity
Day1	**Morning**
	Meeting with State Health Authority and Briefing by State-VBD-Officer
	Orientation by VBD officials
	Afternoon
	Travel to respective district
Day2	Meeting with District VBD-Officer and other officials
	Review of supporting documents and records at District HQ
Day 3	Visit to the District Hospital ,SDH and/or One Medical College
	Visit to a Private Hospital with Lab/Private Clinic
Day 4	Visit to Block – CHC,PHC,HWC (AAM) for field-validation of documents and records provided in the Dossier
	Visit to Last Indigenous Case Site , High Malariogenic Potential Zones , Localities with Past Outbreaks or Active Foci , Regions with Multiple Vector Species . Additionally villages/slum of Vulnerable Populations (e.g. Migratory groups , Residents of high-risk or hard-to-reach areas , Refugees and displaced communities etc.)
Day-5	Visit to ULB – UCHC/UPHC for field-validation of documents and records provided in the Dossier
	Debriefing to district officials
Day 6	Debriefing to State Health Authority
Within 15 days	Submission of field report to SMEAC by evaluation team