



# **THE 2023-2026 NATIONAL STRATEGIC PLAN TO CONTROL MALARIA IN AFGHANISTAN**

**November 2022**

## **ACKNOWLEDGEMENTS:**

In developing this National Strategic Plan for the National Malaria and other Vector Borne Diseases Program (MVDP) for the year 2023 up to 2026, on behalf of the General Directorate of Diseases Control and Prevention (GD-DCP) under leadership the Ministry of Public Health of the Islamic Emirate of Afghanistan, I would like to thank and acknowledge the input and contributions of the following organisations and individuals:

CDC Director Dr Bismillah, the MVDP manager Dr Abdur Rahman Shirindil and technical staff at national and provincial levels, VBDTF members, WHO Afghanistan and EMRO teams, the malaria GF grant PR (UNDP) and other relevant partners.

I hope that the NMSPP 2023-2026 will provide guidance and direction to the MVDP and stakeholders to move together in one direction to efficiently control and eliminate malaria in Afghanistan.

The GD-DCP and MoPH-Afghanistan is committed to fully support the MVDP and its partners to build a Malaria free Afghanistan.

Best regards,

**Dr. Haider Khan Haider**

General Directorate of Diseases Control and Prevention



## Foreword:

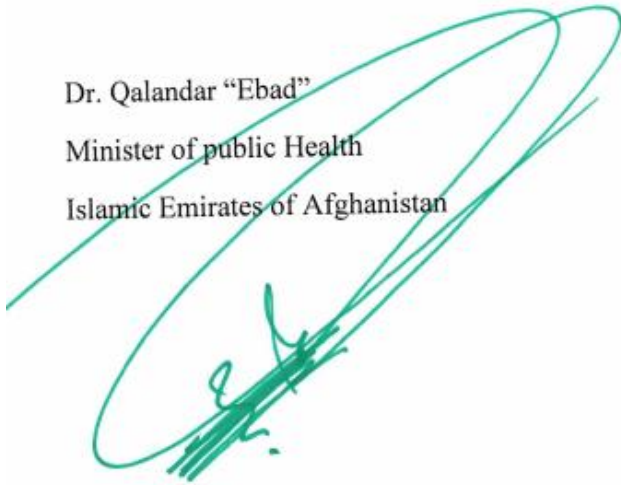
The National strategic plan to control malaria in Afghanistan 2023-2026, has been developed with the goal to ensure that Afghanistan is on track to eliminate malaria by 2035, contributing towards country's development and the Sustainable Development Goals.

National strategic plan provides comprehensive technical guidance to National Malaria & other Vector Borne Disease Program (MVDP), Ministry of Public Health and all the partners contributing to malaria control in Afghanistan on the importance of scaling up malaria responses and moving towards elimination. It also highlights the urgent need to increase investments across all interventions including preventive measures, diagnostic testing, treatment and disease surveillance as well as in harnessing innovations in community-based interventions, inter-sectoral collaboration and advocacy, cross-border and regional cooperation and health system strengthening and expanding research. Guidance provided in the Global Technical Strategy for Malaria 2016-2030 has been taken into account while developing this strategy.

Recent progress on malaria has shown us that with adequate investments and the right mix of strategies, we can indeed make remarkable strides against this complicated enemy. We will need strong political commitment to see this through and expanded financing. We should act with resolve, and remain focused on our shared goal: to create Afghanistan in which no one dies of malaria.

I remain confident that if we act with urgency and determination, we can beat this disease once and for all.

Dr. Qalandar "Ebad"  
Minister of public Health  
Islamic Emirates of Afghanistan

A large, stylized handwritten signature in blue ink, consisting of several overlapping loops and a final flourish, positioned below the printed name and title.

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## Acronyms

ACT	Artemisinin combination therapy
ACD	Active Case Detection
AL	artemether – lumefantrine (coartem®)
ANC	Antenatal care
ANDS	Afghanistan National Development Strategy
API	Annual Parasite Incidence
AS	Artesunate
BCC	Behavior Change Communication
BHC	Basic Health Centre
BPHS	Basic Package of Health Services
CAAC	Catchment Areas Annual Census
CBMM	Community Based Management of Malaria
CCM	Country Coordination Mechanism
CDC	Communicable Diseases Control
CFR	Case Fatality Rate
CHC	Comprehensive Health Centre
CHS	Community Health Supervisor
CHW	Community Health Worker
CL	Cutaneous Leishmaniasis
CMS	Central Medical Store
COMBI	Communication for Behavioral Impact
CPHL	Central Public Health Laboratory
CQ	Chloroquine
CSO	Central Statistical Office
DEWS	Disease Early Warning System (see also NDSR)
DH	District Hospital
DHIS2	District Health Information System version2 platform (also DHIS2)
DHS	Demographic Health Survey
EQA	External Quality assurance
ELISA	Enzyme-Linked Immunosorbent Assay
EML	Essential Medical List
EMRO	Eastern Mediterranean Regional Office (WHO)
EPI	Expanded Program of Immunization
EPR	Epidemic Preparedness and Response
EDL	Essential Drug List
EPHS	Essential Package of Hospital Service
FGD	Focal group discussion
GCMU	Grant Contract Management Unit
GIS	Geographical Information System
GF	Global Fund
GFATM	Global Fund to fight AIDS, Tuberculosis and Malaria
G6PD	Glucose-6-Phosphate Dehydrogenase deficiency
HANMAT	Horn of Africa Network for Monitoring Antimalarial Treatment
HH	Household
HIV/AIDS	Human Immunodeficiency virus Infection / Acquired Immune Deficiency Syndrome

HMIS	Health Management Information System
HN-TPO	Health Net-Trans Psychosocial organization
HP	Health Post
HR	Human resource
HRPs	High Risk Populations
HSC	Health Sub-Centre
IEC	Information Education and Communication
IDP	Internally displaced population
IOM	United Nation International Organization for Migration
IPD	In-Patient Department
IRMMP	Insecticide resistance monitoring and management plan
IRS	Indoor Residual Spraying
IVM	Integrated Vector Management
IRM	Insecticide Resistance Management
ITN	Insecticide Treated Net
IV	Intravenous injection
IM	Intramuscular injection
KAP	Knowledge Attitude practice
LIMS	Logistic Information Management System
LLIN	Long Lasting Insecticide Treated Net (see also P-PBO)
MLIS	Malaria & Leishmaniasis Information System
LTA	Long Term Agreement
MHT	Mobile Health Team
M&E	Monitoring and Evaluation
MIS	Malaria Indicator Survey
MoPH	Ministry of Public Health
MPR	Malaria Program Review
NDSR	National Diseases Surveillance System
NGO	Non-Governmental Organization
NHA	National Health Account
NMHRA	National Medicine Health Products Regulatory Authority
MVDP	Malaria and Vector Borne Diseases Program
NSP	National Strategic Plan for Malaria Control and Elimination
MEP	Malaria Elimination Plan
NTG	National Treatment Guideline
NFM	New Funding Module
OPD	Out-patient department
PAAR	Prioritized Above Allocation Request
PBO	Piperonyl butoxide (in association with pyrethroid as P-PBO)
PCR	Polymerase Chain Reaction
PIAM-NET	Pakistan – Islamic Republic of Iran – Afghanistan Malaria Network
PLIS	Procurement and Logistic Information System (also LMIS)
P-PBO	Pyrethroid piperonyl butoxide (see also LLIN)
PMVDP	Provincial Malaria and Other Vector Borne Diseases Program
PPHD	Provincial Public Health Directorate
PR	Principle Recipient
PSM	Procurement and Supply Chain Management (or PSCM)
PH	Provincial Hospital

PQ	Primaquine
QA	Quality Assurance
QC	Quality Control
RH	Regional Hospital
RDT	Rapid Diagnostic Test
RRL	Regional Reference Lab
SHC	Sub health center
SNO	Sub National Officer
SOPs	Standard Operating Procedures
SPR	Slide Positivity Rate
SWAP	Sector Wide Approach
TB	Tuberculosis
TES	Therapeutic Efficacy Survey
TORs	Terms of reference
TPR	Test Positivity Rate
TTT	Technical Task Team (to conduct MPR)
UNICEF	United Nations Children's Funds
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
VBDC	Vector Borne Diseases Control
VBDF	Vector Borne Disease Task Force
VCNA	Vector Control Needs Assessment
WB	World Bank
WHO	World Health Organization
WHOPES	World Health Organization Pesticide Evaluation Scheme
WMR	World Malaria Report
WMD	World Malaria Day



# CHAPTER I OVERVIEW OF THE HEALTH SECTOR STRATEGY AND POLICIES IN AFGHANISTAN

## I 1 The National Health Strategy

The National Health Policy 2021 - 2030 builds on the guiding principles and development priorities of the Afghanistan National Peace and Development Framework 2021-2025 (ANPDF) as well as Sustainable Development Goals (SDGs) and reflects the health needs of the Afghan people and the vision of the Ministry of Public Health on health system reforms: The policy recognizes that improving the health of all Afghans will be achieved by making good quality essential health services more accessible to all social groups and by addressing the social determinants of health as a top priority.

The policy will be implemented in six policy areas: (i) Governance and Leadership; (ii) Human Resources; (iii) Health Financing; (iv) Service Delivery; (v) Medicines, Medical Products and Technologies; and (vi) Health Information Systems. For each area, a policy objective has been defined and key directions for action have been set.

The governance and leadership capacities of the Ministry of Public Health and Provincial Public Health Departments will be strengthened through institutional transformation and decentralization. Rule of law, respect for human rights, gender equality, and equity principles will be integrated into the organizational culture at all levels of the health system. Cooperation with Ministries, Governmental Agencies, and International Development Partners will continue. The quality and safety of health services, as well as the domestic monitoring and evaluation capacities, will be improved.

The development of human resources will answer the health needs and disease profiles of the target populations. Pre-service and in-service training will become need-based, competency-based, and quality-oriented, aimed at meeting international standards. Special attention will be given to the development of the nursing specialty, maintaining the qualifications of health professionals through licensing and raising motivation and morale. Self-organization of health professionals and strengthening of relations with the Afghan diaspora will be encouraged.

Health financing will be improved through diversification of financing sources, improvement of operating efficiency of public health facilities, and implementation of optimal payment mechanisms. Options to increase budget allocations for health will be explored and financial protection mechanisms will be identified and piloted.

Service delivery reforms will aim to complete the transition to the next generation of primary health care and hospital services, based on the Integrated Package of Essential Health Services, greater autonomy of health providers, improved contracting modalities, and new payment mechanisms. Eradication of poliomyelitis will be targeted. Major public health priorities will be addressed through multi-sectoral approaches, and the capacity to respond to disasters and crises will be strengthened.

Development of Health Information Systems will integrate the culture of evidence-based decision making in the organizational culture at all levels of the health system and will improve direct communication with all users of health services, including patients.

## **Geographical position and population**

Afghanistan is situated between Central and South Asia. To the south and east Afghanistan borders Pakistan; to the west - Iran; to the north - Turkmenistan; Uzbekistan, and Tajikistan; and to the far northeast - China. Afghanistan has a territory of 652,864 sq. km and an estimated population of 39.6 million people, consisting of 14 large ethnic groups including: Pashtun, Tajik, Hazara, Uzbek, Baluch, Turkmen, Nuristani, Pamiri, Arab, Gujar, Brahui, Qizilbash, Aimaq, and Pashai. The official languages of Afghanistan are Pashto and Dari. A great proportion of the population, 63%, is younger than 25 years. The proportion of rural and urban population is 74.3% and 25.7%, respectively.

## **Public health indicators**

Life expectancy at birth, men, and women, has increased from 56 years in 2000 to 64.8 years in 2020, due to the reduction in child mortality rates. The maternal mortality rate is estimated at 638 per 100,000 live births, the infant mortality rate at 46.5 per 1,000 live births, and the under-five mortality rate at 72.2 per 1,000 live births. The population growth rate is 2.3% per year, the total fertility rate is 4.520. The adolescent fertility rate is 65.1 per 1,000 women aged 15-19 years. The unmet demand for family planning is 26.8% in women aged 15-19 years and 40% in women aged 20-24 years.

The social inequalities in life expectancy are larger people in rural areas, with poor education and low income. Due to the protracted conflict, low economic development, and limited capacity of the health system, Afghanistan shows worse health status indicators than its neighbors, with the exception of Pakistan. The leading causes of deaths in Afghanistan are:

(i) Communicable, maternal, neonatal, and nutritional diseases; (ii) non-communicable diseases; and (iii) Injuries. The epidemiological transition in Afghanistan is in progress.

## **Risk factors**

The ongoing conflict has resulted in over 2.7 million refugees to foreign countries. Each year, several hundred thousand people become internally displaced due to the ongoing conflict which affects all aspects of life in Afghan society, impedes its socio-economic development, and limits access to health services in the affected zones. Women have limited access to health services and information, due to cultural barriers, restricted mobility, limited bargaining power for their own health, and the limited number of women health professionals working in health facilities.

Environmental factors such as drought, floods, avalanches, landslides, inadequate housing, and air pollution have been estimated to account for 26% of deaths each year.

Economic hardship results in an estimated 72% of the population living in poverty and 36% facing high levels of acute food insecurity (IPC Phase 3 or above). More than 50% of the provinces have recorded the level of Global Acute Malnutrition in children under five years of age to exceed the critical threshold of 15%. Under the age of five years, 41% of children are stunted. Over 67% population have access to clean

drinking water protected from outside contamination. Over 80% of families have toilets or latrines, but only 43% are improved and safe. Unhealthy lifestyles represent important risk factors as well. According to the estimates, 29% of the adult population are hypertensive, 26.5% are not sufficiently physically active, 9.2% have impaired blood sugar levels, and 8.6% smoke.

## **Health facilities**

Health services are provided by over 3,200 health facilities, including Sub-Health Centers, Basic and Comprehensive Health Centers, District, Provincial and Regional Hospitals, and Specialized Hospitals. In addition, health services are provided by 300 Mobile Health Teams and 450 health facilities, which do not fit the classification, and 16,000 health posts that provide primary health care at the community level. Health facilities and medical equipment are owned by the Ministry of Public Health or by the communities where they are located.

On average, there is a primary health care facility for every 13,000 people and a hospital for every 210,000 people. These infrastructure-to-population ratios are the lowest in the region. The highest availability of health services is recorded in Nuristan, with one primary health care facility for 4,100 people and one hospital for every 53,000 people. The lowest availability is registered in Kandahar, with one primary health care facility for 20,400 people and one hospital for 680,000 people. Health services are unavailable on a permanent basis in the so-called white areas, due to lack of investment rather than their being in the wake of conflict.

## **Human resources**

In 2018, the number of medical doctors, nurses, and midwives was 8.75 per 10,000 population<sup>34</sup>. This was below the minimum recommended number of 22.8 per 10,000 population for achieving the SDGs, and well below the minimum required number of 44.5 per 10,000 population for achieving the Universal Health Coverage<sup>35</sup>. Only 15% of nurses and 2% of medical doctors are women.

Health professionals are trained in 8 public and 41 private universities, as well as in 9 public and 147 private institutes. Universities provide bachelor and master's degree pre-service training,

while institutes provide diploma degree pre-service training in medicine, nursing and midwifery, dentistry, pharmacy, medical technology, public health, and other allied specialties. The number of graduates exceeds the absorption capacity of the health system. The quality of training, especially in private universities and institutes, raises concerns. Training curricula in certain specialties do not exist. In-service training is fragmented and is provided ad hoc by certain health facilities with the support of International Development Partners. The trained health professionals seek employment in urban rather than rural health facilities and pharmaceutical entities.

## **Health financing**

Total health expenditure in 2017 was estimated to USD 2.5 billion or approximately USD 87 per capita per year. Of that amount, the contribution of the Government represented 5.1%, contributions of donors - 19.4%, and out-of-pocket payments - 75.5%. A large proportion of out-of-pocket payments is consumed by 360 private hospitals, 260 private outpatient clinics, and numerous private pharmaceutical entities. Spending on health services abroad is estimated at USD 241 million during 2017. The estimated value of imported medicines and medical products is USD 400 - 600 million per year.

## **Service delivery**

Primary health care services are included in the Basic Package of Health Services (BPHS). In all 34 provinces, the provision of primary health care services is managed by non-governmental organizations, which are selected through a bidding process. The non-governmental organizations are in charge of recruiting health professionals, purchasing medicines and supplies, and organizing the provision of services for the entire province.

Secondary health care services are included in the Essential Package of Hospital Services (EPHS) and are provided at the level of Provincial and Regional Hospitals. Provision of hospital services is managed by non-governmental organizations under the merged BPHS-EPHS contract and by the Ministry of Public Health and Provincial Public Health Departments.

Advanced and specialized secondary health care services are provided by 26 hospitals, of which 21 are in Kabul. These services are funded and managed by the Ministry of Public Health. Certain specialized services such as intensive care, hemodialysis, mental health, etc. are totally or partially funded by donors. In addition, vaccines and nutritional elements are supplied by UNICEF, while anti-tuberculosis medicines are provided by the Global Fund and JICA.

The population is frequently dissatisfied with the quality of health care services delivered by non-governmental organizations (NGOs). Due to the lack of availability and low quality of health care services, considerable resources are spent for health services abroad, as well as for imported medicines and medical products, which are often low-quality or counterfeit.

## **Malaria control is an essential part of the National Health Strategy, BPHS and EPHS Health Packages.**

To address the malaria burden in Afghanistan, the Malaria and other vector-borne diseases Program (MVDP), encompassing all vector-borne diseases, is providing with technical guidance to ensure that malaria services are properly identified, delivered and monitored as part of the basic health care package and are contributing to strengthen the capacity of implementing partners to support and sustain malaria control interventions in communities. The MVDP, in close collaboration with other health programs like ANC, EPI and RMNCAH (in charge of IMCI), UNDP, GFATM, NGOs and WHO, has developed several strategic plan and policy documents, guidelines, SOPs and training packages which have contributed to scale up technically sound integrated malaria case management, use of preventive VC measures such as LLINs and accurate surveillance / monitoring / data management mechanisms in line of international standards.

## CHAPTER II THE 2023-2026 NATIONAL MALARIA STRATEGIC PLAN TOWARDS MALARIA ELIMINATION IN AFGHANISTAN

### Vision

Afghanistan is free from malaria

### Mission

The MVDP of the MoPH of Afghanistan aims to reduce the burden of malaria and achieve malaria elimination by ensuring equitable and universal access to effective curative and preventive services to everyone at risk of malaria in close coordination with the efforts of all communities, national and international non-government organizations, private sector stakeholders, United Nations agencies and financial partners specially the Global Fund. Achieving the vision of “Afghanistan is free from malaria” will contribute significantly to poverty alleviation as malaria is most prevalent in the poorest segment of the population.

### Goal

To ensure that Afghanistan is on track to reduce the malaria burden by 95% by 2030 and eliminate malaria by 2035 – contributing towards country development and the Sustainable Development Goals.

### Specific Objectives

The rationale of below objectives is explained and described in chapter III

- To reduce the number of category 1 and cat 2 districts by at least 50% in 2026. It means, as a result, that a total of 42 districts are expected to be classified in cat 1 and 2 in 2026. It equally means as a result that the malaria burden in those 84 districts will be reduced by approx. 50% in 2026 against baseline data from 2019 to 2021
- To interrupt indigenous transmission of malaria by 2026 in 20% of the 237 districts<sup>1</sup> categorized in cat 3. It means interrupting local transmission in at least 47 cat 3 districts by 2026
- To prevent the re-establishment of local malaria transmission in cat 4 districts and communities where the disease has been eliminated during the last 3-year. It means keeping the 77 districts classified cat 4 free of local malaria transmission by 2026

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<sup>1</sup> As per table 1, 82 districts have been consistently classified each year from 2019 to 2021 in cat3 (API>0 and <1) while 151 are classified cat3 in 2021 only.

## CHAPTER III THE MALARIA SITUATION AND TRENDS TOWARDS ELIMINATION IN AFGHANISTAN

The Malaria and other Vector Borne Diseases Program (MVDP) is routinely capturing confirmed and unconfirmed malaria data through the Malaria and Leishmaniasis Information System (MLIS) which has been recently integrated in the DHIS2 platform database, which is itself operating under the overall umbrella of the HMIS.

Such data is generated by health staff operating in public health care facilities and by community health workers located in health posts and communities. Well-equipped (with trained staff) health care facilities, mobile health teams, family health houses (FHHs) and health posts / have been increasing over the last 10 years contributing to the expansion of population (in principle free of charge) accessing basic health care services till remote locations. However, private clinics (mainly in urban settings) and informal health providers (in rural and remote hard-to-reach areas) are still used by more than 50% of the population<sup>2</sup>. Majority of private health care facilities and private providers are not registered and don't officially report to the HMIS/MLIS.

Accuracy of (public) malaria data in Afghanistan generated through the HMIS / MLIS till 2019 to reflect the true malaria burden and impact of control operations is discussed in detail in the final *Rapid Impact Assessment Report (RIA)* released by WHO in January 2022<sup>3</sup>. As part of the main conclusions of the RIA and due to many reasons described in the report, it's obvious that malaria data routinely generated and presented in this strategic document in chapter I should be analyzed and understood with caution.

As shown in fig 2 below, the malaria burden from falciparum and vivax infections has been drastically reduced over the last 10 years basically achieving in 2021 the 2013-2017 strategy objectives and targets<sup>4</sup>. Of important note as well to improve data accuracy is the declining proportion over years of clinically diagnosed malaria cases to reach less than 1% of recorded malaria cases from 2019 onwards.

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<sup>2</sup> MoPH – KIT – NSIA (2019): Afghanistan Health Survey 2018

<sup>3</sup> WHO (2022) Rapid Impact Assessment Report (final)

<sup>4</sup> National Malaria & Leishmaniasis Control Program (2017): National Strategic Plan from Malaria Control to Elimination in Afghanistan 2018-2022

Fig 2. National malaria trends of confirmed (Pf/Pv) and presumed infections from 2010 to 2021

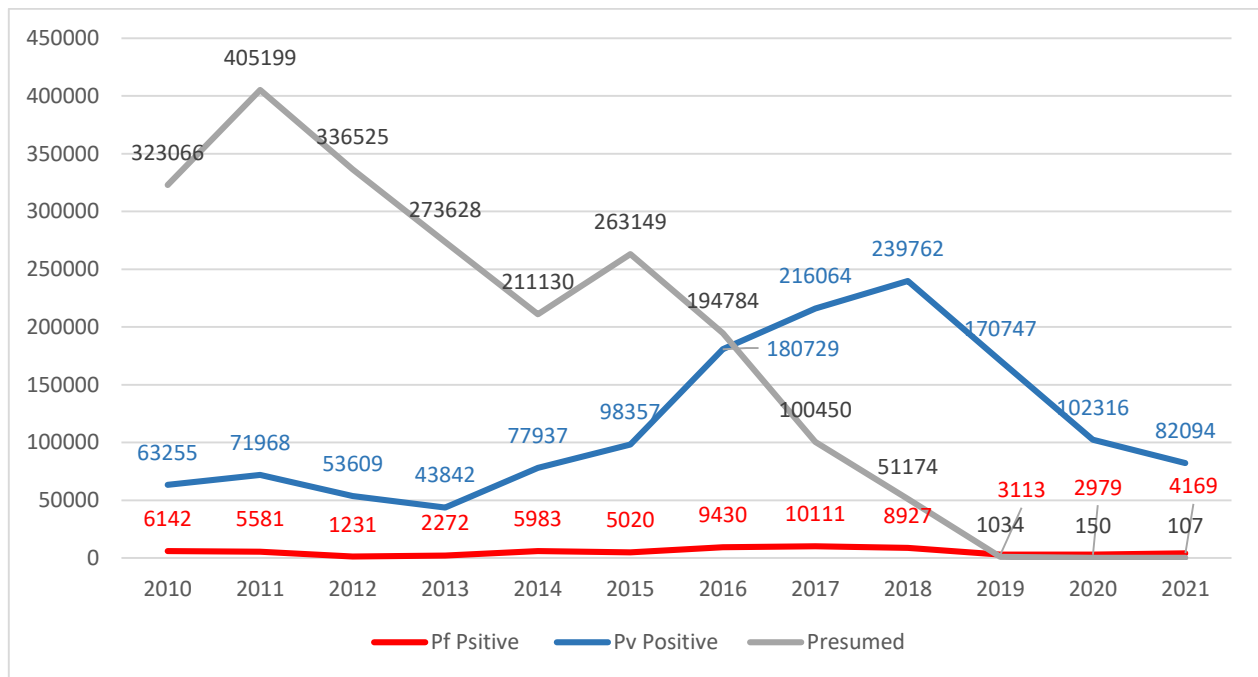
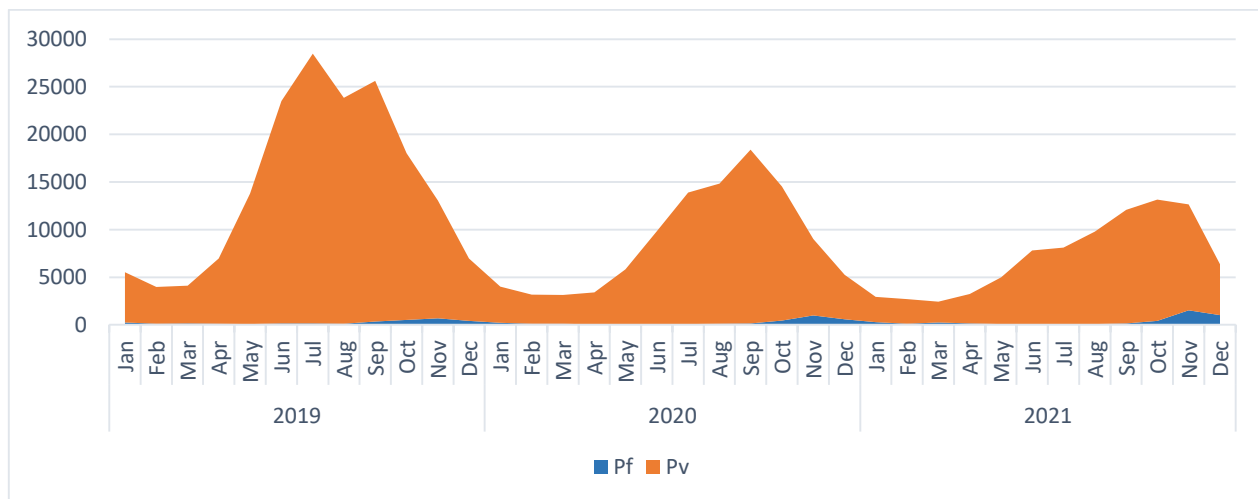


Fig 3 Pf and Pv transmission seasons in Afghanistan



Malaria cases expressed through API map by district (Fig 4 and 5), clearly indicate that the malaria burden (Pf and Pv) remains in 2021 very high in provinces / districts bordering or nearby Pakistan. In those districts, API has remained almost consistently since 2015 above 10 per 1000 population. This is obviously the districts where efforts have to be intensified to reduce the burden of diseases. Fig 3 is showing Pv and Pf malaria transmission seasons.

Fig 4 District map of confirmed Malaria (Pf/Pv) API in 2021

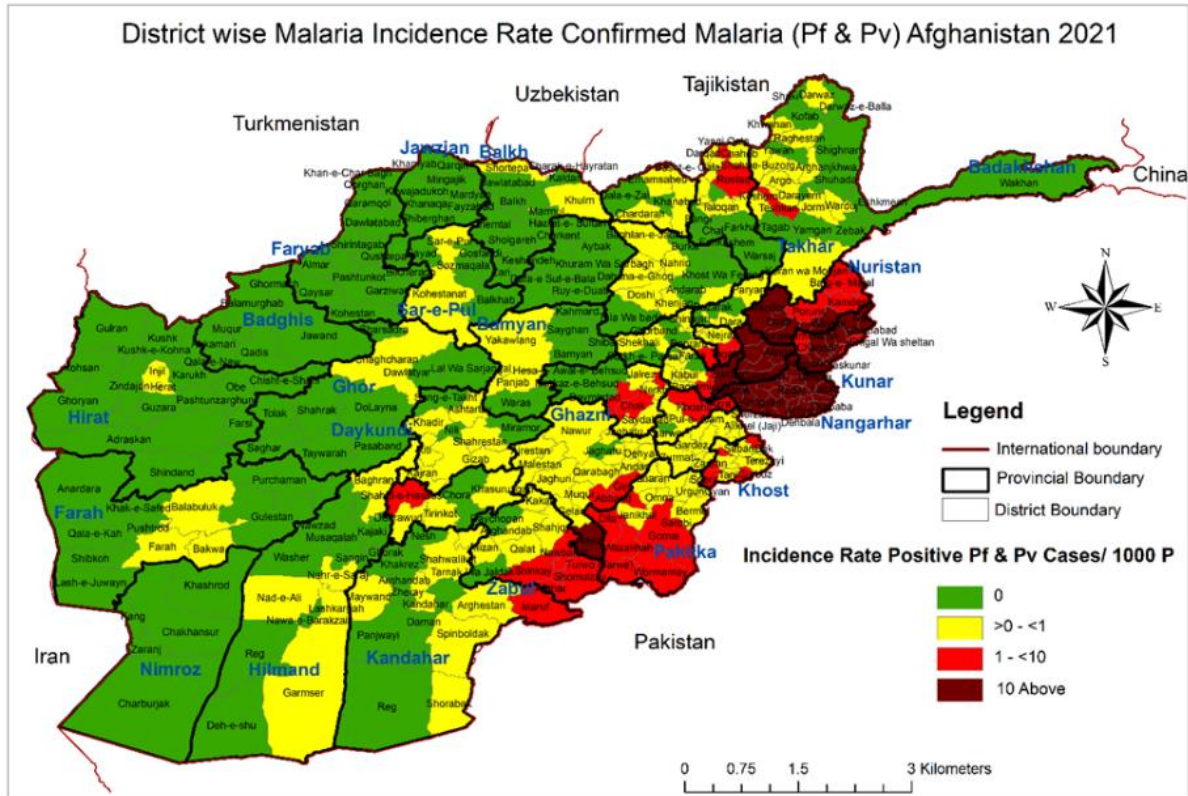
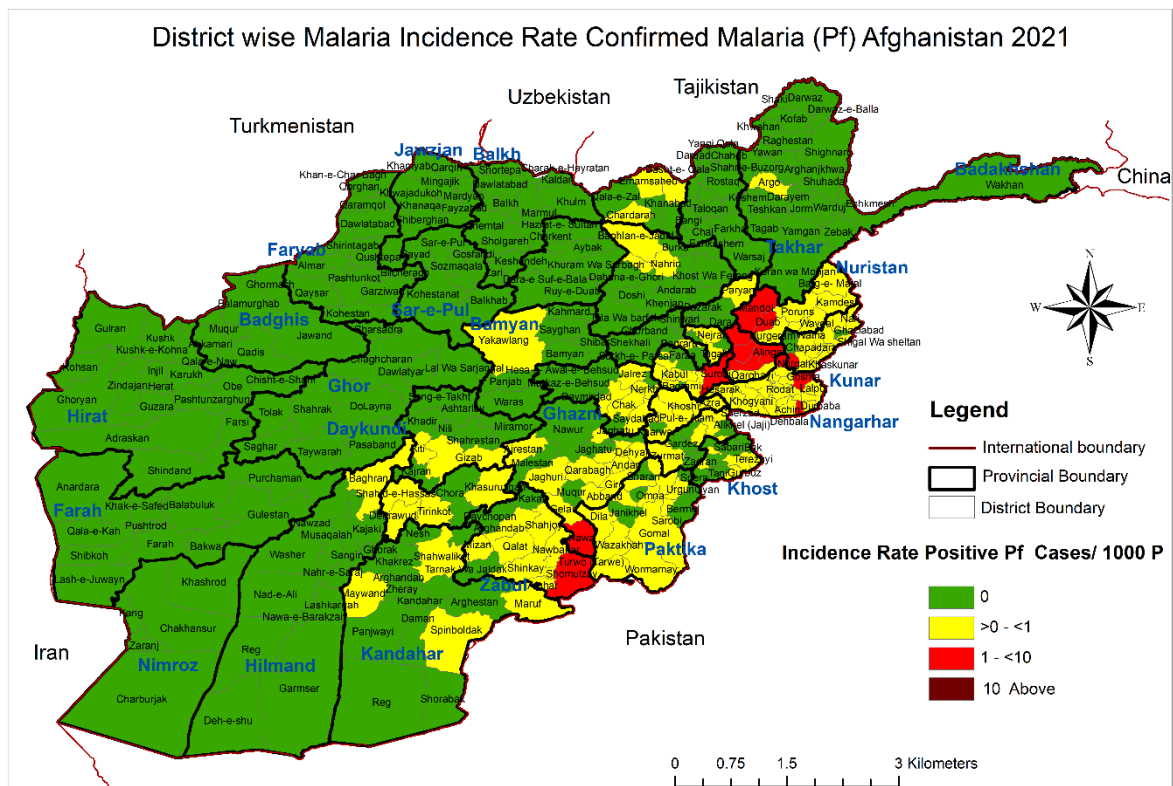


Fig 5 District map of confirmed Pf API in 2021





Following the external review remotely conducted in 2020<sup>5</sup> and as reflected in the above figures, the malaria stratification based on API has been updated to better adjust malaria control and elimination interventions and targets by 2026 and beyond.

Table 2 Classification of districts by using API and TPR<sup>6</sup>

CATEGORY 1: API ≥ 10	[TPR ≥ 9%; High burden]
CATEGORY 2: API ≥ 1 and < 10	[TPR between 0 and 9%; moderate burden]
CATEGORY 3: API > 0 and < 1	[TPR 0-1%; low burden towards elimination]
CATEGORY 4: API = 0	[no local malaria, prevention of re-introduction]

Taking into account the 2020 covid-19 epidemic and disturbances which have occurred within the health system as well as political disturbances in 2021, the 3-year data of 2019, 2020 and 2021 have more chance to reflect the true malaria burden than the 2021 malaria data only.

Table 3 below as per above maps and tables in annexes 1 to 4 are expressing the estimated number of districts against API classification by category. The most accurate classification concerns cat 1 and 2 districts with API > 1/1000 pop (high and moderate burden) whereas the number of districts classified cat 3 and to some extent cat 4 is less accurate since very few cases are needed to be recorded to shift from cat 2 to 3 or 3 to 4 and vice versa. For example, such classification is seriously affected by the completeness of public and private data as well as by the classification of confirmed malaria cases which are not yet sub-classified by the program as imported (meaning probably no local transmission) or locally acquired (meaning probably local transmission) within the MLIS / DHIS2 reporting systems. From a programmatic perspective, districts showing 3 consecutive years with similar API (2019, 2020 and 2021) can be more accurately classified especially within cat 2 to 4.

Malaria control and elimination interventions have to be further adjusted as per malaria category.

<sup>5</sup> WHO, UNDP & MVDP (2021) Report of the External Malaria Program Review conducted in 2020

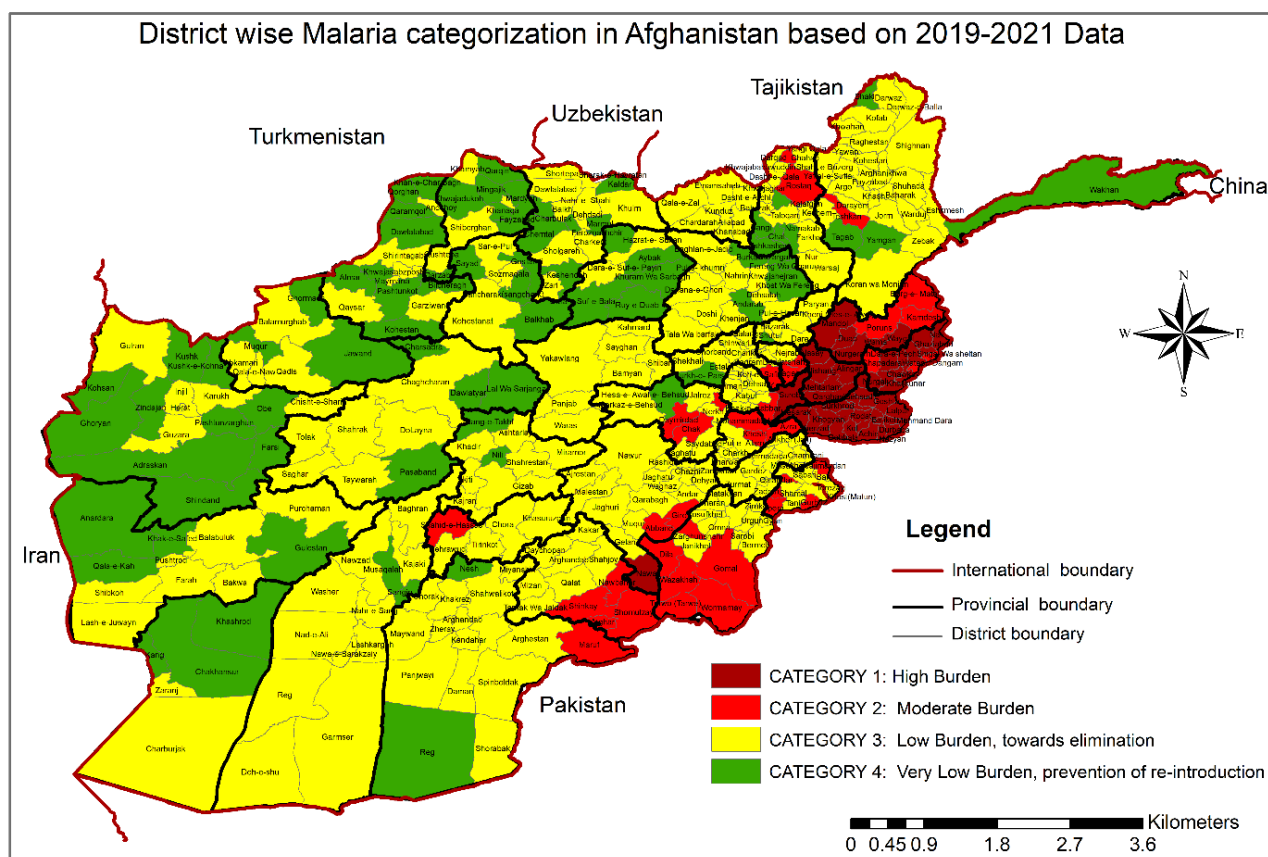
<sup>6</sup> For API and TPR to be relevant for accurate category classification, all patients all over the year with fever or other malaria-like symptoms have to be tested. This is especially important in low burden settings where additional regular screening in a sample of population have to be conducted to x-check results generated from public and private health care facilities. Classification of districts or communities where testing procedures are unavailable, limited or hectically performed over time especially in cat 3 and 4 districts is considered as doubtful.

Table 3 Number of districts according to category based on API<sup>7</sup>

API CATEGORY	Number of districts by category using data recorded from 2019 to 2021
1	46
2	38
3	237
4	77

Of critical note from table 2 is the fact that 40 districts have been recording a persistent API>10 since 2015 being almost all bordering Pakistan and 19 districts have been recorded as free of malaria each year since 2015.

Fig 6 Malaria stratification as per average of 3-year confirmed malaria data (Pv and Pf)



Data and above maps (Fig 4 to 6) clearly document areas/districts where intensified control measures have to be either strengthened or put in place to significantly reduce the malaria

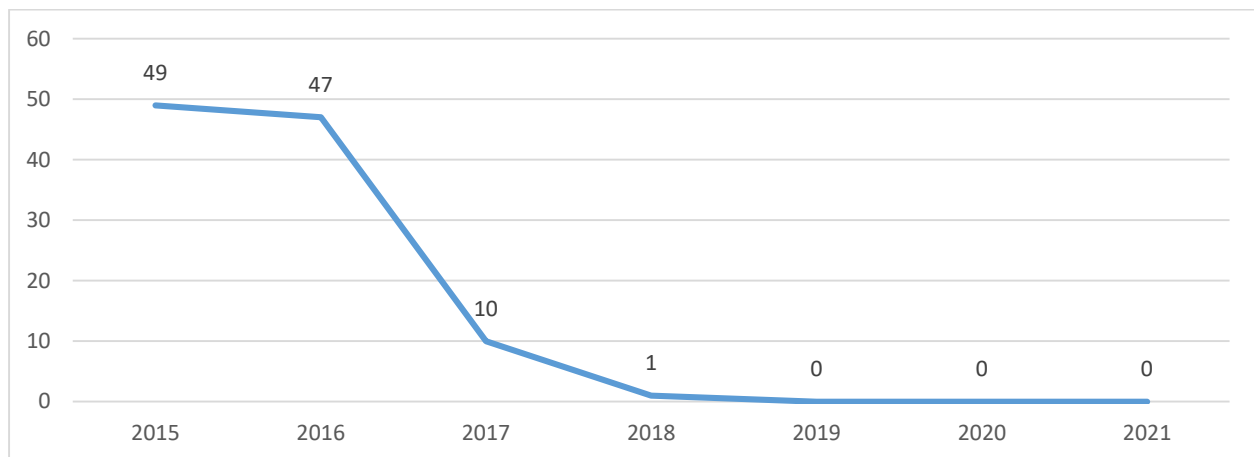
<sup>7</sup> See details on data by year by district in annexes 1 to 4

burden. It demonstrates also districts where reaching to or consolidating malaria elimination achievements have to be considered as achievable objectives. As one result of the updated malaria stratification, it is obvious that additional control and contextual cross border control measures have to be initiated especially in cat 1 and cat 2 districts as compared to other categories in order to accelerate and further consolidate the malaria burden reduction in Afghanistan.

As shown in Fig 7 below, recorded malaria attributed deaths have also drastically declined over years to reach zero from 2019 onwards.

As part of the 2023-2026 strategy, the program has to proceed to death audit of each suspected malaria attributed death.

Fig 7 Malaria attributed deaths from 2015 to 2021 in Afghanistan



## CHAPTER IV PRIORITY INTERVENTIONS TO ACHIEVE NSP OBJECTIVES<sup>8, 9</sup>

### IV 1 First priority: Intensification of Pf/Pv malaria control interventions in the 46 high malaria burden districts (cat 1, API $\geq$ 10)

The MVDP with local organizations and authorities has to strengthen malaria control interventions targeting falciparum and vivax infections in the 46 districts recorded as showing an API $\geq$ 10 during the three consecutive years of 2019, 2020 and 2021. The full list of cat 1 districts is in annex 1. Majority of them are sharing borders with Pakistan meaning that, to ensure success of control operations in those districts, the collaboration with Pakistanis' counterparts is essential and so has to be strengthened toward joint agreed upon interventions across borders (see details further in III 2 2 2).

Priority interventions and activities in those high burden districts are as follows:

#### IV 1 1 Scaling up / Strengthening Malaria Case Management targeting resident, remote, x-border population and internally displaced people.

The MoPH and the MVDP will continue strengthening current health system mechanisms and feasible cost-effective options described in the Basic Package of Health Services (BPHS) to allow the whole population to access without geographical<sup>1</sup>, financial<sup>1</sup> and cultural<sup>1 0</sup> barriers free malaria diagnosis and effective radical treatment.

- To collaborate with the CBHC department to scale up HPs /CHWs and/or FHHs in identified remote and not yet covered populations / areas (so-called white areas),
- To identify with CBHC strategic cross-border locations where CHWs or FHHs have to be posted to improve case management, preventive measures and surveillance targeting x-border mobile populations (also in connection with dengue control),
- To ensure that mobile teams are equipped by RDTs and medicines in collaboration with PHC committees,
- To plan extra days on malaria control (case management, vector control, surveillance and reporting) during training sessions organized by CBHC and RMNCAH (IMCI) and

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<sup>8</sup> Further details on recommended interventions by thematic area are provided in chapter V

<sup>9</sup> Annex 5 is summarizing main malaria control and elimination interventions by category 1 to 4

<sup>1</sup> Maximum distance of 5 km or 1<sup>0</sup>hour walking distance to the public or accredited private health service providers

<sup>1</sup> Malaria diagnosis and treatment is free of charge

<sup>1</sup> Information / IEC-BCC to communities is culturally acceptable (multi-ethnic) and suitable to the whole target population

- subcontractors as BPHS implementers<sup>1</sup> , <sup>1</sup> . The MVDP might add some training sessions on dengue epidemic, detection and control,
- To advocate and practically work with related department of MoPH and communities for the establishment of new well-equipped health care facilities above communities such as Sub Health Centers, Basic Health Centers and Comprehensive Health Centers, based on result of GAP analysis<sup>1</sup> , in order for referred patients to access essential integrated health care services as described in the Basic Package of Health Services (BPHS)<sup>1</sup> where case management of uncomplicated and severe malaria is a key component,
  - To plan in those high burden districts refresher training sessions in malaria case management, vector control, IEC/BCC, surveillance and reporting of existing health staff above community level,
  - To train central and provincial staff in PSM as a contribution to avoid stock-out of RDTs, anti-malarial medicines and equipment,
  - To procure anti-malarial medicine and diagnostic tests from WHO prequalified companies (pre-shipment test result should be shared with program before supply),
  - To establish RDT quality assurance system through CPHL and Reference Regional Labs (RRL) at central and regional level to perform the quality control of used RDTs by PCR method,
  - To assess existing quality microscopy monitoring procedures in health care facilities where microscopy is the diagnosis of choice following WHO guidelines<sup>1</sup> ,
  - To assess actual performance ranking level of microscopists in Afghanistan by using WHO External Competency Assessment procedures (ECA) in collaboration with WHO<sup>1</sup> . Based on results, to assign 2 level 1 microscopists in the central lab and 1 or 2 microscopists at level 2 in each endemic province,
  - To identify HR or equipment gaps if any with the CPHL to ensure that QA/QC for RDTs, microscopy and medicines is actually included and performed in the national and regional labs,

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<sup>1</sup> The IMCI package training managed by the NNMCH department currently includes the updated CBMM and NTG guideline. However, during training sessions organized by NNMCH targeting FHH workforce and CHWs, not enough time is dedicated to cover the entire malaria component as per relevant malaria guidelines

<sup>1</sup> See table in annex 8 pertaining to training malaria modules and duration of respective training sessions

<sup>1</sup> According to the WHE gap analysis and varying from one district to another, the underserved population in Afghanistan is between 25 and 35% <https://dashboard.whe-him.org/> .

<sup>1</sup> MoPH (2010) A basic Package for Health Services in Afghanistan

<sup>1</sup> WHO (2016) Malaria microscopy, Quality Assurance Manual version 2

<sup>1</sup> One ECA exercise performed by<sup>8</sup>one external consultant with top level expertise in microscopy takes one week for 12 microscopists selected by the program. At the end of the week, each microscopist is classified according to microscopy results against standardized slides. The ECA exercise could be coupled by one additional week to train additional microscopists and /or to assess QA/QC microscopic procedures in the country.

- To perform carefully planned therapeutic efficacy studies (TES) in 2023 and 2025 in 2 selected districts to monitor malaria drug efficacy,
- To plan short training and re-training sessions in high burden provinces with other health programs to ensure that health staff have the capacity and equipment to diagnose, cure and report through DHIS2 malaria and non-malaria diseases,
- To organize in collaboration with WHO x-border bi-annual meetings<sup>1</sup> with Pakistani counterparts at provincial level to exchange and discuss data on malaria and other VB diseases such as dengue and leishmaniasis including extracting success stories if any and strengthen x-border collaboration in malaria control,
- To support provincial team staff from Afghanistan to visit neighboring provinces of Pakistan and Provincial staff from Pakistan to visit neighboring provinces of Afghanistan in order to identify bottlenecks and good practices to provide health services to be funded, implemented and monitored both sides,
- To further develop, plan and fund strategic harmonized and agreed-upon x-border interventions targeting mobile populations,
- To collaborate with the TB program to improve / set-up x-border data sharing and x-border surveillance

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#### IV 1 2 Scaling-up preventive measures such as LLINs targeting the whole at risk population.

- To distribute PBO-Nets to the whole population of cat 1 districts at the rate of 1 LLIN per 2 people and cover internally displaced people located in family houses and members / staff of security force regularly operating in cat 1 districts,
- To perform entomological studies in different sentinel sites (at least 6) easily accessible by the program to monitor that PBO-Nets and pesticides used for IRS are still effective against documented malaria vectors<sup>2</sup> ,<sup>0</sup>
- To organize at least 2 refreshing training sessions targeting the existing entomology technicians posted at provincial level. Training sessions have to focus on procedures to collect basic entomological data to document the composition of vectors further focusing on the primary vector (malaria and dengue) for its behavior, bionomics (identification of breeding sites), infectivity and susceptibility to pesticides,
- To engage, starting in the province of Nangahar, community members, schoolteachers and secondary students in integrated vector surveillance in general and specifically for assisting in monitoring of the Gravitrap and source reduction,

<sup>1</sup> Reference is made to PIAM-NE<sup>0</sup>: Pakistan – Islamic Republic of Iran – Afghanistan Malaria Network

<sup>2</sup> WHO/EMRO (2022): Insecticide<sup>0</sup>Resistance Monitoring and Management Plan (IRMMMP) for Afghanistan under finalization

- To explore before the LLIN distribution through additional questions how CHWs or other community members via planned household visits could monitor to which extend LLINs are used, kept in good condition and if old nets are properly wasted (see further)<sup>2</sup> .
- With the help of technician entomologists posted at provincial level and community members, *as part of the IVM framework* targeting all vector-borne diseases, to initiate a larval source management program (identifying and managing breeding sites),
- To establish in all high endemic provinces an IVM functional committee with representative from various sectors (see details in IVM guideline) facilitated by the provincial team and Provincial entomologist,

#### IV 1.3 Engaging the private sector towards implementing recommended case management and preventive good practices.

- To update the list of registered private hospital, private clinics, private labs in all high burden provinces,
- Building on experience in Nangarhar, to organize with formal forum private associations training sessions in each endemic province targeting private providers to fully engage them in program objectives and targets. Training sessions to include programmatic objectives and strategies in addition to updated case management, prevention, surveillance and reporting procedures,
- To provide interested private clinic / hospital and lab providers engaged in the program with RDTs, medicines and other relevant lab equipment in exchange of their collaboration and free of charge malaria services,
- To plan with SRs and provincial teams monitoring, supervision and reporting visits of engaged private providers
- To organize one annual provincial workshop in each cat 1 province with engaged private providers to present progress made, identify gaps and plan following year activities,
- To exchange private health practices with PAK counterparts especially pertaining to x-border interventions,

#### IV 1.4 Strengthening access by the population and community leaders to relevant information about malaria and other vector-borne diseases control-

The program has to ensure that the whole resident and mobile population, local authorities and influent community leaders have access to relevant and easily understood information / messages of evidence-based recommended malaria control interventions and preventive / personal protection measures

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<sup>2</sup> Available recommendations on management of old LLINs are in this link <https://apps.who.int/iris/bitstream/handle/10665/338356/WHO-HTM-GMP-MPAC-2014.1-eng.pdf?sequence=1&isAllowed=y>

- To request technical assistance to revise / update the module of COMBO / IEC-BCC pertaining to recommended best practices by the MVBDP in malaria case management, vector control and surveillance to be used by peripheral health staff and CHWs in multi-ethnic illiterate communities,
- To harmonize the revised IEC/BCC module with Pakistani counterparts in order to target the mobile population and avoid contradicting x-border messages / information,
- To test the revised the MVDP COMBO module tools in selected communities,
- When finalized, to insert the revised module into the general COMBO guideline in coordination with the Department of Health Promotion (DPH),
- In collaboration with other health programs, to organize training sessions in endemic provinces to health staff, CHWs, schoolteachers and other relevant community leaders in order for them to promote/use above educational tools,
- To request external technical assistance to produce an attractive advocacy document wrapping up best practices in malaria control from the program and partners and displaying positive results from identified good practices,
- To insert within the annual workshop agenda organized by the MVBDP an advocacy session to mobilize Government officials and international organizations,

#### IV 1.5 Engaging non-health sectors in malaria and other vector-borne control interventions

In those high burden districts, the MoPH and the National Program have to discuss and convince relevant non-health sectors to promote / be engaged in good practices to control vector-borne disease.

- For the program, to organize one annual national workshop with all stakeholders and representatives from non-health sectors to present progress made, gaps and future direction of the program,
- For the program and MoPH, as a follow-up of the national workshop above, to pursue discussion and modus operandi with the following Ministries:
  - o To engage the Ministry of Interior to mobilize community leaders,
  - o To informally discuss with the Ministry of Defense to engage security officers at border level into vector control information and campaigns,
  - o To discuss with the Ministry of Defense about harmonization of case management and prevention practices as part of health practices including options to exchange records of malaria cases in the Ministry of Defense,
  - o To engage the Ministry of Education to provide with relevant information in schools,
  - o To engage the Ministry of agriculture, municipality, Ministry of trade and commerce and ministry of Hajj and religious affairs into vector control interventions and information



#### IV 1.6 Procurement and supply chain management.

- In collaboration with UNDP, NMHRA and SRs, to finalize an integrated PSM training package,
- To organize Supply Chain Management training sessions in each endemic province,
- To ensure that dedicated time as part of general training sessions on case management is for all health staff till CHWs to receive basic training in stock management and reporting in such a way that shortage of RDTs, medicines and basic equipment is avoided. Training sessions to be managed with the help of the Procurement and PSM officer<sup>2</sup> / data manager / SRs at provincial level and ideally with other health programs,
- To organize quarterly supervisions and reporting of provincial warehouses to monitor management of stocks at provincial level and below in coordination with SRs and other health programs including electronic reporting,
- To progressively connect / integrate the PLIS software / database to existing health databases like DHIS2 to avoid duplication with multiple costly vertically driven soft wares,
- To include a workshop session on PSM during the annual Malaria and other Vector-borne diseases workshop,

#### IV 1.7 Requested HR to support the above interventions: see further down III 2 2

#### IV 2 Second priority: Strengthening Pf/Pv control operations in the 38 districts recorded as cat 2 (API>1 and <10)

##### IV 2 1 priority interventions:

In those cat 2 districts listed in annex 2, the MVDP will put in place similar interventions as in cat 1 districts.

Since some of those districts with API close to 1 are expected to progress towards elimination, more emphasis will be put on perfecting regular data gathering and analysis from public and private data sources (such as registered private hospitals, private clinics or health services from the Ministry of Defense), on data management at all levels towards the progressive production of regularly updated and accurate malaria mapping of all communities as proxy of foci in those districts (see further on cat 3 interventions). This will progressively lead to further down classifying communities / villages by API and decide relevant interventions by community rather than district.

- According to the updated list of underserved communities in cat 2 districts elaborated by the MoPH/CBHC, for the CBHC to post additional CHWs or FHHs where needed, possibly supported by additional health care facilities,

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<sup>2</sup> PMVDP officer at provincial level and Case management focal point of SR.

- To subsequently for the program to elaborate with the MoPH a capacity building plan to ensure that new health staff and new staff posted in FHHs, and communities are trained according to MVDP guidance,
- To carefully plan regular supervisory visits including an *on-the-spot* training component with provincial teams, SRs and BPHS implementers,
- To update the number of people (listed by community) expected to sleep under PBO-Nets and fine-tune the number of LLINs needed to cover the whole population including buffer to cover displaced people,
- To explore with provincial team in which communities a larval source management program to be initiated based on the multi-sectoral IVM framework,
- To list, engage and supervised registered private providers (hospitals and clinics) into recommended malaria control and preventive measures with emphasis on surveillance and timely reporting of confirmed malaria cases,
- To strengthen the surveillance system with complete and timely reporting at least on a monthly basis of confirmed malaria cases in selected very low burden districts (API close to 1),
- To perform studies documenting vector resistance to recommended pesticides complementing studies performed in 2 provinces in 2019,
- To facilitate and support quarterly planned provincial MVDP task forces with BPHS implementers and partners,
- To ensure that a malaria focal point is taking part of EPR provincial committee meetings

## IV 2 2 Requested HR in cat 1 and 2 districts to support the above interventions

### IV 2 2 1 at community level (Community-based activities)

At least one community health worker (CHW) has to operate in each community of around 1500 persons if the community is not closed either to a Family Health House (FHH) of a Sub Health Center (SHC) or a Basic Health Center (BHC). Each CHW is operating in a Health Post (HP) with basic equipment as described in the Basic Health Package under staff supervision from a Comprehensive Health Center (CHC). The majority of community volunteers / peripheral workers are illiterate with limited health background which means that special training sessions managed by the CBHC department with MVDP inputs are requested to improve their basic skills by using appropriate / specifically designed training materials including culturally adjusted IEC/BCC tools. Training sessions are followed by regular supervisions / on-the-job training sessions by BPHS implementers, MVDP and SRs to ensure that procedures including reporting are properly followed and feed-back given.

### IV 2 2 2 at border level

Following discussion with the MoPH and Ministry of Interior, additional Border Health Posts (BHPs) in connection with other health programs <sup>2</sup> have to be set up firstly in official x-border locations between Pakistan and Afghanistan where population movement is documented as to be the highest. This population on the move could then access free of charge malaria and possibly dengue diagnosis, treatment, information thanks to those newly established BHPs. New volunteers or health staff operating

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<sup>2</sup> Reference to the digital cross data sharing system running as part of the TB program

in BHPs have to be trained by CBHC department which is using an integrated training module including a malaria module. Quarterly x-border meetings with Pakistani district officers under provincial leadership are planned to monitor BHP performance, to exchange data and further address documented mutually recognized bottlenecks and gaps. As a result of x-border meetings, more harmonized X-border interventions including for dengue control will be decided and funded.

#### IV 2 2 3 at SHC, BHC and CHC level

Skilled health personal (Physician, nurses and midwives) have to be posted in all Health Centers. The MoPH has to ensure that all existing and new health centers have the human resources needed as well as equipment and medicines required including for malaria case management as per Basic Health Package. A gap analysis will be carried out by the provincial MVBD manager to fine tune human resource needs and plan additional refreshing training sessions if needed at that level by the program. On top of tasks to be implemented by provincial health staff is to organize training sessions for community volunteers, regular supervisions and on-the-job training sessions. Materials like bicycles or motorcycles have to be made available at that level by the MoPH for that purpose.

The program in collaboration with provincial MVDP managers has to make a list of private hospitals, private clinics and private labs providers to organize specific training sessions including MVDP component. Planning of such training sessions and subsequent supervisions is organized alongside with existing private associations.

#### IV 2 2 4 at provincial level

One MVDP manager. One MVDP manager is posted in each province in charge of supporting / coordinating case management, vector control, surveillance and M&E.

Entomology. In each high burden province (cat 1 and 2), ideally 2 technicians in entomology have to be posted (see above) to perform vector susceptibility tests / bioassays according to WHO guidelines (see above) and to assist the overall LLINs distribution, monitoring the use of LLINs with CHWs and ensure regular reporting. Refreshing training courses have to be organized for entomology technicians who are supervised by senior entomologists within the program. Since the current workforce in entomology (number and skills) is weak and rebuilding that capacity will take time, the program will have existing entomologists covering several high burden provinces with technical assistance from neighboring countries to increase their skills and assist them to perform priority entomological studies,

Epidemiology, data base management. Data management and M&E tasks are critical in all 34 provinces. The program has to post one epidemiologist or/and one data manager or/and one M&E staff first in each high burden province. The data managers are in charge of improving and monitoring the capacity of community and health care staff to gather and report on data following MVDP surveillance/ M&E module and also to ensure the completeness and timeliness of reporting by using the DHIS2 platform.

Main tasks of technician entomologists and epidemiologists are described in annex 6 while annex 7 is describing staff posted in each province in 2019. A gap analysis has to be made to update HR needs in 2022 and beyond.

Quality microscopy. In order to strengthen and maintain quality microscopy especially in referral health care facilities and hospitals where microscopists are mainly operating, there is a need to post 2

microscopists at least at level 2 as per WHO classification (following ECA or internal assessment exercises) in each high burden province.

PSM. Pertaining to supply chain management to avoid stock out and excess of stock, there is a need to post in each high burden province one skilled logistician expected to work with provincial teams and UNDP sub-contractors (SRs). His/her task is to plan training sessions targeting health staff / CHWs and to ensure that health staff are properly reporting on stocks and supply chain bottlenecks through the LMIS.

#### IV 2 2 5 at national level

Entomology. Within the program expected to control all vector borne diseases, 4 skilled entomologists are currently posted. The entomology team plans and oversees national vector borne activities and training sessions pertaining to malaria. They are conducting vector susceptibility tests, carry out bioassays and monitor vector receptivity in epidemic foci and in non-active foci previously active. In addition, the entomology team has to be part of or in direct connection with the epidemic detection and rapid response team linked to NDSR (including dengue detection and control) to quickly execute indoor spraying activities and/or distribution of LLINs where and when requested. This includes managing stock of pesticides and spraying equipment at national and provincial levels. TORs are in annex 5.

Capacity building and research. Within the program, 3 master training staff are in place in charge of planning and supporting capacity building activities touching all MVDP interventions described above including OR activities like TES in collaboration with the MoPH research department.

Microscopy. To maintain quality microscopy, there is a need to post at least 2 microscopists at level 1 as per WHO classification. Their main tasks is 1) to set up or strengthen QA/QC mechanisms as per WHO guideline<sup>2</sup> to maximize the quality of microscopy results, 2) to x-check and provide with feed-back on results of sample of slides regularly sent by district and referral hospitals following WHO guidelines on QA/QC.

One Data base manager and one surveillance officer. To strengthen the capacity of the MVDP to collect, manage, analyze, report on data and further provide feed-back to end-users and the MoPH, the program has one skilled epidemiologist and one skilled data manager with good IT equipment / software linked to DHIS2 / MLIS. This is important to monitor progress made in cat 1 and 2 high burden provinces but also in cat 3 and 4 districts where malaria is foci oriented. The epidemiologist will also contribute to organize training sessions in surveillance/ data management / reporting targeting provincial and SR staff.

At least two logisticians have to operate at national level, to re-train and monitor logisticians operating in provinces alongside with other health programs including maintenance of warehouses and planning of training sessions where and when needed

Annex 7 is describing staff available in provinces in 2019. A gap analysis is needed to be performed to update on existing number of skilled staff at different level of care and adjust needs and TORs if any.

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<sup>2</sup> WHO (2016) Malaria Microscopy Quality Assurance Manual

### IV 3 Third priority: Eliminating local transmission in at least 47 cat 3 districts (corresponding to 20% of classified cat 3 districts).

In those cat 3 districts listed in annex 3, very few or no malaria cases have been recorded in communities during the last 3 consecutive years in 82 districts while in 237 districts, API is fluctuating over 1 and below 1 over last 3-year. In selected districts, the program has to elaborate a list of all communities where elimination interventions have to be put in place or strengthened. It means focusing on active surveillance, index case investigation, individual case tracing, and epidemic detection and response with EPR guideline to be implemented and staff trained accordingly. It means also fully engaging both the public and private health sector as well as other non-health sectors of relevance which are not necessarily in touch with the MoPH but also concerned by an infectious disease like malaria (Ministry of Defense, Agriculture, border patrols, etc.).

#### IV 3 1 Priority interventions to be strengthened or initiated:

- To advocate for malaria elimination and to ensure national political commitment towards malaria elimination from national and provincial political leaders to be further actively supported by local leaders and community members,
- To establish the National Malaria Elimination Committee chaired by the high-ranking officials,
- To finalize advocacy documents and plan events to advocate for malaria elimination goals and interventions,
- To list as part of a dynamic national database (see below), all communities considered as foci and to classify them as passive or active foci<sup>2</sup> as per recorded confirmed malaria data and entomological investigations,
- To implement in selected cat 3 districts / provinces the malaria elimination module attached to DHIS2 with data to be computerized at provincial level,
- Malaria to be a notifiable disease timely (ideally on-line on a daily basis) reported by all health workers (public, private and from non-health sectors such as Ministry of Defense or Agriculture),
- For the program to be part of provincial EPR committee and ensure that malaria cases if any are weekly reported to EPR team with subsequent actions being carried out according to EPR malaria guideline,
- To organize by using the case investigation module training sessions for CHWs/community members and health staff in order for them to immediately report any positive case to the investigation team who will be in a position to screen (ICI) all population close by the positive case and determine if the positive case is imported or locally acquired. As part of the investigation is to retrieve details on travel history / origin of the positive case during the last 3-month,
- To perform mass drug administration (MDA) according to identified malaria species possibly in addition of vector control (IRS) if a non-active focus becomes active again (local transmission documented) as a result of the index case investigation (ICI) and mass screening,
- To manage and maintain a detailed provincial and national malaria elimination database (DHIS2 Tracker) with classification of all communities / villages,

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<sup>2</sup> WHO (2007): Field Manual for Low and Moderate endemic countries (see in particular fig 4)

- To organize annual meetings at provincial and or national level to monitor the database and take appropriate programmatic actions,
- To train and fully equip Malaria investigation teams in order for them to timely investigate malaria cases and take immediate action,
- To ensure the full cooperation of the private sector and private providers under official policy and regulatory procedures,
- To maintain in selected locations adequate stocks of RDTs, medicines and other supplies (for ICI, screening, treatment and reporting) and insecticides, equipment to support vector control (for IRS),

IV 3 2 HR requested to support the above interventions: see next section IV 4 2 below

IV 4 Fourth priority: Maintaining the remaining 77 districts (Cat 4) free of malaria transmission.

77 districts which as listed in annex 4 have been recorded with an API=0 during the last 3-year. The 4<sup>th</sup> priority is to prevent the re-introduction of malaria in those districts and so maintain those districts in cat 4.

IV 4 1 The following interventions have to be initiated or strengthened:

- To strengthen the integrated surveillance and response system (so-called NDSR) to early detect and quickly respond to any suspected case(s) of malaria or other epidemic prone diseases (like dengue). The EPR guideline providing direction to forecast, prevent, detect and control malaria epidemics has to be implemented and staff trained to perform procedures as per EPR guideline. In elimination area all positive imported cases have to be identified and screening operations put in place to identify potential secondary cases (Index case investigation, mass screening).
- To ensure and monitor that all suspected malaria cases are tested, and positive cases classified and promptly reported (daily basis) according to travel history, index case investigation, etc. Specific recording forms have to be used for that purpose
- To ensure and monitor that any epidemics are controlled without delay (see also 1-3-7 mechanisms)
- To monitor that all epidemics are retrospectively and quickly analyzed to understand and address potential contributing factors such as increasing vulnerability (hectic or planned movement of population, unusual displaced population, etc.) or increasing receptivity due for ex to unusual meteorological events
- To conduct entomological investigations to identify vectors, their capacity to resume transmission (receptivity) and their sensitivity to recommended insecticides
- To maintain awareness through annual advocacy meetings of national and local authorities and population about potential resurgence of malaria and other epidemic prone diseases
- To establish or strengthen if already in place provincial elimination committee under provincial leadership to monitor interventions, maintain multi-sectoral vigilance and advocate for additional domestic funds to support elimination interventions,
- To organize regular meetings at least annually between Cat 3 and Cat 4 districts stakeholders to share and discuss data, identify weaknesses for correction and adjust strategies if needed,

- To organize extra training sessions targeting health workers have to maintain or to strengthen their capacity of conducting and reporting on screening operations and quickly carry out appropriate control response with the assistance of provincial team

#### IV 4 2 Recommended HR to support proposed interventions in cat 3 and 4 districts

##### IV 4 2 1 at provincial level

In all cat 3 and 4 provinces, one multi-disease epidemiologist with skills in malaria control and surveillance as part of the NDSR has to be posted in order to train and supervise malaria data at health facility level. Among tasks to be performed is the mapping / classification of all foci in the province with regular (annual) update including actions to be taken either to clear active foci or to maintain foci / communities free of malaria.

One Entomologist has to be posted in a province or region. Main tasks will be 1) to identify the presence of malaria vectors and monitor receptivity especially in previously active foci and in those where cluster of cases have been newly discovered and 2) to ensure that equipment, pesticides and protective clothes are available to perform IRS where and when needed. If needed, training sessions have to be planned to maintain skills of community / district workers in charge of performing IRS including reporting.

One logistician has to be posted in region to ensure that supply chain management including reporting is carried out following UNDP and WHO guidance.

One level 2 microscopist has to be posted in a province or region to cross-check sample of slides sent by referral health care facilities. The microscopist has to plan (re) training / refreshing sessions to strengthen the capacity of microscopists to detect malaria parasites. Those training sessions could be organized with WHO as part of the ECA program.

##### IV 4 2 2 at national level

See proposed HR in section IV 2 2 5 above

## CHAPTER V THEMATIC INTERVENTIONS ACCORDING TO STRATIFICATION

### V.1 MALARIA CASE MANAGEMENT AS PART OF THE BASIC HEALTH CARE PACKAGE

To be implemented and scaled up in all districts (Cat 1 to 4)

The overall aim of the MoPH strategy / policy is to progressively ensure that the whole population of Afghanistan without any discrimination is accessing and, in a position, to benefit basic quality preventive and curative health services. Malaria is part of the *basic health package* expected to be used by trained public and private health personnel countrywide.

Recommended malaria case management strategies and policies follow WHO recommendations.

In particular:

- In cat 1 and 2 districts, to set up additional or strengthen existing health posts and/or mobile teams or FHHs especially at border level with Pakistani counterparts to ensure that remote/mobile population crossing border could freely access quality health care.
- To test by microscopy or RDTs all patients with suspected clinical symptoms like fever to exclude a Pf or Pv or mixed malaria infection. If the test is negative, to use clinical algorithms like IMCI to allow health workers to orient their diagnostic to another disease such as pneumonia, meningitis, dengue, cutaneous infection, abscess, measles, otitis, or urinary infection to cite a few,
- Quality microscopy diagnosis to be available from Comprehensive Health Centers (CHC) up to regional hospitals. In the absence of microscopists / microscopes and staining materials, to ensure that RDTs are continuously available in health care facilities,
- Quality checked Pf/ Pv -RDTs to be part of the Basic Health Care Package to be provided by the MoPH and distributed to HFs and communities (HPs),
- To strengthen QA/QC microscopy procedures as per WHO guideline. For that purpose, the following interventions have to be supported and funded:
  - o One microscopist at least level 2 in well-equipped QA unit is operating in each province to supervise microscopists working in HFs. Slides from HF are cross-checked and feed-back provided to HF staff. The provincial QA units share the sample of cross check slides for second reading. The QA/QC unit (with at least 2 level 1 microscopists) at central level is conducting second cross-checks and provide feedback to provincial labs,
  - o Since QA/QC of microscopy is difficult to maintain at its best performance level, quality microscopy is first promoted and maintained in referral hospitals and in selected well equipped CHCs with well trained and supervised staff only,
  - o Microscopists, especially those in charge of QA/QC, to be regularly evaluated following strict WHO ECA procedures and classified from performance level 1 to level 4<sup>2</sup> ,  
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- Quality RDTs to be made available, kept in good condition and used everywhere else (below CHC level of care) including in low endemic districts / communities and in cat 4 districts where the disease has been eliminated.
- To ensure and maintain quality of RDTs, the current QA system with CPHL involvement thanks to the HSS grant is strengthened. Under CPHL umbrella, lab staff of malaria unit to be integrated in Regional Reference labs. They are trained in various lab techniques including PCR techniques as a contribution to assess the quality of RDT samples used in the field,
- In the absence of recent therapeutic efficacy studies monitoring the efficacy of AL for Pf and CQ for Pv, uncomplicated falciparum infections will continue to be managed with ACT (AL) and PQ one single dose while vivax infections are managed with CQ 3-day + PQ.
- Primaquine to be provided for radical treatment of the HF diagnosed and CHWs referred Pv patients at HFs based on NTG.
- Severe falciparum cases are managed as per NTG.

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<sup>2</sup> Accredited External Competency Assessment (ECA)



- All suspected deaths attributed to malaria has to be investigated<sup>2</sup> to cross-check the primary cause of death,
- To ensure that above malaria management procedures including clinical algorithms are properly implemented, health workers in HFs including hospitals and community volunteers must be trained or re-trained and well supervised,
- Equipment of well-maintained microscopes, slides and staining materials to be made available in hospitals and CHCs and Pf-Pv RDTs everywhere else especially up to communities (Health Posts).

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<sup>2</sup> As per the RIA report, 2 attributed vivax deaths were recorded in 2017. Since Pv is far less leading to death than Pf, those deaths should have been further scrutinized (diagnosis and accuracy of slide result)

## V.2 PREVENTIVE MEASURES

From the literature, 22 *Anopheles* species are recorded in Afghanistan<sup>2</sup>. *An. stephensi* is considered the major malaria vector, particularly in the Eastern provinces of Kunar, Laghman and Nangarhar<sup>2,3,3,3</sup>. In other provinces in Afghanistan, *An. superpictus* is the main vector. Other reported major and secondary malaria vectors include *An. culicifacies*, *An. subpictus*, *An. annularis*, *An. pulcherrimus*, *An. splendidus*, *An. superpictus*, and *An. hyrcanus*<sup>3</sup>. *Aedes aegypti* and *Aedes albopictus* are invasive vector species in Afghanistan, which have become established. *Aedes aegypti* and *Aedes albopictus* have been identified in Khost and Nangarhar provinces<sup>3</sup>.

According to a few old entomological studies, major vectors are mostly resting inside and thus are highly affected by the systematic and widely use of LLINs as well as by Indoor Spraying Operations. Recent vector resistance studies have demonstrated the resistance of vectors to pyrethroids re-orienting the program to the procurement and distribution of pyrethroid-PBO-Nets. Additional studies are urgently needed to update the map of vectors transmitting major vector-borne diseases in Afghanistan, their behavioral status and their resistance level to current recommended insecticides. Recent entomological studies investigating vector resistance in 2 eastern and southeastern regions have demonstrated high resistance of *An. stephensi* to all classes of pesticides making IRS less effective.

### V.2.1. Scaling up deliveries and use of pyrethroid-PBO nets

- To be implemented in Cat 1 and 2 districts through mass campaigns in every three years,
- To be implemented countrywide as continuous distribution targeting children under 5 and pregnant women as part of EPI and ANC interventions

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<sup>2</sup> Glick JI. Illustrated Key to the Female Anopheles of Southwestern Asia and Egypt (Diptera: Culicidae). Mosq Syst. 1992; 24:125–53.

<sup>2</sup> Afghanistan Ministry of Public Health: National Malaria Strategic Plan 2013–2017. Islamic Republic of Afghanistan 2013.

<sup>3</sup> Rowland M, Mohammed N, Rehman H, Hewitt S, Mendis C, Ahmad M, Kamal M, Wirtz R: Anopheline vectors and malaria transmission in eastern Afghanistan. Transactions of The Royal Society of Tropical Medicine and Hygiene 2002, 96:620-626.

<sup>3</sup> Safi N, Hameed H, Sediqi W, Himmat E: NMLCP annual report Afghan Annu Malar J 2009, 7:8-14.

<sup>3</sup> Safi NH, Ahmadi AA, Nahzat S, Warusavithana S, Safi N, Valadan R, Shemshadian A, Sharifi M, Enayati A, Hemingway J. Status of insecticide resistance and its biochemical and molecular mechanisms in *Anopheles stephensi* (Diptera: Culicidae) from Afghanistan. Malaria Journal. 2019 Dec; 18(1):1-2.

<sup>3</sup> Insecticide Resistance Management Strategy 2012-2016. Islamic Republic of Afghanistan, National Malaria and Leishmaniasis Control Programme Ministry of Public Health

<sup>3</sup> Sahak MN. Dengue fever as an emerging disease in Afghanistan: Epidemiology of the first reported cases. International Journal of Infectious Diseases. 2020 Oct 1; 99:23–7.

The updated malaria vector control strategy covering the 2023- 2026 period will not deviate from the previous malaria vector strategy from 2018 to 2022. The strategy will continue to focus first on the universal coverage by pyrethroid-PBO nets of the entire population residing in cat 1 and cat 2 districts and secondly covering as much as possible cross border population and internally displaced people if any. It means for the program the need to update with the number of people living in cat 1, to estimate the number of people moving from one place to another in those cat 1 districts including those crossing borders and the number of internally displaced people if any in coordination with UNHCR and UNICEF.

Beyond the distribution of LLINs to targeted populations, the program will monitor and encourage the adequate use of LLINs in communities by further mobilizing community leaders and local authorities<sup>3</sup> ,  
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Pertaining to the protection of people on-the-move, several options have still to be discussed within the program and with Pakistani counterparts. One option to be considered / piloted is to provide one LLIN free of charge to all people regularly crossing borders through official border posts between Afghanistan and Pakistan. The feasibility of implementing such option is depending on several conditions like 1) the capacity of the program / provincial teams and x-border agents to count people, 2) the willingness of x-border authorities to collaborate and properly monitor people on-the-move, and 3) available funds, this could be progressively implemented and monitored through newly established border posts where malaria tests and treatment and possibly LLINs are available. A tracking system of LLIN given to x-border people using multilingual recording form could be piloted.

It has to be noted that the large coverage of at-risk population by LLINs is also contributing to reduce the dengue burden.

The program is planning surveys as part of other community surveys by the MoPH in order to monitor among other tasks the actual use and quality of LLINs by community people.

To support the above intervention, the commitment / engagement of the local population and local authorities as well as Pakistanis' counterparts are essential. This is why the IEC/BCC strategy will be updated including suitable cultural packages to be used by community volunteers and health workers with continuous exchange discussion on the ground.

TORs of entomologists and their position in the country will be reviewed / updated to support above high demanding tasks. The program will conduct a gap analysis pertaining to HR in general (see further) and particularly to map existing entomologists with their current location/capacity / TORs to be possibly updated and proceed with a list of locations where entomologists and technician entomologists have to be posted with clear TORs with their capacity to be regularly monitored. Among basic tasks of entomologists is routine vector surveillance (e.g., vector

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<sup>3</sup> The 2020 review of the program<sup>5</sup> has highlighted the fact through small community studies that household members don't use their new nets but rather continue to use old ones.

density/seasonal abundance, vector bionomic studies, insecticide resistance monitoring including *Aedes aegypti* and *Aedes albopictus*) especially where PBO-nets have been and/or will be largely used and IRS operations planned. Entomologists and technician entomologists have also to be involved in LLINs planning distribution and in community studies to assess their actual use and longevity.

Since the program has been re-oriented towards the control of all vector-borne diseases, training sessions with updated training modules have to include all vector-borne diseases of importance in Afghanistan especially dengue and Leishmaniasis.

On borders, the full collaboration / understanding of the Ministry of Interior and the Ministry of Defense is essential.

#### V.2.2 Managing wasted LLINs

Recommendations to manage wasted LLINs can be found in the WHO guidelines for malaria control.

In summary, the program should remove those old LLINs that are damaged and cannot be used as protective tool and a suitable and sustainable plan is in place for safe disposal of the collected material. The removed LLINs can be replaced only when the program can distribute the new LLINs to ensure that the targeted communities continue to be protected as part of the universal coverage principle. For this purpose, the program should consider re-distribution of LLINs every 3 years, based on the LLINs lifespan and WHO recommendations.

Through communication strategies, communities should be advised

- to continue using the LLINs even if they have small holes, until replacement.
- to regularly repair their nets when damaged.
- to not dispose old nets to the environment to minimize risk to human and animal health and to avoid environmental contamination.
- to not burn old nets in open air but rather burying them, preferably in non-permeable soil and away from water sources.

Below are some suggestions through key messages:

As much as possible raise awareness among communities for proper care of the nets and repair any damaged net/as soon as a tear/hole appears to preserve the net in good condition and thus extend the lifespan of the LLINs.

Repurposing the old nets (damaged nets that cannot be repaired): e.g. screening of windows / curtains or doors, using under mattress as pest control, built into the roof/ceiling or building, seal the openings of the house, cover of ceiling of animal shelters but not reachable to animals to prevent eating the nets. More ideas from the field in Afghanistan, can be included.

For example, the following activities could be implemented:

- Community leaders / CHWs might play a role by assessing / monitoring the number of well-maintained LLINs and those which are highly damaged by household to be replaced and properly wasted / buried away from any water compound or river
- Highly damaged LLINs (for example documented by several big holes), depending of the severity of the damage, could be repaired/recycled / re-used as window nets for example or fully burned / eliminated in special ad-hoc locations away from water bodies.
- Efficacy of impregnated insecticide is declining in old LLINs (usually more than 3-year). However, if not highly damaged and if well maintained by community members, old LLINs might still be useful as mechanical barriers protecting sleeping people against infected mosquitoes.
- Neither disposing highly damaged nets in water bodies nor using them to capture fishes

As general principle, the MVDP is working with national environment authorities to ensure that relevant information and recommendations are taken into consideration when formulating local guidance and regulations.

#### V.2.3 Indoor residual spraying (IRS)

IRS operations are playing an important role to control epidemics at early stages. The surveillance system has to be good enough to detect epidemics within days of onset and allow epidemic teams to quickly (see updated EPR guideline) implement indoor spraying activities targeting households with effective insecticides.

The choice of the best insecticide to perform IRS is based on vector susceptibility tests carried out in selected locations by trained entomologists. Pesticides, protective clothes and spraying equipment to be kept in safe and well-maintained warehouses covering one or several provinces. Refresher trainings to be conducted for sprayers prior to IRS operations, and regular supervisions to be performed during IRS operations. The program to ensure that reporting forms are completed on a daily basis and after overall completion of IRS activities to ensure that operations have been performed correctly as per protocol and planning.

Other communicable diseases like dengue and Leishmaniasis are of public health importance in Afghanistan. Dengue epidemics are currently occurring in eastern provinces bordering Pakistan where malaria is very endemic<sup>3</sup>. IRS operations contribute to reduce the dengue and leishmaniasis burden depending on vector behaviors and their susceptibility to pesticides. Large coverage of LLINs will also contribute to dengue and leishmaniasis burden reduction.

As part of the cross-border Dengue Response Plan elaborated by the program and WHO end of 2021, improving surveillance, detection and rapid response through integrated NDSR is essential as well as improving the capacity of health workers to diagnose the disease, improving CPHL lab

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<sup>3</sup> WHO (2022): The Dengue Fever<sup>6</sup>Surge Response Plan, Afghanistan, December 2021 – May 2022

capacity and provide with adequate treatment.

Refreshing training sessions have to be organized for sprayers before IRS operations and equipment (spray pumps, protecting clothes, etc.) well maintained and ready to be used at any time. Reporting is essential to ensure that operations have been performed correctly as per protocol and planning.

### Insecticide Resistance Management and Monitoring Plan

Malaria is a major endemic vector borne disease in Afghanistan. Among about half a dozen malaria vector species, *An. stephensi* is considered the major vector especially in the eastern provinces of Kunar, Laghman and Nangarhar in Afghanistan. The secondary vector in the Eastern Province is *An. Culicifacies* while, *An. superpictus* is the main vector in the other provinces. Recently *Aedes aegypti* and *Aedes albopictus* that are vectors for dengue fever have been detected in Afghanistan.

Vector control is a critical component of all malaria control strategies. It relies primarily on two interventions: long-lasting insecticidal nets (LLINs) and indoor residual spraying (IRS).

In Afghanistan, the main vector control interventions for malaria control are distribution of LLINs (house to house campaign and continuous distribution in malaria high risk district) to people at high-risk of malaria and indoor residual spraying (IRS) for controlling malaria epidemics.

The active ingredients of WHO-recommended products for IRS come from only four classes of insecticide: pyrethroids, organochlorines (dichlorodiphenyltrichloroethane, DDT), organophosphates and carbamates. The currently recommended LLINs are treated with pyrethroids.

*Anopheles stephensi* populations in Afghanistan, especially in Kunar, Laghman and Nangarhar developed a range of resistance to different insecticides. Resistance to DDT, malathion, bendiocarb and pyrethroid insecticides is evident in different populations of the mosquito.

It is strongly recommended by WHO to monitor insecticide susceptibility status of malaria vectors at least once a year. Regular monitoring should be performed to collect data on vector distribution and relevant vector attributes for transmission and control (biting and resting preferences), on susceptibility (and thus resistance) to currently used insecticides, and on the quality of vector control interventions. When insecticide resistance is detected, its intensity and the biochemical and molecular mechanisms should also be investigated. Accurate information on the underlying resistance mechanisms and their intensity or frequency in malaria vectors is needed for planning adequate vector control programs as well as timely management of insecticide resistance.

A sound insecticide resistance management and implementation of strategies such as IVM in public health and IPM in agriculture are much needed in Afghanistan. In planning and implementation of control measures for vector-borne diseases especially malaria, considerations should be made regarding the growing insecticide resistance status and its mechanisms in *An. stephensi* in the East of Afghanistan.

Looking to the development of insecticide resistance and its underlying mechanisms in *An. stephensi* populations from different provinces of Afghanistan, it is recommended that the malaria control planning should consider deploying PBO nets at least for eastern provinces- Nangarhar, Laghman, Nuristan and Kunar.

The IRMMP Developed in the WHO/EMRO format will be followed and implemented stepwise.

Recommended intervention and activities:

- To perform in at least 4 selected cat 1 districts LLIN durability and pattern of net studies following WHO protocol,
- To perform Insecticide susceptibility tests on annual base,
- To perform Insecticide bioassay tests on annual base,
- To perform external biochemical test on status of insecticide resistance on *Anopheles* Mosquitoes
- To perform vector surveillance (routine collection of larva & mosquitoes, analysis and reporting from sentinel site (at least one province per region should be considered as a vector surveillance sentinel site))

## V 3 SURVEILLANCE INCLUDING EPIDEMIC DETECTION AND CONTROL

### V 3 1 Malaria surveillance<sup>3</sup>

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Malaria surveillance is implemented countrywide but is further strengthened in cat 3 to 4 districts.

Malaria data (such as confirmed and unconfirmed malaria cases and deaths) are consolidated through the integrated HMIS and generated from BPHS and EPHS from community/health post level up to regional hospitals. Standard reporting formats with 102 indicators including 2 related to malaria are processed and analyzed monthly at health facility level and report to provincial HMIS department. The HMIS central department analyses the data and shares the analyzed data with other departments and BPHS implementers on quarterly basis.

In order to capture additional information not included in the HMIS, the program has set up the Malaria and Leishmaniasis Information System (MLIS) which includes additional malaria and programmatic indicators. Recently as the DHIS2 platform has been launched in the country, the MLIS along with its data elements was accommodated in the DHIS2 platform.

The following surveillance interventions as part of the 2023-2026 strategy have to be performed:

- In cat 1 and 2 districts, to increase the performance of the MLIS integrated into the DHIS2 to collect by 2026 100% of monthly reports (towards 100% completeness and timeliness) from all public sources on confirmed and unconfirmed malaria cases and deaths,
- Starting in cat 3 and 4 districts, malaria to be a notifiable disease by both public and private providers with travel history recorded as well as place of residence and interventions listed in chapter 3.3 implemented such as index case investigations and foci classification,
- To progressively train and engage the registered private hospitals and clinics in the targeted areas (cat 1&2) by 2026 to diagnose, treat and report all malaria (and dengue) cases,
- to strengthen with other relevant health programs the weekly reporting NDSR system to early detect and quickly respond to epidemics,
- To expand the NDSR system including the malaria (EPR) and dengue component to be applied in all provinces and not only in selected sentinel sites. Early detection and response to dengue outbreak in 2021<sup>3</sup> has been instrumental to strengthen the integrated surveillance system (NDSR) in Nangarhar,
- Beyond quarterly meetings organized at provincial level, to organize at least one annual training session in epidemiology, data management and supervisions targeting SRs / BPHS implementers and provincial teams to consolidate data and provide regular feed-back to all those at the periphery generating information. This is especially important to ensure

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<sup>3</sup> WHO / GMP (2018) Malaria Surveillance, Monitoring and Evaluation, A Reference Manual

<sup>3</sup> WHO – MoPH (2021): The Dengue Fever Surge Response Plan, Afghanistan, Dec 2021-May 2022



that CHWs in communities and nurses in HFs are properly using RDTs with accurate results and are reporting results regularly,

- As part of overall data management, to add, if needed, skilled staff, IT equipment with functioning IT in all provinces,
- In cat 3 and 4 districts and progressively in cat 2 districts by 2026, to record confirmed cases by foci (defined as a proxy of HP catchment area), by origin (travel history) and by species,
- To train and engage health services from security forces / military and other relevant non-health sectors like private companies to report all malaria cases and suspected malaria deaths

### V.3 2. Epidemic detection and control.

To be implemented countrywide but especially in cat 3 and 4 districts

The updated 2016 EPR guideline is providing with guidance on malaria epidemic detection and control. Malaria epidemics usually occur in communities where malaria endemicity is very low (cat 3) or almost non-existent (cat 4) but where high receptivity or presence of vectors transmitting the disease is documented. An unusual seasonal (far above last 5-year average + 2SD) increasing number of cases could also occur in endemic cat 1 and 2 districts.

Contributing factors of malaria epidemics are as follows:

- Influx of people possibly infected by malaria from outside the community (vulnerability)
- Infected traveler(s) in a receptive community leading to cluster(s) of secondary cases
- Heavy rain following drought affecting the receptivity of a given region
- Internally displaced people from a non-endemic to an endemic region

Cat 3 districts and communities are eligible for elimination in a phase manner. Cat 4 districts either have always been free of malaria or were becoming free due to extra effort made by the program, local authorities and communities. Vigilance via intense local surveillance is important in Cat 4 districts and communities to avoid either the re-introduction or the introduction of the disease (see section on surveillance). This could be done thanks to a performing NDSR and community participation.

In the elimination phase<sup>3</sup>, all cases (single or clusters) confirmed in communities by CHWs or FHHs or staff in HFs will be quickly reported (in one day) and epidemiologically investigated (in 3-day) to determine whether that case is locally acquired (local transmission) or imported and if immediate control measures have to be implemented such as IRS and/or MDA if local transmission is confirmed or if the imported case is potentially triggering local transmission as a result of the presence of vectors (documented receptivity).

The following interventions to be implemented starting in cat 3 and 4 districts:

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<sup>3</sup> WHO (2007): Malaria Elimination, A Field Manual for Low and Moderate endemic countries?

- To systematically use a detailed standard case investigation form to be carefully completed with the help of the malaria focal point at provincial level and assistance from / coordination with National level staff,
- All confirmed cases have to be properly classified into locally acquired (introduced, indigenous, relapsing) or imported.
- To manage at least monthly the provincial / national database following this classification, specific reporting forms designed/updated
- To train or re-train peripheral health staff to use those forms and quickly reporting to higher level of care
- To monitor all active foci where locally acquired cases have been identified and reported. For that purpose, epidemiological and entomological studies have to be performed with the help of a standard malaria foci investigation forms which to be completed. Once the focus investigation is complete, the malaria team leader and entomologist should be able to decide if the risk of local transmission is high (passive foci becoming active) and decide on subsequent actions to be implemented without delay. The malaria team leader should decide on a response plan based on the results of focus investigation,
- To set up at the provincial level a technical group of adequately trained professionals including malaria / dengue team members as part of the NDSR team, working under the supervision of the provincial health manager,
- To perform entomological studies to identify the time and place of transmission of confirmed case(s) within a particular focus. The presence of efficient vectors, seasonal abundance, breeding sites, their host-seeking/blood feeding behaviors have to be explored.
- To classify all foci into active, non-active residual and cleared. A formal listing of all malaria foci / communities with continuous updates of their functional status should be updated every year under the district / provincial manager,
- To update that classification at least annually with all provincial team leaders and take action accordingly,
- To maintain stocks of spraying equipment, insecticides, protective clothes with trained sprayers, and tests/medicines (RDTs, AL, CQ, PQ) in strategic / accessible locations.

## V 4 IEC/BCC RO ENHANCE COMMUNITY / LOCAL LEADERS' ENGAGEMENT - ADVOCACY

Advocacy and IEC/BCC Interventions as part of the 2023-2026 strategy of the NMSP are as follows:

- To request technical assistance to develop a new suitable multi-ethnic / language IEC/BCC tool (e.g., COMBI) targeting illiterate population and CHWs adjusted to ambitious national and local malaria control and elimination objectives and targets,
- Larval source management best practices to be part of updated COMBI – IEC/BCC tools. This is important pertaining to all VB diseases especially dengue,
- To pilot the new IEC/BCC tool/package in collaboration with local authorities / decision-makers / influencers mainly targeting illiterate communities and population on-the-move (internally and cross-borders),
- To monitor through field studies the usefulness / understanding of the updated IEC/BCC tools and consistent messages across borders by peripheral health workers, community volunteers and local teachers,
- When tested and agreed upon at all levels, to multiply and distribute IEC/BCC tools in order for all FHH and CHWs to use and report on them,
- To train CHWs and peripheral health staff to use the updated COMBI tool,
- To extract good lessons / interventions from the field from BPHS implementers,
- From those good, documented lessons and results, to finalize one or several advocacy document(s) with the help of specialized media / designed companies to be used to continuously mobilize local authorities, private entities, NGOs, local media and international partners towards control and elimination goals in Afghanistan,
- To update and promote flipcharts, pictograms, leaflets, posters, TV shows, community events and school-adjusted materials all over the country.
- To pursue the preparation and organization of Annual Malaria Days to promote and advocate for prompt access to malaria diagnosis and treatment, LLINs campaigns/utilization and display good practices in malaria control / elimination,
- To regularly monitor through FGDs the usefulness of IEC/BCC tools on behaviors or perception changes in the community / local leaders' engagement.
- To train peripheral staff to organize and report on regular Focused Group Discussions (FGDs) to understand communication needs and re-orient key messages and best suitable ways to be delivered,
- To perform regular KAP studies in selected communities have to fine-tune messages or to intensify / trigger discussion with local leaders,
- To pursue the commitment of national authorities and decision-makers towards malaria elimination in Afghanistan.

## CHAPTER VI. PROCUREMENT, SUPPLY CHAIN MANAGEMENT

UNDP will continue to provide technical and financial assistance to the program and the MoPH pertaining to the procurement and supply chain management of essential malaria commodities. It means that most malaria medicines (such as ACT and PQ), diagnostic tools like RDTs will continue to be procured through UNDP channels following WHO pre-qualification requirements while other commodities and equipment will be procured by MoPH and BPHS implementers countrywide.

BPHS/EPHS implementing NGOs are managing provincial warehouse in each province (where they are operating) and are responsible to store and supply malaria related commodities to HFs and HPs. Under HSS grant, regional warehouses (#4) have been established as well as referral lab which can be used for storage and QA/QC purpose as well.

As part of the 2023-2026 strategy, the following interventions are implemented:

- To monitor the performance of existing national and regional warehouses in term of missing skilled staff, equipment and software (to avoid stock-outs, to manage excess of stocks, to address delivery problems and inaccurate reporting, from provincial warehouses and peripheral health care facilities and communities.
- For UNDP as PR and the program to expand the number of well-equipped warehouses in provinces especially in high endemic provinces bordering Pakistan,
- To support additional training sessions in Supply Chain Management targeting central and provincial staff.
- To finalize, as expressed before, a comprehensive PSM training package incorporating existing MoPH procurement and PSM procedures,
- To maintain and monitor quarterly and annual consumption reports from implementing grant sub-recipients as the basis for procurement and forecasting,
- For the program and UNDP to explore how to engage the NMHRA to carry out QA/QC exercises targeting malaria medicines and RDTs both at custom and field levels.
- To maintain / replenish emergency stocks at central level and in selected provinces as part of epidemic preparedness plans of action (as part of NDSR guideline),
- To strengthen the electronic-based Logistic Management Information System (so-called LMIS) interconnecting central and provincial warehouses. Additional skilled staff to be added if needed in provinces with the financial assistance of UNDP and technical support of WHO,
- For health staff working above FHH and CHWs, to maintain and monitor peripheral stocks with consolidated quarterly reports sent to provincial teams and Program/ UNDP.
- If needed, for the program, in collaboration with SRs, to plan additional training or retraining sessions of peripheral staff in PSM / reporting,
- To contribute to strengthen the NMHRA performance (e.g., additional skilled staff) in its effort to monitor smuggling practices and to engage other sectors than health such as the Ministry of Interior and the Ministry of Defense into law enforcement and into anti-smuggling practices at borders,

## CHAPTER VII. OPERATIONAL RESEARCH

The MVDP in collaboration with partners including UNDP and WHO will identify and agree upon priority OR to be performed in Afghanistan in order to further improve programmatic performance, to possibly re-orient activities or add new tools in the malaria elimination / control arsenal.

Research priorities to be fully funded and conducted by well-trained researchers following stringent protocols with external collaboration could be as follows:

- To pilot the use of PQ during 8-week on DOT in selected communities in the absence of tools to monitor G6PD knowledge status,
- To assess the accuracy / use of G6PD rapid test in selected peripheral health care facilities
- To perform in at least 4 selected cat 1 districts LLIN durability studies following WHO protocol,
- To explore the development of protocols to assess the impact of LLINs on CL,

To be considered as well is to perform surveys to explore the presence of HRP2/3 gene deletions potentially affecting the accuracy of RDT results.

Among routine operational programmatic research priorities as recommended in above relevant chapters, the malaria program will perform the following studies:

- Therapeutic efficacy studies to be conducted in high endemic provinces to ensure that current Pf and Pv treatments are still effective.
- Continuous studies monitoring the efficacy of pyrethroid PBO-nets<sup>4</sup>
- Monitoring over time vector susceptibility to recommended pesticides and vectors' behaviors

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<sup>4</sup> Entomological Studies performed in 2019 in the provinces of Nangarhar and Laghman demonstrated that the *A. Stephensi* mortality was above 95% with permethrin + PBO and deltamethrine + PBO nets

## CHAPTER VIII STRATEGIC MANAGERIAL PROGRAMMATIC DIRECTION

The National Vector-Borne Disease Task Force<sup>4</sup> will continue to coordinate and oversee the implementation and monitoring of the malaria control and elimination strategy in addition to other vector-borne diseases control interventions. The taskforce is chaired by the MVDP, with representatives from partners i.e., WHO, UNDP and BPHS implementing NGOs. Quarterly meetings are organized under MVDP chairmanship. A VBDF is also operating in each of the 34 provinces under the Provincial Health Director. At provincial level, permanent members are as follows: Provincial Public Health Director, Provincial Malaria & Leishmaniasis Control Program Manager, Provincial CDC Manager, Provincial HMIS Manager, WHO representative and SR representatives (BPHS/EPHS implementer) and representatives from private health care providers. Suggestion is to add at that level representatives from non-health sectors especially private entities, Ministry of Interior, Defense and Education with the aim of sharing objectives and targets of the program as well as critical interventions in which those sectors could be involved in one way or another.

The MVDP has been renamed the “Malaria and other vector borne diseases program”. This implies for the program to focus on all vector-borne diseases of importance in Afghanistan with a core team of entomologists at national level and trained entomology technicians posted for specific tasks in selected provinces depending on their VBD endemicity. A vector control need assessment could be conducted by the program to fine tune the overall integrated VBDC strategy as per the IVM multisectoral conceptual approach.

The program has also to have technical staff ideally clinicians in charge of producing malaria case management and other febrile diseases guidelines including training packages in connection with the Primary Health Care Directorate in charge of BPHS implementation. This is also including the planning and execution of TES as well as the important task of planning and supporting training sessions using multi-disease training packages of health staff at different level of care alongside with SRs. It will be useful also for the program to have one epidemiologist and at least one data manager / IT specialist to support and strengthen the overall surveillance / epidemic detection and response system as well as M&E / quarterly reporting in close collaboration with UNDP and SRs at provincial level.

In each province, but especially in high endemic provinces, the program has to maintain one PMVDP manager, one epidemiologist and one data / IT manager. As part of the VBDC provincial team, the program might consider also posting one or two entomology technicians in charge of bioassays, vector susceptibility tests (malaria and dengue), training and contributing with SRs to LLINs and IRS planning, distribution of LLINs and monitoring of their use. The program might consider also to post in selected provinces one or two QC microscopy technicians to set up and conduct QA microscopy exercises following WHO guidelines. WHO might provide with technical assistance to conduct regular (every 2-year) ECA exercises aiming at first assessing microscopists at central and regional levels.

In selected provinces, SRs under UNDP management have also their own staff in charge of supervisions, training, data management, M&E and reporting. The program has to ensure that all provincial posts are occupied by trained staff as per Annex 7.

In addition to MVDP and SR staff, UNDP/GF has so far established in 4 regions one GF Regional Project Coordinator + driver and one GF Project National Laboratory Master Trainer. As part of the updated

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<sup>4</sup> VDPMLCP (2017): Terms of Reference of the VBDF

strategy, UNDP/GF staffing has to be critically reviewed focusing their effort on high endemic districts, e.g., monitoring and evaluation.

Capacity building remains a key component of the program to ensure its success. The program has to critically review the number of existing public and private staff at each level of care with particular attention to the presence or not of CHWs in targeted communities, CHS staff, doctors / nurses in HF, lab technicians and private hospital and clinic providers. New staff especially private health care providers have to be trained and regularly supervised and old ones be re-trained.

The MVDP has to strengthen its cooperation with other health programs and non-health sectors. For example, in high endemic districts bordering Pakistan, the TB and HIV programs are already implementing cross-border interventions. Some linkages might be of benefit between TB and malaria / dengue such as strengthening staffing, equipment and IEC/BCC messages in selected cross-border posts or/and improving surveillance and x-sharing electronic reporting. Engaging border patrol police / border agents into strengthening LLINs delivery and into wide spreading correct malaria information could be explored for the benefit of the x-border population and population at risk from both sides.

## CHAPTER IX. MONITORING AND EVALUATION

M&E is a fundamental component of the National Strategic Plan for Malaria Control and Elimination. The 2020 updated M&E plan of action is framing indicators expected to measure programmatic impact, outcome, output and input indicators linked to malaria control and elimination in Afghanistan till 2026<sup>4</sup> .

The M&E Directorate within the General Directorate for Policy and Planning of the MoPH is the departmental body responsible for implementing the M&E Strategic Plan of MoPH. The M&E Directorate is closely linked to HMIS, NDSR, Research and IT departments and Human Resource Database. The M&E department coordinates and guides all M&E activities among the various departments in MoPH, Provincial Public Health Directorate and NGOs.

The MVDP is responsible for monitoring and evaluating malaria related activities as per program plan of action through the M&E department of MVDP at central level and the M&E officers of PMVDPs at provincial level. The M&E component of the principal recipient (UNDP) of the GF is essential to measure progress against impact indicators and targets as well as to measure if interventions including linked expenses have been completed within the given timeframe. UNDP will continue to play an essential role in strengthening the M&E component of the MVDP.

**Data management and Capacity building:** there is still lack of adequate technical capacity for data analysis, interpretation and reporting especially at provincial level. Additional training in epidemiology / data management is needed not only to strengthen M&E but also to improve surveillance / epidemic detection and response in general. As part of the malaria control and elimination strategy and MVDP in general, one skilled (malaria) epidemiologist / data manager has to be posted in each of the 34 provinces with the aim of improving data quality generated by peripheral health workers and strengthening regular / timely reporting, data compilation and accurate analysis with appropriate feed-back to those generating data.

In that context, WHO and partners have to provide technical collaboration through short term missions and training sessions by using WHO guidelines.

**Conducting supervisory visits / on-the-job trainings** to provinces and districts is also an essential part of the M&E component. Supervisions in collaboration with SRs and UNDP by using standardized forms will allow early detection of problems and identification of key constraints and will ultimately improve peripheral staff performance (on the job training). Regular meetings (quarterly) at provincial level and at central level (annual) have to be pursued. Those meetings under provincial health leadership with partners have to identify strong and weak points from field observations and decide how to address key programmatic and technical bottlenecks. Annual meetings under the MVDP leadership have to consolidate all good and bad experiences / lessons from the field and propose corrective measures.

The 2023-2026 M&E framework has been updated taking into account objectives, impact and outcome targets and specific control and elimination interventions described in the 2023-2026 national malaria strategy in Afghanistan.

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<sup>4</sup> Islamic Republic of Afghanistan<sup>2</sup>; Ministry of Public Health, General Directorate of Disease Control and Prevention Communicable Disease Directorate, National Malaria & Leishmaniasis Control Program (2020): Amended National Monitoring and Evaluation Plan 2021-2026



**Undertaking regular surveys:** As essential part of M&E is regular (every 2-year) national or subnational surveys (DHS and/or MIS, KAP) to be conducted and funded if possible integrated within other broader surveys. Those surveys either malaria oriented only (MIS) or including malaria indicators in more general surveys like DHS will provide with results on programmatic outcome and process (like LLIN coverage and use) indicators especially at HF (for example performance of case management and reporting) and community levels (for example performance of comprehensive community-based activities through CHWs, FHHs and actual use of LLINs). Such studies need a consequent budget and most of the time request collaboration with internationally recognized institutions with expertise in large survey protocol, sample size calculation, accurate data analysis and reporting.

Monthly meetings at provincial level as well as x-border meetings have to be planned and costed to monitor progress against impact, outcome and process indicator targets. One national meeting e.g., looking at progress made, and bottlenecks is to be organized and costed per year.

Regular supervisions by SRs and BPHS implementers by level of care, if not included in the basic health package with standardized reporting and training activities on M&E, have also to be costed.

Annex 1 list of districts classified cat 1 in 2021 and before 2021

Province	District	Population	2015	2016	2017	2018	2019	2020	2021
Ghazni	Nawa	34332	4.94	6.38	10.59	6.41	13.32	10.56	10.46
Kabul	Surobi	64051	26.76	88.87	142.83	125.95	71.51	41.25	28.68
Kunar	Asadabad	39195	15.10	47.84	77.99	78.10	109.54	64.18	49.52
Kunar	Barkunar	25376	64.21	78.44	103.10	89.90	61.81	38.36	18.17
Kunar	Chawkay	41253	34.59	46.57	116.42	127.08	85.51	38.85	40.09
Kunar	Dara-e-Pech	63101	26.61	46.28	115.69	95.53	80.54	40.98	38.72
Kunar	Ghaziabad	21576	45.96	83.59	127.65	150.38	83.38	22.49	29.85
Kunar	Khaskunar	40439	32.07	38.82	49.51	38.91	23.36	11.29	11.10
Kunar	Narang	34876	40.33	36.30	67.39	48.40	37.01	20.53	16.09
Kunar	Nari	31890	40.53	75.18	87.06	70.21	51.72	18.38	19.76
Kunar	Nurgal	36504	47.77	49.38	63.58	85.24	35.22	25.38	33.31
Kunar	Sarkani	31483	29.27	37.95	64.60	64.83	39.52	33.29	28.52
Kunar	Shigal Wa sheltan	33790	7.86	85.55	92.76	174.86	101.99	40.29	37.97
Kunar	Watapur	31618	0.04	17.42	93.17	135.56	101.83	62.99	71.22
Laghman	Alingar	111683	37.99	167.69	105.99	154.56	119.63	53.25	51.62
Laghman	Alishang	82371	44.56	131.80	106.80	156.38	98.46	42.97	42.49
Laghman	Dawlatshah	38404	14.31	150.18	48.54	87.46	76.78	34.34	27.29
Laghman	Mehtarlam	158416	57.15	160.12	124.18	117.86	68.14	40.38	44.98
Laghman	Qarghayi	113175	36.34	143.67	91.94	77.77	55.88	38.20	32.61
Nangarhar	Achin	115753	25.28	25.19	45.11	66.81	47.25	24.22	20.15
Nangarhar	Batikot	87393	44.96	59.22	58.99	42.00	32.34	29.74	21.41
Nangarhar	Behsud	131223	29.02	41.56	58.20	61.43	40.15	27.30	22.92
Nangarhar	Chaparhar	69615	33.02	47.86	70.20	46.71	42.56	28.01	15.08
Nangarhar	Dara-e-Nur	46546	93.51	119.66	106.14	138.44	107.04	50.12	40.35
Nangarhar	Dehala	46545	40.13	53.95	119.88	103.36	70.96	60.90	41.74
Nangarhar	Durbaba	26869	13.72	37.27	49.50	39.60	32.92	14.60	14.96
Nangarhar	Goshta	31483	125.60	103.36	114.67	115.46	64.67	41.01	27.44
Nangarhar	Hesarak	35554	10.18	16.68	45.82	75.23	55.77	30.65	23.09
Nangarhar	Jalalabad	277685	20.35	21.74	27.66	39.54	32.28	22.63	17.98
Nangarhar	Kama	88749	92.24	96.10	107.62	101.25	51.34	34.18	30.14
Nangarhar	Khogyani	150907	22.03	40.96	65.52	75.60	56.81	35.33	23.89
Nangarhar	Kot	60117	45.71	35.05	54.43	73.89	55.89	47.00	27.03
Nangarhar	Kuzkunar	63509	79.27	80.11	83.22	99.48	57.64	39.55	37.08
Nangarhar	Lalpur	23612	54.45	100.22	108.90	98.18	51.89	29.11	22.53
Nangarhar	Muhmand Dara	51838	65.27	58.21	66.86	40.52	17.36	14.94	12.65
Nangarhar	Nazyan	16962	40.60	23.74	59.37	103.87	48.46	50.16	29.18
Nangarhar	Pachieragam	49124	25.94	49.87	114.50	210.12	155.38	71.63	37.03
Nangarhar	Rodat	79793	20.04	26.16	48.24	42.82	18.12	17.83	20.42
Nangarhar	Sherzad	76536	5.58	13.05	26.76	37.64	26.33	17.14	12.32
Nangarhar	Shinwar	69208	25.91	46.49	48.18	23.67	20.68	15.76	11.13
Nangarhar	Surkhrod	139094	29.76	45.54	65.27	49.17	34.01	32.90	28.23
Nuristan	Duab	9093	26.62	116.37	146.54	347.87	236.34	89.76	71.49
Nuristan	Mandol	22798	7.64	17.57	74.19	93.89	62.96	34.54	20.00
Nuristan	Nurgeram	37318	25.12	26.71	55.85	87.23	75.31	27.97	12.03
Nuristan	Wama	12756	9.66	10.73	26.09	57.29	58.26	10.49	10.58
Nuristan	Waygal	22662	10.98	54.40	74.87	106.16	112.35	48.54	15.58

Annex 2 List of districts classified cat 2 in 2021 (including data from 2015)

Province	District	Population	2015	2016	2017	2018	2019	2020	2021
Badakhshan	Teshkan	34468	22.73	11.36	10.39	7.43	5.97	7.79	4.26
Ghazni	Abband	31754	4.84	2.03	5.27	2.30	2.42	3.57	1.17
Ghazni	Giro	42203	0.00	0.00	0.18	0.58	1.18	2.27	1.75
Kabul	Khak-e- Jabbar	16556	17.90	40.73	43.77	38.39	12.55	6.97	3.02
Kandahar	Maruf	38132	1.05	0.50	1.23	1.14	6.92	9.00	4.80
Kapisa	Alasay	43695	0.04	0.36	2.38	5.76	4.59	3.20	2.49
Kapisa	Tagab	93363	1.35	9.42	18.65	10.78	7.18	6.00	5.79
Khost	Gurbuz	30261	10.84	25.26	52.67	36.48	17.45	11.54	3.54
Khost	Jajimaydan	27819	15.24	20.32	18.85	12.85	8.48	5.25	3.70
Khost	Qalandar	11806	37.16	23.65	35.05	29.47	23.42	13.06	5.59
Khost	Shamal	15741	0.00	10.67	21.63	14.98	3.17	1.17	1.08
Khost	Spera	28090	4.71	5.19	6.82	8.17	6.73	3.56	2.35
Kunar	Chapadara	35825	9.72	21.27	32.63	43.07	25.18	9.55	4.80
Kunar	Dangam	19541	12.38	23.74	60.00	37.40	26.75	8.62	6.09
Kunar	Marawara	23613	10.87	30.91	78.35	34.58	24.43	18.51	5.72
Logar	Azra	23477	2.22	13.84	18.00	25.05	13.28	10.05	7.33
Logar	Khoshi	27819	0.81	6.28	7.71	4.75	2.13	1.21	1.08
Logar	Mohammadagha	87120	3.69	4.48	6.94	5.49	1.72	1.07	1.19
Nuristan	Barg-e- Matal	17912	1.45	10.19	11.31	15.53	21.47	12.89	5.97
Nuristan	Kamdesh	29175	4.73	4.65	12.12	17.33	15.42	12.04	6.41
Nuristan	Poruns	15606	7.03	10.12	17.68	21.62	21.98	8.44	3.20
Paktika	Dila	48872	0.35	7.20	9.46	5.82	3.04	3.07	1.10
Paktika	Gomal	47583	8.08	11.93	67.47	16.80	10.18	5.99	1.74
Paktika	Turwo (Tarwe)	11507	0.00	15.03	45.70	10.29	11.20	9.68	3.22
Paktika	Wazakhah	47645	7.23	3.58	35.67	15.67	11.04	7.03	2.96
Paktika	Wormamay	22243	0.00	13.39	38.18	3.14	1.68	4.04	3.33
Paktika	Zarghunshahr	42944	13.22	7.59	19.66	8.69	4.94	3.35	1.40
Parwan	Koh-e- Safi	35826	0.00	0.37	3.33	11.45	1.77	1.20	1.31
Takhar	Rostaq	190127	1.57	1.70	2.10	1.60	2.05	2.39	1.47
Takhar	Yangi Qala	51869	0.15	0.91	2.69	1.10	0.62	1.63	2.72
Uruzgan	Shahid-e-Hassas	68122	0.23	0.03	0.00	1.18	0.00	0.25	1.53
Wardak	Chak	97433	1.58	1.08	1.27	1.32	1.78	2.56	2.70
Wardak	Daymirdad	35826	0.06	0.12	0.95	1.21	0.38	1.88	1.51
Wardak	Maydanshahr	46767	4.53	7.67	2.04	9.64	1.80	1.16	1.37
Zabul	Atghar	14360	0.56	5.65	1.53	1.55	3.62	9.74	6.48
Zabul	Nawbahar	25059	2.97	3.23	0.15	0.63	1.29	1.51	1.60
Zabul	Shinkay	32594	0.87	2.71	0.81	1.14	3.41	2.38	1.32
Zabul	Shomulzay	37296	2.12	3.35	2.46	2.47	14.16	14.62	4.21

### Annex 3 List of cat 3 districts in 2021 with data from 2015

Province	District	Population	2015	2016	2017	2018	2019	2020	2021
Badakhshan	Arghanjkhwa	18591	0.00	0.06	0.12	0.11	0.06	0.11	0.05
Badakhshan	Argo	90512	3.99	1.22	2.10	0.90	0.21	0.34	0.51
Badakhshan	Baharak	33248	0.61	0.40	0.33	0.13	0.03	0.00	0.00
Badakhshan	Darayem	71108	0.43	2.07	1.46	1.41	0.48	0.78	0.46
Badakhshan	Darwaz	30533	0.08	0.00	0.00	0.03	0.00	0.10	0.07
Badakhshan	Darwaz-e-Balla	26733	0.00	0.00	0.00	0.00	0.00	0.08	0.00
Badakhshan	Eshkmesh	16012	0.07	0.00	0.14	0.20	0.06	0.13	0.00
Badakhshan	Fayzabad	78805	1.30	0.84	1.18	0.72	0.64	0.31	0.18
Badakhshan	Jorm	43584	0.31	0.10	0.05	0.02	0.00	0.00	0.11
Badakhshan	Keshem	93363	2.76	1.87	2.06	1.14	0.80	0.48	0.14
Badakhshan	Khash	43967	0.18	0.33	0.02	0.00	0.02	0.02	0.00
Badakhshan	Khwahan	19135	7.68	14.65	8.75	4.42	1.14	0.43	0.10
Badakhshan	Kofab	25783	0.00	0.00	0.00	0.00	0.04	0.00	0.00
Badakhshan	Kohestan	19134	0.00	0.00	0.00	0.11	0.05	0.48	0.00
Badakhshan	Koran wa Monjan	10991	0.00	0.00	0.00	0.10	0.00	0.09	0.09
Badakhshan	Raghestan	45731	0.00	0.00	0.05	0.32	0.05	0.18	0.02
Badakhshan	Shahr-e-Buzorg	60388	1.91	1.01	0.69	0.26	0.34	0.41	0.13
Badakhshan	Shighnan	32161	0.04	0.10	0.07	0.03	0.03	0.06	0.00
Badakhshan	Shuhada	39897	0.20	0.22	0.05	0.03	0.00	0.05	0.00
Badakhshan	Warduj	25241	2.55	1.10	0.91	0.38	0.00	0.04	0.04
Badakhshan	Yaftal-e-Sufla	60931	2.45	0.49	0.34	0.14	0.07	0.05	0.02
Badakhshan	Yawan	37454	0.78	0.21	0.06	0.59	0.17	0.05	0.00
Badakhshan	Zebak	9093	0.00	0.37	0.12	0.35	0.11	0.00	0.00
Badghis	Abkamari	84949	0.00	11.20	0.97	0.00	0.01	0.02	0.00
Badghis	Balamurghab	112225	0.13	3.39	0.35	0.11	0.06	0.00	0.00
Badghis	Qadis	105034	0.00	10.02	2.19	0.06	0.01	0.00	0.00
Badghis	Qala-e-Naw	77024	0.10	4.39	0.41	0.08	0.05	0.00	0.00
Baghlan	Baghlan-e-Jadid	202627	0.05	0.16	0.14	0.03	0.05	0.02	0.02
Baghlan	Dahana-e-Ghori	68044	0.02	0.00	0.00	0.08	0.03	0.00	0.04
Baghlan	Dehsalah	36910	0.00	0.24	0.15	0.29	0.06	0.06	0.00
Baghlan	Doshi	77215	0.06	0.00	0.28	0.11	0.20	0.00	0.01
Baghlan	Khenjan	35147	0.19	0.16	0.25	0.06	0.09	0.03	0.03
Baghlan	Khwajahejran	27548	0.00	0.00	0.00	0.00	0.04	0.00	0.00
Baghlan	Nahrin	80117	0.00	0.01	0.11	0.00	0.00	0.00	0.01
Baghlan	Pul-e- khumri	248056	0.08	0.15	2.06	0.13	0.06	0.05	0.03
Baghlan	Pul-e-Hesar	31890	0.00	0.00	0.00	0.00	0.16	0.10	0.03
Baghlan	Tala Wa barfak	34875	0.00	0.03	0.03	0.27	0.06	0.03	0.00
Balkh	Balkh	139009	0.00	0.00	0.04	0.08	0.01	0.01	0.00
Balkh	Charkent	51295	0.00	0.04	0.00	0.00	0.00	0.02	0.00
Balkh	Dawlatabad	121631	0.00	0.00	0.00	0.00	0.02	0.01	0.00

Province	District	Population	2015	2016	2017	2018	2019	2020	2021
Balkh	Khulm	84809	0.03	0.00	0.04	0.01	0.00	0.00	0.01
Balkh	Mazar-e-Sharif	494860	0.37	0.03	0.14	0.09	0.12	0.08	0.06
Balkh	Nahr-e- Shahi	51838	0.00	0.00	0.00	0.04	0.00	0.04	0.00
Balkh	Sholgareh	45731	0.00	0.00	0.01	0.00	0.01	0.00	0.00
Balkh	Shortepa	132037	0.64	0.00	0.00	0.00	0.00	0.00	0.01
Balkh	Zari	50616	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Bamyan	Bamyan	96885	0.07	0.00	0.02	0.02	0.08	0.02	0.00
Bamyan	Kahmard	41932	0.65	0.42	0.08	0.50	0.10	0.07	0.00
Bamyan	Panjab	78707	0.01	0.00	0.01	0.04	0.00	0.00	0.01
Bamyan	Sayghan	27683	0.00	0.00	0.04	0.11	0.08	0.00	0.00
Bamyan	Shibar	34062	0.00	0.00	0.00	0.43	0.18	0.03	0.00
Bamyan	Waras	125931	0.01	0.00	0.01	0.05	0.01	0.00	0.00
Bamyan	Yakawlang	70294	0.12	0.06	0.01	0.05	0.00	0.01	0.01
Daykundi	Ashtarlay	62483	0.00	0.00	0.06	0.14	0.07	0.10	0.05
Daykundi	Gizab	89261	1.16	1.00	0.36	0.74	0.59	0.16	0.20
Daykundi	Kajran	37855	0.00	0.96	0.00	0.42	0.19	0.43	0.16
Daykundi	Khadir	54577	0.00	0.02	0.00	0.37	0.02	0.00	0.05
Daykundi	kiti	57644	0.53	0.12	0.40	0.24	0.04	0.04	0.03
Daykundi	Miramor	87865	0.05	1.09	0.23	0.06	0.01	0.00	0.00
Daykundi	Shahrestan	82468	0.25	0.01	0.03	0.03	0.00	0.00	0.04
Farah	Bakwa	40983	0.03	0.05	0.29	0.15	0.00	0.00	0.02
Farah	Balabuluk	82507	0.14	0.05	0.41	0.24	0.18	0.07	0.06
Farah	Farah	130787	0.03	0.00	0.13	0.18	0.08	0.03	0.07
Farah	Lash-e-Juwayn	32298	0.00	0.07	0.00	0.00	0.00	0.06	0.00
Farah	Purchaman	61744	0.00	0.04	0.18	0.22	0.02	0.00	0.00
Farah	Pushtrod	46953	0.05	0.31	0.16	0.02	0.04	0.00	0.00
Farah	Shibkoh	27005	0.04	0.04	0.04	0.04	0.00	0.04	0.00
Faryab	Andkhoy	47790	0.00	0.00	0.00	0.00	0.00	0.04	0.00
Faryab	Garziwan	87528	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Faryab	Khwajasabzposh	58623	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Faryab	Maymana	98025	0.00	0.00	0.01	0.03	0.06	0.00	0.00
Faryab	Qaysar	164471	0.01	0.01	0.04	0.01	0.01	0.00	0.00
Faryab	Shirintagab	94041	0.00	0.00	0.00	0.03	0.03	0.00	0.00
Ghazni	Ajrestan	33247	0.20	0.40	0.49	0.10	0.44	0.49	0.78
Ghazni	Andar	143980	1.34	2.06	1.74	0.95	0.58	0.60	0.26
Ghazni	Dehyak	56452	0.18	0.30	0.33	0.15	0.41	0.38	0.05
Ghazni	Gelan	66765	0.37	0.52	1.77	1.01	1.34	0.75	0.61
Ghazni	Ghazni	190702	1.24	0.62	0.24	0.09	0.05	0.02	0.02
Ghazni	Jaghatu	36639	0.00	0.00	0.00	0.00	0.06	0.00	0.00
Ghazni	Jaghuri	203823	0.42	0.23	0.19	0.09	0.06	0.06	0.05
Ghazni	Khwajaumari	21848	0.00	0.10	0.05	0.15	0.00	0.14	0.41

Province	District	Population	2015	2016	2017	2018	2019	2020	2021
Ghazni	Malestan	94721	0.00	0.01	0.06	0.06	0.00	0.00	0.01
Ghazni	Muqur	58080	0.12	0.23	0.51	0.42	0.41	0.19	0.02
Ghazni	Nawur	109241	0.06	0.02	0.01	0.01	0.00	0.01	0.05
Ghazni	Qarabagh	164878	0.72	0.94	0.37	0.25	0.13	0.44	0.35
Ghazni	Rashidan	20763	0.27	0.21	0.42	0.15	0.25	1.13	0.53
Ghazni	Waghaz	44511	0.28	0.25	0.00	0.07	0.51	0.16	0.07
Ghazni	Walimuhammad-e- Shahid	23205	0.05	0.00	0.00	0.00	0.81	0.44	0.17
Ghazni	Zanakhan	14519	0.16	0.69	0.53	1.24	0.21	0.42	0.41
Ghor	Chaghcharan	156875	0.01	0.04	0.01	0.05	0.01	0.00	0.01
Ghor	DoLayna	41661	0.00	0.08	0.16	0.03	0.02	0.00	0.00
Ghor	Saghar	40032	0.06	0.25	0.33	0.05	0.05	0.00	0.00
Ghor	Shahrak	69072	0.02	0.02	0.05	0.00	0.03	0.00	0.00
Ghor	Taywarah	105576	0.33	0.09	0.09	0.21	0.06	0.00	0.00
Ghor	Tolak	59437	0.00	0.00	0.04	0.00	0.02	0.00	0.00
Hilmand	Baghran	132522	0.01	0.09	0.04	0.10	0.00	0.10	0.16
Hilmand	Deh-e-shu	30944	0.00	0.00	0.00	0.07	0.00	0.36	0.00
Hilmand	Garmser	121789	0.07	0.10	0.31	0.03	0.11	0.02	0.01
Hilmand	Kajaki	119327	0.00	0.77	0.35	0.04	0.01	0.00	0.00
Hilmand	Lashkargah	198635	0.25	0.21	0.24	0.11	0.14	0.03	0.01
Hilmand	Nad-e-Ali	222005	0.54	0.00	0.36	0.04	0.01	0.00	0.01
Hilmand	Nahr-e-Saraj	178561	0.15	0.01	0.10	0.02	0.01	0.01	0.01
Hilmand	Nawa-e-Barakzaiy	113640	0.00	0.00	0.17	0.04	0.02	0.01	0.00
Hilmand	Nawzad	99917	0.00	0.15	0.80	0.05	0.01	0.00	0.00
Hilmand	Reg	26912	0.15	0.04	0.18	0.83	0.23	0.27	0.00
Hilmand	Washer	29564	0.25	0.00	0.55	0.11	0.00	0.03	0.00
Hirat	Chisht-e-Sharif	27412	0.00	0.00	0.48	0.04	0.04	0.00	0.00
Hirat	Gulran	108697	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Hirat	Guzara	169491	0.00	0.01	0.00	0.00	0.01	0.01	0.00
Hirat	Herat	586566	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Hirat	Injil	282396	0.00	0.00	0.00	0.04	0.03	0.01	0.00
Hirat	Karukh	74082	0.00	0.11	0.00	0.00	0.00	0.01	0.00
Jawzjan	Aqcha	89132	0.00	0.00	0.01	0.01	0.02	0.00	0.00
Jawzjan	Khamyab	16149	0.00	0.00	0.00	0.07	0.06	0.00	0.00
Jawzjan	Qushtepa	27141	0.08	0.00	0.04	0.04	0.11	0.00	0.00
Jawzjan	Shiberghan	196848	0.10	0.02	0.10	0.06	0.04	0.00	0.00
Kabul	Bagrami	64051	0.00	2.15	1.28	0.59	0.28	0.11	0.06
Kabul	Chaharasyab	42339	2.62	3.31	5.43	3.45	1.47	1.23	0.61
Kabul	Dehsabz	62423	3.97	6.43	5.14	3.80	1.37	0.44	0.00
Kabul	Estalef	38811	0.00	0.80	0.59	0.00	0.00	0.08	0.00
Kabul	Farza	24833	0.00	0.13	0.22	0.04	0.13	0.00	0.08
Kabul	Guldara	26461	0.00	5.55	0.95	0.60	0.04	0.00	0.00

Province	District	Population	2015	2016	2017	2018	2019	2020	2021
Kabul	Kabul	4529449	0.29	0.67	0.83	0.52	0.22	0.05	0.04
Kabul	Kalakan	35012	2.26	4.96	4.06	0.82	0.50	0.38	0.20
Kabul	Mirbachakot	60387	0.02	1.29	0.04	0.32	0.14	0.08	0.02
Kabul	Musayi	27005	0.17	18.13	1.78	4.78	1.19	1.13	0.30
Kabul	Paghman	141471	0.59	4.27	1.40	0.95	0.68	0.05	0.10
Kabul	Qarabagh	88206	1.85	5.52	3.23	2.75	1.33	0.65	0.73
Kabul	Shakardara	94991	0.20	4.59	2.11	1.00	0.50	0.12	0.07
Kandahar	Arghandab	71514	0.00	0.03	0.03	0.00	0.00	0.00	0.03
Kandahar	Arghestan	39761	0.00	0.06	0.11	0.05	0.52	0.62	0.10
Kandahar	Daman	54688	0.00	0.11	0.00	0.02	0.02	0.04	0.00
Kandahar	Ghorak	11128	0.00	0.00	0.30	0.00	0.37	0.00	0.00
Kandahar	Kandahar	697977	0.05	0.09	0.08	0.12	0.07	0.03	0.01
Kandahar	Khakrez	26326	0.04	0.04	0.12	0.00	0.00	0.04	0.00
Kandahar	Maywand	67716	0.09	0.02	0.34	0.03	0.14	0.03	0.01
Kandahar	Miyanshin	17370	0.46	0.00	0.00	0.00	0.00	0.00	0.12
Kandahar	Panjwayi	100555	0.01	0.01	0.10	0.03	0.00	0.01	0.00
Kandahar	Shahwalikot	64866	0.02	0.00	0.02	0.03	0.00	0.03	0.42
Kandahar	Shorabak	13299	0.00	0.00	0.00	0.00	0.00	0.15	0.08
Kandahar	Spinboldak	116161	0.46	0.09	0.13	0.10	0.18	0.15	0.19
Kandahar	Zheray	99063	0.00	0.01	0.13	0.03	0.00	0.02	0.00
Kapisa	Hisa-e- Awal-e- Kohestan	78571	0.08	0.57	0.92	0.69	0.15	0.03	0.08
Kapisa	Hisa-e- Duwum-e- Kohestan	51974	0.03	0.08	0.08	0.26	0.12	0.02	0.02
Kapisa	Kohband	27141	0.00	0.04	0.32	0.74	0.38	0.34	0.07
Kapisa	Mahmud-e- Raqi	74272	1.14	4.45	4.67	1.98	1.69	0.76	0.66
Kapisa	Nejrab	129731	0.00	0.52	0.50	1.70	0.96	0.17	0.15
Khost	Bak	25512	1.02	6.19	9.27	3.40	0.65	0.16	0.27
Khost	Khost(Matun)	159447	1.73	2.15	2.37	0.80	1.21	0.92	0.43
Khost	Mandozayi	65137	0.36	0.72	0.77	0.54	0.22	0.03	0.03
Khost	Musakhel	47360	0.53	3.27	3.14	2.75	1.47	1.81	0.49
Khost	Nadirshahkot	36776	5.26	2.03	1.61	1.44	1.02	0.97	0.49
Khost	Sabari	81828	1.31	1.31	1.00	1.06	0.36	0.06	0.05
Khost	Tani	68802	2.28	3.90	4.79	3.67	1.78	0.65	0.58
Khost	Terezayi	51566	0.94	1.19	0.76	1.85	2.10	1.03	0.56
Kunduz	Aliabad	54416	0.00	0.06	0.08	0.10	0.02	0.00	0.02
Kunduz	Chardarah	84814	0.00	0.04	0.13	0.14	0.04	0.02	0.01
Kunduz	Dasht-e-Archi	97955	0.12	0.10	0.66	0.55	0.36	0.15	0.13
Kunduz	Emamsaheb	270216	0.01	0.02	0.09	0.07	0.09	0.03	0.03
Kunduz	Khanabad	188001	0.00	0.03	0.03	0.03	0.07	0.01	0.01
Kunduz	Kunduz	384283	0.02	0.07	0.06	0.05	0.04	0.01	0.00
Kunduz	Qala-e-Zal	81316	0.03	0.14	0.08	0.14	0.09	0.00	0.00
Logar	Barakibarak	101333	1.14	1.09	1.34	0.90	0.39	0.36	0.20

Province	District	Population	2015	2016	2017	2018	2019	2020	2021
Logar	Charkh	51295	0.02	0.74	0.60	0.41	0.04	0.12	0.00
Logar	Kharwar	30262	2.24	4.04	3.76	3.39	1.24	1.18	0.30
Logar	Pul-e- Alam	122364	0.59	2.38	4.04	2.74	1.05	0.70	0.45
Nimroz	Charburjak	30533	0.04	0.04	0.04	0.00	0.10	0.17	0.00
Nimroz	Zaranj	66708	0.09	0.12	0.06	0.05	0.09	0.03	0.00
Paktika	Bermel	78654	0.00	0.19	6.30	3.55	2.85	1.55	0.72
Paktika	Gyan	48823	3.38	4.24	9.38	9.25	3.30	1.17	0.31
Paktika	Janikhel	37662	2.08	2.89	9.06	4.04	1.35	2.50	0.50
Paktika	Mata Khan	27771	9.55	6.88	6.16	3.66	2.06	1.69	0.58
Paktika	Naka	17406	2.99	7.04	8.98	2.31	1.31	1.23	0.29
Paktika	Omna	24321	15.29	4.54	13.86	9.22	5.43	4.20	0.62
Paktika	Sarobi	39686	0.31	3.33	14.61	9.14	6.02	2.96	0.66
Paktika	Sarrawzah(Sarhawzah)	37846	3.26	2.29	7.74	5.87	2.75	2.54	0.50
Paktika	Sharan	66160	6.68	6.03	7.22	6.24	3.11	1.91	0.68
Paktika	Urgun	92487	5.62	6.49	14.73	13.13	4.34	1.61	0.39
Paktika	Yahyakhel	30408	4.28	6.20	17.77	7.83	3.49	2.42	0.69
Paktika	Yosufkhel	29818	3.19	7.70	15.29	6.46	1.22	1.37	0.40
Paktika	Ziruk	40258	3.51	2.90	7.82	6.04	1.88	0.36	0.25
Paktya	Ahmadaba	32162	0.98	2.91	1.70	1.15	0.48	0.32	0.09
Paktya	Alikhel (Jaji)	72736	4.46	3.03	1.76	1.09	0.36	0.27	0.19
Paktya	Chamkani	57673	2.35	0.91	3.42	1.05	0.50	0.30	0.23
Paktya	Dand wa Patan	30670	7.04	3.12	7.03	3.83	1.56	0.37	0.16
Paktya	Gardez	97710	0.74	1.17	4.02	0.91	0.74	0.08	0.05
Paktya	Janikhel	40303	0.90	2.76	0.61	0.73	0.39	0.46	0.60
Paktya	Lija Ahmad Khel	48040	0.26	5.45	2.67	0.64	0.22	0.02	0.02
Paktya	Sayedkaram	74228	0.51	2.49	3.20	0.97	0.32	0.14	0.15
Paktya	Shawak	19291	0.00	10.64	16.82	2.91	1.67	0.32	0.10
Paktya	Zadran	28068	2.18	1.00	2.35	1.88	1.70	0.22	0.29
Paktya	Zurmat	124166	5.31	3.52	4.87	2.83	1.52	0.67	0.30
Panjsher	Bazarak	21712	0.00	0.00	0.00	0.58	0.34	0.00	0.00
Panjsher	Dara	28768	0.07	0.14	0.48	0.44	0.47	0.11	0.17
Panjsher	Khenj (Hes-e- Awal)	46139	0.17	0.02	0.09	0.34	0.29	0.04	0.00
Panjsher	Paryan	17098	0.00	0.00	0.38	1.30	0.79	0.72	0.06
Panjsher	Rukha	26462	0.34	0.42	1.20	0.84	1.06	0.42	0.08
Panjsher	Shutul	12620	0.00	0.00	0.09	0.08	0.08	0.08	0.00
Parwan	Bagram	119689	0.02	0.45	1.84	1.29	0.64	0.30	0.60
Parwan	Charikar	206537	0.19	0.26	0.33	0.12	0.19	0.00	0.00
Parwan	Ghorband	111682	0.08	0.06	0.23	0.08	0.06	0.03	0.02
Parwan	Jabalussaraj	73893	0.06	0.06	0.07	0.06	0.00	0.00	0.03
Parwan	Salang	29990	0.11	0.19	0.22	0.11	0.00	0.00	0.03
Parwan	Saydkhel	52652	0.06	0.06	0.85	0.36	0.24	0.12	0.09



Province	District	Population	2015	2016	2017	2018	2019	2020	2021
Parwan	Shekhali	28498	0.00	0.00	0.00	0.04	0.04	0.00	0.04
Parwan	Shinwari	47496	0.00	0.12	0.28	0.16	0.02	0.00	0.00
Samangan	Dara-e- Suf-e- Payin	82507	0.00	0.03	0.01	0.00	0.01	0.00	0.00
Samangan	Hazrat-e- Sultan	47767	0.09	0.23	0.00	0.04	0.07	0.02	0.00
Sar-e-Pul	Kohestanat	92413	0.00	0.01	0.01	0.02	0.01	0.03	0.01
Sar-e-Pul	Sar-e-Pul	180782	0.03	0.00	0.02	0.01	0.03	0.02	0.01
Sar-e-Pul	Sozmaqala	57130	0.28	0.00	0.08	0.00	0.00	0.02	0.00
Takhar	Baharak	35690	0.03	0.16	0.03	0.09	0.03	0.00	0.14
Takhar	Chahab	91937	0.60	1.51	0.32	0.24	0.29	0.26	0.28
Takhar	Darqad	31075	0.18	0.11	0.53	0.51	0.67	0.36	0.03
Takhar	Dasht-e- Qala	36910	0.03	0.15	0.06	0.14	0.08	0.08	0.11
Takhar	Farkhar	54186	0.33	0.08	0.04	0.04	0.00	0.02	0.00
Takhar	Kalafgan	40711	0.33	0.22	0.16	0.31	0.08	0.00	0.05
Takhar	Khwajabahawuddin	26869	0.04	0.04	0.16	0.08	0.12	0.08	0.04
Takhar	Khwajaghar	77761	0.04	0.04	0.16	0.00	0.04	0.04	0.03
Takhar	Taloqan	264261	0.24	0.07	0.04	0.03	0.02	0.02	0.02
Takhar	Warsaj	43832	0.00	0.03	0.05	0.02	0.02	0.00	0.00
Uruzgan	Chora	59031	0.10	1.02	0.19	0.50	0.11	0.05	0.00
Uruzgan	Dehrawud	70694	0.08	0.03	0.02	0.10	0.01	0.03	0.04
Uruzgan	Khasuruzgan	65272	0.00	0.02	0.05	0.03	0.29	0.05	0.08
Uruzgan	Tirinkot	118849	0.42	0.41	0.36	0.20	0.03	0.02	0.02
Wardak	Jaghathu	52788	0.15	0.11	0.54	0.22	0.22	0.15	0.08
Wardak	Jalrez	61202	0.54	0.44	1.16	0.69	0.20	0.22	0.13
Wardak	Markaz-e-Behsud	137738	0.00	0.00	0.02	0.08	0.01	0.00	0.00
Wardak	Nerkh	65815	0.19	0.32	0.53	0.34	0.22	0.14	0.23
Wardak	Saydabad	134073	0.79	0.66	0.77	0.92	0.62	0.38	0.45
Zabul	Arghandab	37724	0.00	1.00	0.41	0.76	0.03	0.08	0.42
Zabul	Daychopan	45460	0.00	0.15	0.00	0.00	0.00	0.04	0.00
Zabul	Kakar	27817	0.00	2.00	0.00	0.42	0.19	0.77	0.07
Zabul	Mizan	22086	0.00	2.73	0.90	0.10	0.00	0.14	0.27
Zabul	Qalat	45889	4.63	2.52	1.62	1.55	0.68	0.56	0.68
Zabul	Shahjoy	81599	0.22	0.84	0.03	0.12	0.00	0.14	0.01
Zabul	Tarnak Wa Jaldak	22689	0.23	1.68	0.61	0.47	0.23	0.00	0.00

Annex 4 List of 77 districts with API=0 during the last 3-year (2019, 2020 and 2021)

Province	District	Population	2015	2016	2017	2018	2019	2020	2021
Badakhshan	Shaki	30397	0.07	0.00	0.04	0.00	0.00	0.00	0.00
Badakhshan	Tagab	32433	1.19	0.48	0.10	0.10	0.00	0.00	0.00
Badakhshan	Wakhan	17234	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Badakhshan	Yamgan	29719	0.00	0.00	0.11	0.00	0.00	0.00	0.00
Badghis	Ghormach	63644	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Badghis	Jawand	91056	0.00	8.26	0.43	0.00	0.00	0.00	0.00
Badghis	Muqur	27412	0.00	12.50	1.76	0.04	0.00	0.00	0.00
Baghlan	Andarab	29447	0.00	0.00	0.00	0.04	0.00	0.00	0.00
Baghlan	Burka	60795	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Baghlan	Fereng Wa Gharu	19134	0.00	0.06	0.06	0.00	0.00	0.00	0.00
Baghlan	Guzargah-e- Nur	11671	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Baghlan	Khost Wa Fereng	72872	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Balkh	Charbulak	93498	0.00	0.00	0.00	0.02	0.00	0.00	0.00
Balkh	Chemtal	105848	0.02	0.00	0.02	0.00	0.00	0.00	0.00
Balkh	Dehdadi	77893	0.01	0.11	0.03	0.11	0.00	0.00	0.00
Balkh	Kaldar	23069	0.00	0.00	0.00	0.05	0.00	0.00	0.00
Balkh	Keshendeh	56180	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Balkh	Marmul	13164	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daykundi	Nili	43749	0.10	0.38	0.16	0.29	0.00	0.00	0.00
Daykundi	Sang-e-Takht	60307	0.04	0.00	0.02	0.00	0.00	0.00	0.00
Farah	Anardara	32161	0.00	0.00	0.00	0.03	0.00	0.00	0.00
Farah	Gulestan	50074	0.07	0.02	0.52	0.34	0.00	0.00	0.00
Farah	Khak-e-Safed	35011	0.00	0.00	0.13	0.09	0.00	0.00	0.00
Farah	Qala-e-Kah	35554	0.00	0.41	0.25	0.06	0.00	0.00	0.00
Faryab	Almar	81149	0.00	0.00	0.00	0.25	0.00	0.00	0.00
Faryab	Bilcheragh	60251	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Faryab	Dawlatabad	56367	0.00	0.12	0.06	0.06	0.00	0.00	0.00
Faryab	Khan-e-Char Bagh	26733	0.00	0.08	0.00	0.00	0.00	0.00	0.00
Faryab	Kohestan	62965	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Faryab	Pashtunkot	217937	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Faryab	Qaramqol	22662	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Faryab	Qorghan	54417	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ghor	Charsadra	31618	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ghor	Dawlatyar	37724	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Ghor	Lal Wa Sarjangal	129325	0.00	0.00	0.03	0.00	0.00	0.00	0.00
Ghor	Pasaband	109511	0.01	0.01	0.11	0.15	0.00	0.00	0.00
Hilmand	Musaqalah	124354	0.02	0.00	0.07	0.00	0.00	0.00	0.00
Hilmand	Sangin	79008	0.10	0.23	0.17	0.16	0.00	0.00	0.00
Hirat	Adraskan	62015	0.22	0.02	0.00	0.00	0.00	0.00	0.00
Hirat	Farsi	35418	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Province	District	Population	2015	2016	2017	2018	2019	2020	2021
Hirat	Ghoryan	104058	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hirat	Kohsan	62829	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Hirat	Kushk	144615	0.00	0.02	0.02	0.00	0.00	0.00	0.00
Hirat	Kushk-e-Kohna	52788	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Hirat	Obe	87673	0.00	0.00	0.07	0.00	0.00	0.00	0.00
Hirat	Pashtunzarghun	115754	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Hirat	Shindand	206726	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hirat	Zindajan	65951	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jawzjan	Darzab	56826	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jawzjan	Fayzabad	48038	0.16	0.00	0.00	0.00	0.00	0.00	0.00
Jawzjan	Khanaqa	26869	0.00	0.00	0.00	0.04	0.00	0.00	0.00
Jawzjan	Khwajadukoh	31075	0.00	0.18	0.00	0.03	0.00	0.00	0.00
Jawzjan	Mardyan	44510	0.00	0.00	0.00	0.02	0.00	0.00	0.00
Jawzjan	Mingajik	49531	0.11	0.00	0.02	0.00	0.00	0.00	0.00
Jawzjan	Qarqin	28847	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kandahar	Nesh	15470	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kandahar	Reg	10313	#DIV/0!	0.00	0.00	0.00	0.00	0.00	0.00
Nimroz	Chakhansur	27411	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nimroz	Kang	25919	0.00	0.00	0.00	0.04	0.00	0.00	0.00
Nimroz	Khashrod	36911	0.00	0.19	0.04	0.00	0.00	0.00	0.00
Panjsher	Onaba(Anawa)	20763	0.11	0.00	0.05	0.41	0.00	0.00	0.00
Parwan	Surkh-e- Parsa	47223	0.00	0.05	0.02	0.00	0.00	0.00	0.00
Samangan	Aybak	121074	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Samangan	Dara-e Suf-e-Bala	74636	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Samangan	Feroznakhchir	15063	0.00	1.18	0.00	0.00	0.00	0.00	0.00
Samangan	Khuram Wa Sarbagh	46003	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Samangan	Ruy-e-Duab	52653	0.00	0.25	0.06	0.02	0.00	0.00	0.00
Sar-e-Pul	Balkhab	58081	1.93	0.23	0.00	0.02	0.00	0.00	0.00
Sar-e-Pul	Gosfandi	65408	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sar-e-Pul	Sancharak(sangchark)	117512	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Sar-e-Pul	Sayad	62965	0.02	0.00	0.00	0.02	0.00	0.00	0.00
Takhar	Bangi	40575	0.39	0.00	0.03	0.03	0.00	0.00	0.00
Takhar	Chal	32567	0.07	0.10	0.00	0.00	0.00	0.00	0.00
Takhar	Eshkashem	68122	0.02	0.00	0.02	0.02	0.00	0.00	0.00
Takhar	Hazarsumuch	15878	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Takhar	Namakab	14113	0.00	0.16	0.00	0.07	0.00	0.00	0.00
Wardak	Hesa-e- Awal-e- Behsud	42746	0.00	0.00	0.03	0.05	0.00	0.00	0.00

## Annex 5 Summary of recommended interventions by malaria category

Category	1 and 2	3	4
<b>Purpose</b>	<b>To reduce transmission and malaria burden</b>	<b>To reach malaria elimination (zero local transmission during 3 consecutive years)</b>	<b>To maintain zero transmission</b>
Case management	<p>To ensure prompt and free access by all population (resident, remote and mobile) to quality malaria diagnostic and effective radical treatment</p> <p>To ensure regular and accurate reporting of suspected and tested cases by microscopy and RDT</p> <p>To expand the number of registered private (private hospitals, private clinics and private labs) providers towards good case management, surveillance and reporting practices</p> <p>To perform therapeutic efficacy studies (TES) at least every 2-year with AL for Pf and CQ for Pv. To share results with neighboring provinces / countries</p>	<p>To quickly and accurately identify positive malaria patient(s) by public and private health care providers and provide them with effective treatment</p> <p>To provide with <b>radical</b> treatment to Pv cases starting in HCFs</p> <p>To quickly (timeliness) and completely (completeness) report cases and community operations to higher level of decision</p> <p>To explore (index case investigation) the existence of potential secondary cases and, if any, take appropriate individual and collective measures to block local transmission</p> <p>To quickly report on any community operations (mass screening) and control interventions (MDA or IRS)</p> <p>To expand the number of registered private providers e.g. for them to understand and be engaged in the case management, surveillance and response system (see further down)</p>	<p>To quickly identify positive patients by public and private providers with focus on travel history tracking (to distinguish between autochthonous or imported case(s))</p> <p>To ensure adequate treatment of Pf infected patients (AL 3-day + PQ single dose)</p> <p>To ensure radical treatment ideally on DOT of positive Pv cases (see also OR)</p> <p>If documented active foci, to take adequate measures to eliminate local transmission</p> <p>To quickly report to upper decision level by using special recording form for each positive patient</p>
Preventive measures	<p>To ensure the overall resident and mobile population (1 LLIN per mobile person) is accessing and using LLINs (1 LLIN per 2 people)</p> <p>IRS to be used in some communities where LLINs coverage is low, to control epidemics and control dengue / leishmaniasis</p> <p>Larval source management in selected communities where</p>	<p>To Identify / map active foci / communities where LLIN or IRS have to be implemented</p> <p>To assess receptivity and vulnerability in documented active foci</p> <p>Larval source management in communities where mapping / monitoring of breeding sites has been carried out (as part of receptivity exercise)</p>	<p>If active foci detected, to explore receptivity and vulnerability and potential other contributing factors in the given area / community</p> <p>Immediate control measures like MDA and/or IRS if active foci detected</p> <p>Regular meetings with local authorities and community members and schoolteachers</p>

Category	1 and 2	3	4
Purpose	<b>To reduce transmission and malaria burden</b>	<b>To reach malaria elimination (zero local transmission during 3 consecutive years)</b>	<b>To maintain zero transmission</b>
	mapping / monitoring of breeding sites has been carried out	Regular meetings with local authorities and community members about case investigation and immediate control options to be taken  To set up an elimination committee on each province	about vigilance, case investigation and immediate control measures to be taken
Entomological surveillance	Finalize and Implement the IRMMP  If persistence of high transmission in spite of full coverage by pyrethroid-PBO Nets and full access to diagnostic and treatment, to perform entomological studies to ensure pyrethroid-PBO nets are well used by the whole community and are still effective. Malaria vectors species and behaviors to be documented to explore outdoor transmission status of vectors  To perform entomological studies to updated vectors behaviors / resting habits (Biting time, exophily, endophily, exophagy, etc.)	In active foci, to investigate the presence of malaria vectors and their vectorial capacity / susceptibility to insecticides used and vectors behaviors  To identify and map suitable breeding sites and take appropriate action (larval source management) – geographical reconnaissance -	to assess receptivity and other contributing factors in newly active detected foci  To identify and map suitable breeding sites and take appropriate action (larval source management)  Geographical reconnaissance
Surveillance and epidemic detection and response	To focus on accurate and regular reporting of all positive cases (100% completeness and timeliness)  To train NDSR team and health staff to implement the EPR guideline	To contribute to make the NDSR including malaria fully functional  Malaria is a notifiable disease by all health care providers  To engage ALL Private providers in the identification and reporting all positive cases following EPR guideline  To fully monitor (epidemiology and entomology) all active foci / communities including identification of potential	Identification of free malaria districts / communities where receptivity and/or vulnerability is persisting or is becoming unusually high  Updating the list of communities / foci every year pertaining to their status (passive, active, becoming active, becoming passive, etc.)  Local authorities and Community mobilization / awareness through regular

Category	1 and 2	3	4
Purpose	To reduce transmission and malaria burden	To reach malaria elimination (zero local transmission during 3 consecutive years)	To maintain zero transmission
		<p>contributing factors triggering / maintaining local transmission</p> <p>Local authorities and Community mobilization / awareness through regular IEC/BCC sessions about malaria elimination principles and benefit, surveillance and control options</p> <p>To initiate or strengthen a national malaria database</p>	<p>IEC/BCC sessions about potential malaria re-introduction, surveillance and control options like MDA</p> <p>To maintain a national malaria database</p>
Operational Research	<p>TES to be carried out</p> <p>Entomology: see relevant section of IRMMP</p> <p>Survey on pyrethroid-PBO net durability</p> <p>Piloting the use of rapid G6PD deficiency tests at community level</p> <p>Studies to screen gene deletions possibly affecting RDT results</p> <p>Updated IEC/BCC tools to be tested in communities</p> <p>Other studies to be decided by the national research committee</p>	Geo-stratification / mapping of active and passive foci	Mapping of positive cases in communities
M&E	<p>Conduct Malaria Information Surveys</p> <p>Monitoring selected malaria indicators as part of broader national or provincial surveys (DHS)</p> <p>Conduct KAP surveys</p>		
HUMAN RESOURCES	As part of MoPH plans, to post and train additional CHWs / FHHs and nurses in such a way that all communities are easily accessing free malaria diagnosis and radical	To post in each province a focal point trained in index case investigation procedures in communities, including interventions and reporting	A malaria focal point trained in epidemic detection and control / active foci investigation is posted in each province and

Category	1 and 2	3	4
Purpose	<b>To reduce transmission and malaria burden</b>	<b>To reach malaria elimination (zero local transmission during 3 consecutive years)</b>	<b>To maintain zero transmission</b>
	<p>treatment and accurate information</p> <p>As part of MoPH plans, to strengthen existing staff and equipment / posting additional trained staff in BHCs and CHCs in such a way that monitoring, supervision of and surveillance/reporting from CHWs, HP staff is improving</p> <p>To create Border Health Posts (BHP) with trained health staff where cross-border population can access free malaria curative and preventive services</p> <p>In each high burden province, at least 1 technician in entomology to be posted to perform vector susceptibility tests / bioassays and to assist in overall LLINs distribution, monitoring and reporting</p> <p>Within the MVDP, 2 QA/QC lab technicians are coordinating and supervising QA/QC interventions for microscopy, RDTs and medicines</p> <p>Within the MVDP, a focal point (master trainer) is planning and managing TES in 2 selected sites</p> <p>To strengthen the capacity of the MVDP to manage, analyze, report and provide feed-back on epidemiological data</p>	<p>(possibly in coordination with other programs in charge of controlling epidemic prone diseases)</p> <p>To post in all provinces one trained technician in malaria epidemiology / data management to support, coordinate and monitor investigations in documented active foci (ideally in conjunction with NDSR team)</p> <p>To post in all provinces one technician in entomology able to investigate receptivity in active foci as well as undertaking vector susceptibility studies (in collaboration with the technician in epidemiology)</p> <p>To strengthen the capacity in data management of existing provincial team / SRs to regularly update malaria district and community maps in order to plan interventions and measure progress toward targets</p> <p>To strengthen NMCLP capacity of monitoring and reporting on provincial team activities</p> <p>One logistician is posted in all provinces to ensure / monitor that essential malaria commodities are in stock to be quickly used to respond to malaria epidemics</p>	<p>working as part of the NDSR team</p> <p>One technician in entomology is posted in each province to investigate active foci and take remedial actions if needed</p> <p>One logistician is posted in all provinces to ensure / monitor that essential malaria commodities are in stock to be quickly used to respond to malaria epidemics</p>

## Annex 6 Term of References (ToRs) for PMLCP

### Provincial MLCP Manager Term of Reference (ToR)

#### **Duties and Responsibilities:**

- Facilitate coordinated evidence-based malaria control interventions in the provinces according to National Guidelines and MVDP directives
- Ensure access to timely and effective treatment, health promotion and preventive activities according to National Guidelines
- Ensure high quality of the programme through regular (at least quarterly) monitoring & supervision of all health facilities (including quality control and cross-checking for laboratory services). Provide feedback to the respective health facilities and send copy of report to MVDP.
- Facilitate regular monthly/ quarterly provincial MLCP co-ordination meetings with all MLCP partners. Provide copies of minutes to the MVDP.
- Collect & collate malaria & leishmaniasis data and ensure timely standardized reporting of malaria & leishmaniasis activities from the province to the central level (including HMIS and other surveillance data) - send to central level MVDP (monthly - latest by 15th of the following month)
- Ensure adequate supply of anti-malarial, leishmaniasis drugs and other necessary supplies at all health facilities and report deficiencies on monthly basis. (Establish systems of stock control and buffer stock to prevent stock-outs of essential anti-malarial)
- Facilitate the assessment of training needs and co-ordinate training and retraining of health workers if and when appropriate
- Ensure training and supervision of community-based health workers in malaria case management
- Support malaria & leishmaniasis related operational research and surveys at provincial level. Support the establishment, and ensure the supervision and monitoring of sentinel sites where appropriate
- Facilitate and ensure the implementation of malaria & leishmaniasis related IEC activities at provincial level
- Establish an early warning system. Monitor & analyses malaria & leishmaniasis data collected and ensure timely detection and response to malaria (& leishmaniasis) outbreaks
- Develop provincial malaria (leishmaniasis) outbreak investigation and response plans according to the national strategy. Ensure outbreak response capacity including contingency stock and access to pre-positioned supplies in the event of an outbreak
- Participate in national co-ordination and planning meetings as and when required
- Provide administrative, logistic, financial and human resources management as required for the smooth and efficient functioning of the unit
- Be flexible, willing to assist in other areas of work as directed by line manager

### Provincial MLCP Epidemiology Officer Term of Reference (ToR)

#### **Duties and Responsibilities:**

- Assist with head of PMLCP to develop provincial plans



- Disseminate guidelines on epidemic detection and control, forecasting and prevention
- Timely collection and analysis of data on malaria & leishmaniasis control
- Ensure standardized data collection including the dissemination, utilization and training on the use of standard data collection forms integrated into the national Health Information System
- Provide timely and standardized monthly and quarterly reports on malaria & leishmaniasis surveillance, epidemiology, and trends
- Facilitate and ensure timely detection and response to malaria and leishmaniasis outbreaks
- Usage of weekly watch charts in relevant clinics especially in transmission seasons
- Assist data collection system for establishing thresholds for epidemic prone areas of the province
- Develop provincial malaria & leishmaniasis outbreak investigation and response plans
- Promote analysis of data at the health centre level for the early detection of outbreaks
- Promote malaria early warning systems utilizing all sources of information including climate data and remote sensing
- Be flexible, willing to assist in other areas of work as directed by line manager

#### Provincial MLCP Quality Control Officer Term of Reference (ToR)

##### **Duties and Responsibilities:**

- Monitor and supervise Health Facilities for QACs regularly
- Develop monitoring and supervision schedules for QC
- Ensure regular monitoring and supervision of all malaria & leishmaniasis laboratory facilities of implementing partners through the PMLCP Units/ QACs
- Cross check all positive and 10% negative slides of health facilities
- Provide regular performance feed-back to institutions and facilities supervised and monitored and jointly develop relevant action plans for the improvement of service quality
- Ensure availability of updated diagnostic guidelines and standards at all health facilities
- Submit timely monthly standardized activity report to the PMLCP Manager
- Be flexible, willing to assist in other areas of work as directed by line manager

#### Entomology Officer (Entomologist) Term of Reference (ToR)

##### **Duties and Responsibilities:**

- Conduct entomological surveillance to determine vector ecology, distribution and their vector bionomics and their response to insecticides used
- Carry out adult mosquito surveys
- To identify all mosquitoes collected and record it in the forms
- Facilitate to map all larval breeding places
- To carry out larval surveys in the selected districts, identify them and record according to the breeding places
- To enter all data into the computer data base
- Carry out Insecticide susceptibility tests and Bioassays using the malaria vectors

- Prepare monthly, quarterly and annual reports
- Build up capacity of provincial entomological technicians
- Other duties and responsibilities as assigned by Program Manager

Annex 7 List of staff at provincial level (2022)

S/N	Province	Education Level	Field of Education	Job Title	Current status
1	Badakhshan	Bachelor	Nurse	PMVDP manager	Employed
2	Badakhshan	Diploma	Malaria Microscopy	QC Technician	Employed
3	Badakhshan	Diploma	Paramedics (Nurse)	Epidemiology officer	Employed
4	Badakhshan	Diploma	Malaria Microscopy	QC Technician	Employed
5	Badakhshan	Diploma	Malaria Microscopy	VC Officer	Employed
6	Badakhshan	Diploma	Paramedics (Nurse)	QC supervisor	Employed
7	Badakhshan	Diploma	Paramedics (Nurse)	Epidemiology supervisor	Employed
8	Badakhshan	Baccalaureate	High school	VC supervisor	Employed
9	Badakhshan	Bachelor	Bachelor of Law	Admin	Employed
10	Badakhshan	Illiterate	NA	Driver	Employed
11	Badakhshan	Illiterate	NA	Cleaner	Employed
12	Badakhshan	Illiterate	NA	Guard	Employed
13	Badghis			PMVDP manager	Vacant
14	Badghis	Baccalaureate	High school	Admin officer	Employed
15	Badghis			QA officer	Vacant
16	Baghlan	Bachelor	MD	PMVDP manager	Employed
17	Baghlan	Bachelor	Literature (Dari)	Admin officer	Employed
18	Baghlan	Diploma	Medical technology	VC Officer	Employed
19	Baghlan	Bachelor	Medical technology	QC Technician	Employed
20	Baghlan	Bachelor	Medical technology	Supervisor	Employed
21	Baghlan	Diploma	Medical technology	Supervisor	Employed
22	Baghlan	Bachelor	MD	Epidemiology officer	Employed
23	Baghlan	Bachelor	MD	Supervisor	Employed
24	Baghlan	Baccalaureate	High school	Supervisor	Employed
25	Baghlan	Illiterate	NA	Driver	Employed
26	Baghlan	Illiterate	NA	Cleaner	Employed
27	Baghlan	Illiterate	NA	Cleaner	Employed
28	Baghlan		NA	Guard	Vacant
29	Balkh	Bachelor	MD	PMVDP manager	Employed
30	Balkh	Bachelor	MD	Epidemiology officer	Employed
31	Balkh	Bachelor	MD	QC officer	Employed
32	Balkh	Bachelor	Bachelor of Law	Admin officer	Employed
33	Balkh	Baccalaureate	Malaria Microscopy	Admin officer	Employed
34	Balkh	Diploma	Medical technology	VC Officer	Employed
35	Balkh	Diploma	Paramedics (Nurse)	VC Supervisor	Employed
36	Balkh	Diploma	Medical technology	VC Supervisor	Employed
37	Balkh	Baccalaureate	High school	VC Officer	Employed
38	Balkh	Diploma	Medical technology	QC Technician	Employed
39	Balkh	Diploma	Medical technology	QC Technician	Employed

S/N	Province	Education Level	Field of Education	Job Title	Current status
40	Balkh	Bachelor	MD	Epidemiology supervisor	Employed
41	Balkh	Diploma	Pharmacy technician	Epidemiology supervisor	Employed
42	Balkh	Baccalaureate	Malaria microscopy	QC supervisor	Employed
43	Balkh	Illiterate	NA	Driver	Employed
44	Balkh	Illiterate	NA	Guard	Employed
45	Balkh	Illiterate	NA	Cleaner	Employed
46	Balkh	Illiterate	NA	Cleaner	Employed
47	Balkh	Illiterate	NA	Cleaner	Employed
48	Bamyan	Bachelor	Public health	PMVDP manager	Employed
49	Bamyan	Bachelor	Paramedics (Nurse)	Epidemiology officer	Employed
50	Bamyan	Illiterate	NA	Guard	Employed
51	Bamyan	Illiterate	NA	Driver	Employed
52	Daikundi	Diploma	Nursing and Pharmacy	PMVDP manager	Employed
53	Daikundi			QC officer	Vacant
54	Daikundi	Illiterate	NA	Guard	Employed
55	Daikundi			Epidemiology officer	Vacant
56	Farah	Diploma	Nursing & Medical technology	PMVDP manager	Employed
57	Farah	Diploma	Medical technology	VC Officer	Employed
58	Farah	Diploma	Nursing & Medical technology	Epidemiology officer	Employed
59	Farah	Diploma	Medical technology	Epidemiology supervisor	Employed
60	Farah	Baccalaureate	High school	Guard	Employed
61	Farah	Illiterate	Support staff	Guard	Employed
62	Faryab			PMVDP manager	Vacant
63	Faryab			Admin officer	Vacant
64	Faryab			QC Technician	Vacant
65	Ghazni			PMVDP manager	Vacant
66	Ghazni			QC Technician	Vacant
67	Ghazni			Epidemiology officer	Vacant
68	Ghazni	Baccalaureate	High school	VC Officer	Employed
69	Ghor			PMVDP manager	Vacant
70	Helmand	Bachelor	MD	PMVDP manager	Employed
71	Helmand	Diploma	Malaria Microscopy	QC Technician	Employed
72	Helmand	Baccalaureate	Practical work	QC Technician	Employed
73	Helmand	Diploma	Malaria microscopy	VC Officer	Employed
74	Helmand	Baccalaureate	Malaria microscopy	Entomology officer	Employed
75	Helmand	Diploma	Malaria Microscopy	Epidemiology officer	Employed
76	Helmand	Baccalaureate	Practical work	Epidemiology officer	Employed
77	Helmand	Illiterate	NA	Driver	Employed
78	Helmand	Illiterate	NA	cleaner	Employed

S/N	Province	Education Level	Field of Education	Job Title	Current status
79	Helmand	Illiterate	NA	cleaner	Employed
80	Herat	Bachelor	MD	PMVDP manager	Employed
81	Herat	Diploma	Malaria microscopy	QC Technician	Temporary
82	Herat	Baccalaureate	Nurse	Epidemiology officer	Employed
83	Herat	Diploma	Preventive medicine	VC Officer	Employed
84	Herat	Illiterate	NA	Cleaner	Employed
85	Herat	Illiterate	NA	Cleaner	Employed
86	Herat	Baccalaureate	High school	Driver	Employed
87	Herat	Bachelor	Science	Admin	Employed
88	Jawzjan			PMVDP manager	Vacant
89	Jawzjan	Bachelor	MD	Epidemiology officer	Employed
90	Jawzjan			VC Officer	Vacant
91	Jawzjan	Bachelor	MD	QC Technician	Employed
92	Jawzjan	Diploma	Medical technology	Epidemiology supervisor	Employed
93	Jawzjan	Diploma	Medical technology	VC Supervisor	Employed
94	Jawzjan	Baccalaureate	High school	Admin officer	Employed
95	Jawzjan	Diploma	Medical technology	QC Technician	Employed
96	Jawzjan	Baccalaureate	High school	cleaner	Employed
97	Jawzjan	Illiterate	NA	Driver	Employed
98	Jawzjan	Illiterate	NA	Guard	Employed
99	Kabul	Diploma	Nurse	PMVDP manager	Employed
100	Kabul	Baccalaureate	Malaria Microscopy	VC Officer	Employed
101	Kabul	Baccalaureate	Malaria Microscopy	QC Technician	Employed
102	Kabul	Baccalaureate	Malaria Microscopy	QC Technician	Employed
103	Kabul	Baccalaureate	Malaria Microscopy	Epidemiology officer	Employed
104	Kabul	Baccalaureate	Malaria Microscopy	QC Technician	Employed
105	Kabul	Baccalaureate	Malaria Microscopy	QC Technician	Employed
106	Kabul	Baccalaureate	Malaria Microscopy	QC Technician	Employed
107	Kabul	Baccalaureate	Malaria Microscopy	Epidemiology officer	Employed
108	Kabul	Baccalaureate	High school	Admin officer	Employed
109	Kabul	secondary school	NA	cleaner	Employed
110	Kabul	secondary school	NA	Guard	Employed
111	Kabul	Illiterate	NA	Driver	Employed
112	Kandahar	Diploma	Medical technology	PMVDP manager	Employed
113	Kandahar	Baccalaureate	Malaria Microscopy	supervisor	Employed
114	Kandahar	Diploma	Medical technology	supervisor	Employed
115	Kandahar	Diploma	Medical technology	QC Technician	Employed
116	Kandahar	Diploma	Medical technology	Epidemiology officer	Employed
117	Kandahar			Epidemiology officer	Vacant
118	Kandahar			Epidemiology officer	Vacant
119	Kandahar			supervisor	Vacant

S/N	Province	Education Level	Field of Education	Job Title	Current status
120	Kandahar	Illiterate	NA	Driver	Employed
121	Kandahar	Illiterate	NA	Guard	Employed
122	Kandahar	Illiterate	NA	Guard	Employed
123	Kandahar	Illiterate	NA	cleaner	Employed
124	Kandahar	Illiterate	NA	cleaner	Employed
125	Kapisa	Bachelor	MD	PMVDP manager	Employed
126	Kapisa			QC Officer	Vacant
127	Kapisa	Diploma	Malaria Microscopy	VC supervisor	Employed
128	Kapisa	Diploma	Malaria Microscopy	QC Technician	Employed
129	Kapisa	Diploma	Medical technology	QC Technician	Employed
130	Kapisa	Bachelor	Public health	Epidemiology officer	Employed
131	Khost	Bachelor	MD	PMLCP manager	Employed
132	Khost	Diploma	Medical technology	QC officer	Employed
133	Khost	Diploma	Malaria Microscopy	Epidemiology officer	Employed
134	Khost			Epidemiology supervisor	Vacant
135	Khost	Diploma		QC Technician	Vacant
136	Khost	Diploma	Medical technology	VC Supervisor	Employed
137	Khost	Baccalaureate	High school	Admin officer	Vacant
138	Khost	Illiterate	NA	Gardener	Employed
139	Khost	Illiterate	NA	Driver	Employed
140	Khost	Illiterate	NA	Guard	Employed
141	Khost	Illiterate	NA	cleaner	Employed
142	Kunar	Bachelor	MD	PMVDP manager	Employed
143	Kunar	Diploma	Medical technology	VC Officer	Employed
144	Kunar	Diploma	Lab technician	QC officer	Employed
145	Kunar	Diploma	Lab technician	Epidemiology officer	Employed
146	Kunar	Diploma	Undergraduate	cleaner	Employed
147	Kunar	Diploma	Support staff	Driver	Employed
148	Kunar	Bachelor	BBA	Admin officer	Employed
149	Kunduz	Diploma	Medical technology	PMVDP	Employed
150	Kunduz	Diploma	Medical technology	QC officer	Employed
151	Kunduz	Baccalaureate	High school	Admin officer	Employed
152	Kunduz	Diploma	Malaria Microscopy	QC Technician	Employed
153	Kunduz	Diploma	Malaria Microscopy	QC Technician	Employed
154	Kunduz	Diploma	Paramedics (Nurse)	QC supervisor	Employed
155	Kunduz	Baccalaureate	Malaria microscopy	VC Officer	Employed
156	Kunduz	Baccalaureate	Malaria microscopy	VC Officer	Employed
157	Kunduz	Diploma	Paramedics (Nurse)	VC Officer	Employed
158	Kunduz	Baccalaureate	Malaria Microscopy	Epidemiology officer	Employed
159	Kunduz	Diploma	Midwifery	Epidemiology Supervisor	Employed

S/N	Province	Education Level	Field of Education	Job Title	Current status
160	Kunduz	Diploma	Nurse	Epidemiology Supervisor	Employed
161	Kunduz	Illiterate	NA	Driver	Employed
162	Kunduz	Illiterate	NA	cleaner	Employed
163	Kunduz	Illiterate	NA	cleaner	Employed
164	Kunduz	Illiterate	NA	Guard	Employed
165	Laghman	Bachelor	MD	PMLCP manager	Employed
166	Laghman	Baccalaureate	Malaria microscopy	Epidemiology officer	Employed
167	Laghman	Diploma		Epidemiology officer	Employed
168	Laghman	Diploma		Epidemiology officer	Employed
169	Laghman	Baccalaureate	Admin	Admin officer	Employed
170	Laghman	Diploma		QC Technician	Employed
171	Laghman	Baccalaureate	Malaria microscopy	QC Technician	Employed
172	Laghman	Baccalaureate	Malaria microscopy	QC Technician	Employed
173	Laghman	Diploma		VC Supervisor	Employed
174	Laghman	Baccalaureate	Highs school	Cleaner	Employed
175	Logar	Bachelor	MD	PMVDP manager	Employed
176	Logar	Diploma		Epidemiology officer	Employed
177	Logar	Diploma		QC Technician	Employed
178	Logar	Diploma		Epidemiology officer	Employed
179	Logar	Baccalaureate	Admin	Admin officer	Employed
180	Logar	Illiterate	NA	Driver	Employed
181	Logar	Illiterate	NA	Cleaner	Employed
182	Logar	Illiterate	NA	Guard	Employed
183	Nangarhar	Bachelor	MD	PMVDP manager	Employed
184	Nangarhar	Diploma	Medical technology	QC Technician	Employed
185	Nangarhar	Bachelor	Medical technology	VC officer	Employed
186	Nangarhar			VC supervisor	Vacant
187	Nangarhar	Diploma	Medical technology	VC Supervisor	Employed
188	Nangarhar	Diploma	Dentist and M. technologist	VC Supervisor	Employed
189	Nangarhar	Diploma	Medical technology	QC Technician	Employed
190	Nangarhar	Baccalaureate	Medical technology	QC Technician	Employed
191	Nangarhar	Bachelor	MD	QC Technician	Employed
192	Nangarhar	Baccalaureate	Medical technology	QC Technician	Employed
193	Nangarhar	Bachelor	Medical technology	Epidemiology officer	Employed
194	Nangarhar	Bachelor	BBA	Admin officer	Employed
195	Nangarhar	Diploma	Medical technology	Epidemiology officer	Employed
196	Nangarhar	Bachelor	Medical technology	Epidemiology officer	Employed
197	Nangarhar	Bachelor	Paramedics (Nurse)	Epidemiology officer	Employed
198	Nangarhar	Illiterate	NA	Guard	Employed

S/N	Province	Education Level	Field of Education	Job Title	Current status
199	Nangarhar	Illiterate	NA	Guard	Employed
200	Nangarhar	Illiterate	NA	Cleaner	Employed
201	Nangarhar	Illiterate	NA	Cleaner	Employed
202	Nangarhar	Illiterate	NA	Driver	Employed
203	Nimroz	Bachelor	Paramedics (Nurse)	PMLCP manager	Employed
204	Nimroz	Diploma	Paramedics (Nurse)	Epidemiology officer	Employed
205	Nimroz	Diploma	Medical Technology	Epidemiology officer	Employed
206	Nimroz	Illiterate	NA	Driver	Employed
207	Nimroz	Illiterate	NA	Guard	Employed
208	Nimroz			Cleaner	Vacant
209	Nuristan	Diploma	Pharmacy	PMVDP manager	Employed
210	Nuristan			QC officer	Vacant
211	Nuristan			Epidemiology officer	Vacant
212	Paktia	Bachelor	MD	PMVDP manager	Employed
213	Paktia			Entomology officer	Vacant
214	Paktia	Diploma	Malaria Microscopy	Epidemiology officer	Employed
215	Paktia	Diploma	Malaria Microscopy	QC officer	Employed
216	Paktia	Diploma	Malaria Microscopy	QC technician	Employed
217	Paktia	Baccalaureate	High school	Admin officer	Employed
218	Paktia	Illiterate	NA	Driver	Employed
219	Paktia	Baccalaureate	High school	Cleaner	Employed
220	Paktika			Epidemiology officer	Vacant
221	Paktika	Bachelor	MD	PMVDP manager	Employed
222	Paktika			QC Technician	Vacant
223	Panjshir	Diploma		PMLCP manager	Employed
224	Panjshir	Diploma		VC Officer	Employed
225	Panjshir			Epidemiology officer	Vacant
226	Parwan	Bachelor	MD	PMLCP manager	Employed
227	Parwan	Bachelor	Medical technology	QC Technician	Employed
228	Parwan	Bachelor	MD	Epidemiology officer	Employed
229	Parwan	Diploma	Medical technology	VC Officer	Employed
210	Parwan	Illiterate	NA	Guard	Employed
211	Parwan	Illiterate	NA	Cleaner	Employed
212	Samangan	Diploma	Malaria Microscopy	PMVDP manager	Employed
213	Samangan	Diploma	Paramedics (Nurse)	VC Officer	Employed
214	Samangan	Baccalaureate	High school	Epidemiology officer	Employed
215	Samangan	Baccalaureate	Paramedics (Nurse)	VC Supervisor	Employed
216	Samangan	Illiterate	NA	Cleaner	Employed
217	Samangan			Driver	Vacant
218	Sare-pul	Diploma	Malaria Microscopy	PMVDP manager	Employed
219	Sare-pul	Baccalaureate	High school	Admin officer	Employed



S/N	Province	Education Level	Field of Education	Job Title	Current status
220	Sare-pul	Diploma	Midwife	QC Technician	Employed
221	Sare-pul	Bachelor	Public health	Epidemiology officer	Employed
222	Takhar	Baccalaureate	High school	Guard	Employed
223	Takhar	Illiterate	NA	Cleaner	Employed
224	Takhar	Illiterate	NA	Driver	Employed
225	Takhar	Bachelor	MD	PMVDP manager	Employed
226	Takhar	Baccalaureate	High school	Admin officer	Employed
227	Takhar	Baccalaureate	Pharmacy	Epidemiology officer	Employed
228	Takhar	Baccalaureate	Malaria microscopy	Epidemiology supervisor	Employed
229	Takhar	Baccalaureate	Malaria microscopy	Epidemiology supervisor	Employed
230	Takhar	Diploma	Medical technology	QC Technician	Employed
231	Takhar	Bachelor	Literature (Dari)	VC Officer	Employed
232	Takhar	Baccalaureate	Malaria Microscopy	VC supervisor	Employed
233	Urozgan	Diploma	Medical technology	PMVDP manager	Employed
234	Urozgan	Illiterate	NA	Cleaner	Employed
235	Urozgan	Illiterate	NA	Driver	Employed
236	Wardak	Diploma	Paramedics (Nurse)	PMLCP manager	Employed
237	Wardak	Baccalaureate	Malaria Microscopy	QC officer	Employed
238	Wardak			VC supervisor	Vacant
239	Wardak	Diploma	Midwife	Epidemiology officer	Employed
241	Wardak	Diploma	Malaria Microscopy	QC Technician	Employed
242	Wardak	Bachelor	Medical technology	VC officer	Employed
243	Wardak	Baccalaureate	Malaria microscopy	Entomology supervisor	Employed
244	Wardak	Bachelor	Admin	Admin officer	Employed
245	Wardak	Illiterate	NA	cleaner	Employed
246	Wardak	Illiterate	NA	Driver	Employed
247	Zabul	Diploma	Para medics (Nurse)	MVDP manager	Employed
248	Zabul			Entomology officer	Vacant
249	Zabul			QC officer	Vacant
250	Zabul	Illiterate	NA	Driver	Employed

## Annex 8 Training Provides for Vector Borne Disease Program

S/N	Types of Training	Number of Days	Package of the Training	Remarks
1	Case management of Malaria and leishmaniasis for HF in charge	2 Days	Diagnosis, Treatment and Surveillance for malaria and leishmaniasis	conducting once per each GF grant meaning once in 3 years
2	Case management of Malaria for CHS	2 Days	Diagnosis, Treatment and Surveillance for malaria	conducting once per each GF grant meaning once in 3 years
3	Case management of Malaria for CHW	1 Day	Diagnosis, Treatment and Surveillance for malaria	conducting once per each GF grant meaning once in 3 years
4	EPR for PMVDP and Case management focal point of malaria	3 Days	EPR Guideline	conducting once per each GF grant meaning once in 3 years
5	Case management of Dengue Hemorrhagic Fever (DHF) for Nangarhar province	3 Days	SOP of Dengue fever case management	Done by financial support of WHO in 2022
6	Laboratory Dengue Hemorrhagic Fever (DHF) for Nangarhar province	2 Days	SOP for lab Dengue fever	Done by financial support of WHO in 2022
7	Vector control orientation on DHF for Nangarhar province CHW	1 Day	Orientation on field vector control	Done by financial support of WHO in 2022
8	Malaria laboratory training for Health facility lab in charge	5 Days	Mic and RDT SOPs	conducting once per each GF grant meaning once in 3 years
9	QC laboratory for quality control officer of PMVDP	5 Days	QC guideline	conducting once per each GF grant meaning once in 3 years
10	DHIS training	3 Days	DHIS2-MLIS SOP	Done by support of WHO in 2020 and we have plan to conduct in 2022 as well
11	Digitalization M&E training	2 Days	Malaria M&E Digitalization system	we have plan to conduct in 2022 by support of WHO

No#	Modules	Interventions	Activities	Descriptions	Measurement Unit	Unit cost (\$)	2023		2024		2025		2026		Total Quantity	Total Cost	Remarks
							Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost			
1	Case Management	Facility - based treatment	Refresher training for HF Lab-technicians	Trainee cost for five days training for 935 HF staffs (RH 8*5=40, PH 26*4=104, SHP 43*4=172, DH 91*2=182, CHC 437*1=437). 1. Perdiem: 30/head/day x 6 days (with travel day) 2. Refreshment: 3/head/day x 5 days 3. Stationary: 2/head one time 4. Transportation: 20/head one time 5. Total cost (30*6+3*5+2+20) =217 \$/participant	Per participant cost	217	0	0	0	0	935	202895	0	0	935	202895	
2	Case Management	Facility - based treatment	Refresher training for HF Lab-technicians	Facilitator cost for 5 days training of HF Lab technician: 1. Perdiem: 43/head/day x 6 days (with travel day) 2. Refreshment: 3/head/day x 5 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time 5. Total cost (43*6+3*5+2+50) =325*2 facilitator=650\$/batch	Per batch	650	0	0	0	0	62	40517	0	0	62	40517	
3	Case Management	Facility - based treatment	Refresher training for QA Lab-technicians	Trainee cost for 5 days training of 34 province QA Lab-technician: 1. Perdiem: 30/head/day x 6 days (with travel day) 2. Refreshment: 3/head/day x 5 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time 5. Total cost (30*6+3*5+2+50) =247\$/participant	Per participant cost	247	0	0	0	0	34	8398	0	0	34	8398	
4	Case Management	Facility - based treatment	Refresher training for QA Lab-technicians	Facilitator cost for 5 days training 1. Perdiem: 0/head/day x 5 days 2. Refreshment: 3/head/day x 5 days 3. Stationary: 2/head one time 4. Transportation: 0/head one time 5. Total cost (0+3*5+2+0) =17*2=34\$	Per training batch	34	0	0	0	0	2	68	0	0	2	68	
5	Case Management	Facility - based treatment	Refresher training of health service provider of all health facility level on Revised NTG, RDT and MLIS reporting system	Trainee cost for two days training for 3623 HF staffs (RH 8, PH 26, SHP 43, DH 91, CHC 437, BHC 901, MHT 581 and HSC 1125, FHH 265, Others HF 146). One timer cost 1.5 USD 1. Perdiem: 30/head/day x 3 days (with travel day) 2. Refreshment: 3/head/day x 2 days 3. Stationary: 2/head one time 4. Transportation: 20/head one time 5. Total cost (30*3+3*2+2+20) =118\$/participant	Per participant cost	118	0	0	3623	427514	0	0	0	0	3623	427514	
6	Case Management	Facility - based treatment	Refresher training of health service provider of all health facility level on Revised NTG, RDT and MLIS reporting system	Facilitator cost for two days training of HF staff 1. Perdiem: 43/head/day x 3 days (with travel day) 2. Refreshment: 3/head/day x 2 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time 5. Total cost (43*3+3*2+2+50) =187*2 facilitator=374	Per Trainer/batch	374	0	0	145	54200	0	0	0	0	145	54200	
7	Case Management	Facility - based treatment	Semi-annual Review coordination meetings with HF staff /Center and provinces	One day semiannual review workshop for 3350 HF staffs in 34 provinces (3350*2=6700) 1. Perdiem: 30/head/day x 1 days 2.Refreshment: 3/head/day x 1 days 3. Stationary: 2/head one time 4. Transportation: 20/head one time 5. Total cost (30+3+2+20) = 55/Participant	Per person cost	55	0	0	6700	368500	6700	368500	6700	368500	20100	1105500	
8	Case Management	Facility - based treatment	Semi-annual Review coordination meetings with HF staff /Center and provinces	Facilitator cost for one day semi-annual workshop 1. Perdiem: 43/head/day x 2 days (with travel day) 2. Refreshment: 3/head/day x 1 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time 5. Total cost (43*2+3+2+50) =141*2facilitator=282	Per batch	282	0	0	268	75576	268	75576	268	75576	804	226728	

No#	Modules	Interventions	Activities	Descriptions	Measurement Unit	Unit cost (\$)	2023		2024		2025		2026		Total Quantity	Total Cost	Remarks
							Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost			
9	Case Management	Facility - based treatment	Two-day training on G6PD RDT test for OPD Doctor and Lab technician of HF in 3 high risk provinces (Nangarhar, Laghman and Kunar)	Trainee cost Two days training for Doctor and Lab tech of HF (SHC 103, MHT 91, BHC 123, CHC (39*2=78) & DH (10*4=40), PH (6*8=48), RH (1*10=10) Lab technician all categories (136) Nangarhar-94, Kunar-20 and Laghman-22 1. Perdiem: 30/head/day x 3 days (with travel day) 2. Refreshment: 3/head/day x 2 days 3. Stationary: 2/head one time 4. Transportation: 20/head one time 5. Total cost (30x3+3x2+2+20) = 118/Participant	Training batch	118	0	0	629	74222	0	0	0	0	629	74222	
10	Case Management	Facility - based treatment	Two-day training on G6PD RDT test for OPD Doctor and Lab technician of HF in 3 high risk provinces (Nangarhar, Laghman and Kunar)	Trainer cost for two trainers 1. Perdiem: 43/head/day x 3 days 2. Refreshment: 3/head/day x 2 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time 5. Trainer cost per training budget (239*2=478)/batch	Training batch	478	0	0	25	12026	0	0	0	0	25	12026	
11	Case Management	Facility - based treatment	Designing, translation, Printing and distribution of revised NTG to all Health facilities	NTG Designing and printing (6000 copies) Cost=1\$/copy	Per copy	1	0	0	6000	6000	0	0	0	0	6000	6000	
12	Case Management	Facility - based treatment	Maintenance cost of QA unit	34 provincial QA unit maintenance cost per unit 50\$ per month 50*12=600\$ / year	Per QA unit	600	0	0	34	20400	34	20400	34	20400	102	61200	
13	Case Management	Facility - based treatment	Procurement of ACT	Procurement of ACT (Artemether 20+Lumefantrin120mg, 24 tablets) for treatment of Pf cases for (3251) health facilities. One ACT (AL) cost 1 USD	Per ACT (AL) treatment course	1	3191	3191	2791	2791	2390	2390	1988	1988	10360	10360	
14	Case Management	Facility - based treatment	Procurement of Artesunate injection	Procurement of Injection of Artesunate for 3190 HF (CHC 437, BHC 901, MHT 581 and HSC 1125, Others HF 146) Three vial of 60mg/HF	Per Artesunate inj	1.8	9570	17226	9570	17226	9570	17226	9570	17226	38280	68904	
15	Case Management	Facility - based treatment	Procurement of G6PD RDT test	Procurement of G6PD RDT test for HF to check malaria P. vivax confirmed cases	Per G6PD RDT	1	0	0	80071	80071	80071	80071	80071	80071	240214	240214	Total P.vivax cases reported in 2021 is (71792 confirmed cases) plus 10% buffer stock is added for each year
16	Case Management	Facility - based treatment	Procurement of Primaquine	Procurement of primaquine (Tab 7.5mg) for all health facilities for radical treatment of Pv cases. cost 2 USD per one course of treatment (48 tablet for 8week)	Per Course of Treatment (8 WKs)	2	86601	173202	75767	151534	64868	129736	53969	107938	281205	562410	
17	Case Management	Facility - based treatment	Procurement of RDT	Procurement of (Pv +Pf) RDT for 2872 HF (BHC 901, MHT 581 and HSC 1125, FHH 265). cost 1.5 USD/each	Per RDT cost	0.7	278540	194978	284501	199151	290589	203412	296808	207766	1150438	805307	
18	Case Management	Facility - based treatment	Procurement of thermometer	Procurement of thermometer for 2872 HF (BHC 901, MHT 581 and HSC 1125, FHH 265). cost 1.5 USD/each	Per Thermometer cost	1.5	0	0	2872	4308	0	0	0	0	2872	4308	
19	Case Management	Facility - based treatment	Procurement of timer	Procurement of timer for 2872 HF (BHC 901, MHT 581 and HSC 1125, FHH 265). One timer cost 1.5 USD	Per Timer cost	1.5	0	0	2872	4308	0	0	0	0	2872	4308	
20	Case Management	Facility - based treatment	Procurement of latex gloves	Procurement of latex glove for 2872 HF (BHC 901, MHT 581 and HSC 1125, FHH 265). Cost per box 5 (1 box/HF/month=12* 2872=34464)	Per box of 50 pairs	5	0	0	34464	172320	34464	172320	34464	172320	103392	516960	
21	Case Management	Integrated community case management ICCM.	Refresher training of Community Health Supervisor (CHS) ON CBMM Strategy (RDT, Treatment and Reporting).	Trainee cost for two days training for 1429 CHS (DH 91, CHC 437, BHC 901). One timer cost 1.5 USD 1. Perdiem: 30/head/day x 3 days (with travel day) 2. Refreshment: 3/head/day x 2 days 3. Stationary: 2/head one time 4. Transportation: 20/head one time 5. Total cost (30*3+3*2+2+20) =118\$/participant	Per participant cost	118	0	0	1429	168622	0	0	0	0	1429	168622	
22	Case Management	Integrated community case management ICCM.	Refresher training of Community Health Supervisor (CHS) ON CBMM Strategy (RDT, Treatment and Reporting).	Facilitator cost for two days training of CHS 1. Perdiem: 0/head/day x 2 days 2. Refreshment: 3/head/day x 2 days 3. Stationary: 2/head one time 4. Transportation: 0/head one time 5. Total cost (0+3*2+2+0) =8*2=16\$	Per training batch	16	0	0	57	915	0	0	0	0	57	915	

No#	Modules	Interventions	Activities	Descriptions	Measurement Unit	Unit cost (\$)	2023		2024		2025		2026		Total Quantity	Total Cost	Remarks
							Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost			
23	Case Management	Integrated community case management ICCM.	Refresher training of Community Health Worker (CHW) ON CBMM Strategy (RDT, Treatment and Reporting).	Trainee cost for one day training of CHW 1. Refreshment + Lunch: 5/head/day x 1 days 2. Stationary: 2/head one time 3. Transportation: 10/head/ day x 1 days Total cost (5+2+10) =17\$	Per participant cost	17	0	0	34000	578000	0	0	0	0	34000	578000	
24	Case Management	Integrated community case management ICCM.	Refresher training of Community Health Worker (CHW) ON CBMM Strategy (RDT, Treatment and Reporting).	Cost of trainer to conduct CHW Training 1. Perdiem: 30/head/day X 1 days 2. transportation: 20/head one time Total cost (30+20) =50\$	per trainer per batch	50	0	0	1360	68000	0	0	0	0	1360	68000	
25	Case Management	Integrated community case management ICCM.	Procurement of ACT	Procurement of ACT (Artemether 20+Lumefantrin120mg, 24 tablets) for treatment of Pf cases for 17627 HPs. One ACT cost 1 USD	Per ACT (AL) treatment course	1	1231	1231	1077	1077	922	922	767	767	3997	3997	
26	Case Management	Integrated community case management ICCM.	Procurement of biosafety box	Procurement of biosafety box for 17627 HPs (Two per HP) for disposal of sharp and wastages	Per box	0.4	35254	14102	35254	14102	35254	14102	35254	14102	141016	56406	
27	Case Management	Integrated community case management ICCM.	Procurement of latex gloves	Procurement of latex glove for RDT test performance. Cost 3/box 50 pairs 2 box/ HP/year	per year	3	35254	105762	35254	105762	35254	105762	35254	105762	141016	423048	
28	Case Management	Integrated community case management ICCM.	Procurement of RDT	Procurement of (Pv +Pf) RDT for 17627 HP. One RDT	Per RDT cost	0.7	321993	225395	328271	229790	335295	234707	342471	239730	1328030	929621	
29	Case Management	Integrated community case management ICCM.	Procurement of thermometer	Procurement of thermometer for 17627 HPs (one per HP) to check fever. One thermometer cost 1 USD	Per Thermometer cost	1	0	0	17627	17627	0	0	0	0	17627	17627	
30	Case Management	Integrated community case management ICCM.	Procurement of timer	Procurement of timer for 17627 HPs (one per HP). One timer cost 1.5 USD	Per Timer cost	1.5		0	17627	26441	0	0	0	0	17627	26441	
31	Case Management	Epidemic preparedness and response	Training for EPR Teams	Trainee cost for two days refresher training for 34 provinces EPR teams (3 person from each province (PMVDP, CMFP, Epidemiology officer) total 102 participant, in 3 batches, 34 participants / batch) 1. Perdiem: 30/head/day x 3 days (with travel day) 2. Refreshment: 3/head/day x 3 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time 5. Total cost (30*3+3*3+2+50) = 151/Participant	Per participant cost	151	0	0	0	0	102	15402	0	0	102	15402	
32	Case Management	Epidemic preparedness and response	Training for EPR Teams	Facilitator cost for two days EPR training 1. Perdiem: 0/head/day x 2 days 2. Refreshment: 3/head/day x 2 days 3. Stationary: 2/head one time 4. Transportation: 0/head one time 5. Total cost (0+3*2+2+0) =8*2=16\$	Per training batch	16	0	0	0	0	3	48	0	0	3	48	

No#	Modules	Interventions	Activities	Descriptions	Measurement Unit	Unit cost (\$)	2023		2024		2025		2026		Total Quantity	Total Cost	Remarks
							Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost			
33	Case Management	Epidemic preparedness and response	Establishment of emergency stock of Anti malaria drugs, RDT, Insecticide, EPR guideline, forms, EPR equipment's, for EPR activities to be supplied to EPR centers based on the requirement	Insecticide for outbreak response. Total 2000 Kg/year. Cost 100 USD/ Kg	Per Kg insecticide	100	2000	200000	2000	200000	2000	200000	1000	100000	7000	700000	
34	Case Management	Epidemic preparedness and response	Establishment of emergency stock of Anti malaria drugs, RDT, Insecticide, EPR guideline, forms, EPR equipment's, for EPR activities to be supplied to EPR centers based on the requirement	Operation cost for IRS	Per Kg insecticide	15	2000	30000	2000	30000	2000	30000	1000	15000	7000	105000	
35	Case Management	Epidemic preparedness and response	Establishment of emergency stock of Anti malaria drugs, RDT, Insecticide, EPR guideline, forms, EPR equipment's, for EPR activities to be supplied to EPR centers based on the requirement	Procurement of 10,000 (Pv +Pf) RDT.	Per RDT cost	0.7	10000	7000	10000	7000	10000	7000	10000	7000	40000	28000	
36	Case Management	Epidemic preparedness and response	Establishment of emergency stock of Anti malaria drugs, RDT, Insecticide, EPR guideline, forms, EPR equipment's, for EPR activities to be supplied to EPR centers based on the requirement	Procurement of ACT (Artemether 20+Lumefantrin120mg, 24 tablets) for treatment of Pf cases	Per ACT (AL) treatment course	1	1000	1000	1000	1000	1000	1000	1000	1000	4000	4000	
37	Case Management	Epidemic preparedness and response	Establishment of emergency stock of Anti malaria drugs, RDT, Insecticide, EPR guideline, forms, EPR equipment's, for EPR activities to be supplied to EPR centers based on the requirement	100 USD*12 months Running cost of EPR Team = 1200/province/year	Per EPR Team/year	1200	34	40800	34	40800	34	40800	34	40800	136	163200	
38	Case Management	IEC/BCC	Community awareness through schools	Preparing a notebook and a pen with malaria message for (149359+20%=179330 students of Nangarhar, Kunar, Laghman, Nuristan, Khost and Paktika provinces. Unit cost (1 unit is a pen and a notebook) =1\$	Per a unit of a pen and a notebook	1	179330	179330	179330	179330	179330	179330	179330	179330	717320	717320	

No#	Modules	Interventions	Activities	Descriptions	Measurement Unit	Unit cost (\$)	2023		2024		2025		2026		Total Quantity	Total Cost	Remarks
							Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost			
39	Case Management	IEC/BCC	IEC/BCC through installation of billboard in high-risk districts to increase LLINs utilization rate	Installation of billboard in each district of 3 high risk provinces (Nangarhar, Kunar and Laghman), having the message of Malaria and LLINs utilization. Total 43 districts*2=86 1. Size of Billboard (1 x 2 meter)	Per district	200	0	0	86	17200	0	0	0	0	86	17200	
40	Case Management	IEC/BCC	IEC/BCC through MP3 device in the HF patient waiting room	Procurement of MP3 Device for total 3300 HF (RH, PH, DH, CHC, BHC and HSC) excluding MHT and FHH.	Device/HF	10	0	0	3300	33000	0	0	0	0	3300	33000	
41	Case Management	IEC/BCC	IEC/BCC through religious leader in high-risk provinces	One day orientation workshop for 334 religious and 334 community leaders in Nangarhar-154, Kunar-124 and Laghman-56 provinces): 334*2=668 1. Per diem: 30/head/day x 1 days 2.Refreshment: 3/head/day x 1 days 3. Stationary: 2/head one time 4. Transportation: 20/head one time) 5. Total cost (30+3+2+20) = 55/Participant	Per participant cost	55		0	668	36740	668	36740	668	36740	2004	110220	
42	Case Management	IEC/BCC	IEC/BCC through religious leader in high-risk provinces	Printing of leaflet for 334 religious and community leaders in Nangarhar-154, Kunar-124 and Laghman-56 provinces): 334*100 cost per leaflet 0.2\$ Note: per masjid 100 piece	Per Masjid	0.2	33400	6680	33400	6680	33400	6680	33400	6680	133600	26720	
43	Case Management	IEC/BCC	IEC/BCC through school student in high-risk provinces	Malaria awareness orientation season with student and teacher at 766 high school 30\$ Per diem* 1 PMVDP+20 transportation cost =50\$/ school	Per high school	50	766	38300	766	38300	766	38300	766	38300	3064	153200	
44	Case Management	IEC/BCC	Celebration of World Malaria Day (WMD)at central and provincial level	Developing and printing of IEC Material (Poster, Banner, Brochures, stand banner) and Annual Journal, Refreshment for participant (total cost estimated 10000 USD)	Per year	10000	1	10000	1	10000	1	10000	1	10000	4	40000	
45	Case Management	Elimination	Three days training for case and foci investigation team	Trainee cost for three days orientation workshop for 95 participants in (North, west and northeastern regions provinces): 1. Per diem: 30/head/day x 3 days 2.Refreshment: 3/head/day x 3 days 3. Stationary: 2/head one time 4. Transportation: 20/head one time) 5. Total cost (30*3+3*3+2+20) = 121/Participant	Per participant cost	121	0	0	95	11495	0	0	0	0	95	11495	
46	Case Management	Elimination	Three days training for case and foci investigation team	Trainer cost for two trainers 1. Per diem: 43/head/day x 5 days 2. Refreshment: 3/head/day x 3 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time) 5. Trainer cost per training budget (276)/batch	Per batch	276	0	0	3	828	0	0	0	0	3	828	
47	Case Management	Elimination	Orientation workshop regarding Malaria elimination for PHDs, NDSR, HMIS, CDC, PMVDP officers and BPHS implementers	One day orientation workshop for 112 private practitioners in (North, west and northeastern regions provinces): 1. Per diem: 30/head/day x 1 days 2.Refreshment: 3/head/day x 1 days 3. Stationary: 2/head one time 4. Transportation: 20/head one time) 5. Total cost (30+3+2+20) = 55/Participant	Per participant cost	55	0	0	112	6160	0	0	0	0	112	6160	

No#	Modules	Interventions	Activities	Descriptions	Measurement Unit	Unit cost (\$)	2023		2024		2025		2026		Total Quantity	Total Cost	Remarks
							Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost			
48	Case Management	Elimination	Case notification (provision of incentive for head of HF)	Cost per case reporting within 24 hour is 10 USD/ per case in 14 targeted provinces for elimination setting	Per case	10	0	0	148	1480	148	1480	148	1480	444	4440	
49	Case Management	Elimination	Malaria case investigation in the elimination setting	Case investigation of Malaria cases in (North, west and northeastern regions provinces): Investigation team includes (PMVDP Manager, QA officer, Entomology officer, SR-CMFP) 1. Per dium: 30/head/day x 1 day x 4 2. Transportation: 50/head one time 3. Total cost (120+50) = 170/team	Per team	170	0	0	148	25160	148	25160	148	25160	444	75480	
50	Case Management	Involvement of private health practitioner in Malaria control setting case management and reporting system	Conduct annual one day review workshop with Private sector health provider, MOPH related department and partner for feedback on progress of malaria services provision in private sector	One day annual review workshop for 150 private practitioners in (Nangarhar, Kunar and Laghman): 1. Per dium: 30/head/day x 2 days (with travel day) 2. Refreshment: 3/head/day x 1 days 3. Stationary: 2/head one time 4. Transportation: 20/head one time 5. Total cost (30*2+3+2+20) = 85/Participant	Per participant cost	85	0	0	150	12750	150	12750	150	12750	450	38250	
51	Case Management	Involvement of private health practitioner in Malaria control setting case management and reporting system	Training of private practitioner (Lab technician) on malaria case management, in (Nangarhar, Laghman, Kunar) provinces.	Trainee cost for five days training for 500 private Lab technician in Laghman, Kunar and Nangarhar provinces: 1. Per dium: 30/head/day x 6 days (with travel day) 2. Refreshment: 3/head/day x 5 days 3. Stationary: 2/head one time 4. Transportation: 20/head one time 5. Total cost (30x 6+3x5+2+20) = 217/Participant	Per participant cost	217	500	108500	0	0	0	0	0	0	500	108500	
52	Case Management	Involvement of private health practitioner in Malaria control setting case management and reporting system	Training of private practitioner (Lab technician) on malaria case management, in (Nangarhar, Laghman, Kunar) provinces.	Trainer cost for two trainers 1. Per dium: 43/head/day x 6 days 2. Refreshment: 3/head/day x 5 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time 5. Trainer cost per training budget (325*2=650)/batch	Per batch	650	33	21667	0	0	0	0	0	0	33	21667	
53	Case Management	Involvement of private health sector practitioner in Malaria case management and reporting system	Training of private practitioner (Doctors) on malaria case management, in (Nangarhar, Laghman, Kunar) provinces.	Two days training for 150 private practitioners in Laghman, Kunar and Nangarhar provinces: 1. Per dium: 30/head/day x 3 days (with travel day) 2. Refreshment: 3/head/day x 2 days 3. Stationary: 2/head one time 4. Transportation: 20/head one time 5. Total cost (30x3+3x2+2+20) = 118/Participant	Per participant cost	118	150	17700	0	0	0	0	0	0	150	17700	
54	Case Management	Involvement of private health sector practitioner in Malaria case management and reporting system	Training of private practitioner (Doctors) on malaria case management, in (Nangarhar, Laghman, Kunar) provinces.	Trainer cost for two trainers 1. Per dium: 43/head/day x 3 days 2. Refreshment: 3/head/day x 2 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time 5. Trainer cost per training budget (239*2=478)/batch	Per batch	478	6	2868	0	0	0	0	0	0	6	2868	
55	Case Management	Involvement of private health sector practitioner in Malaria Elimination setting at case management and reporting system	Training of private practitioner (Doctors) on malaria case management, in (western, north and northeastern regions 14 provinces).	Two days training for 700 private practitioners in (western, north and northeastern regions 14 provinces): 1. Per dium: 30/head/day x 3 days (with travel day) 2. Refreshment: 3/head/day x 2 days 3. Stationary: 2/head one time 4. Transportation: 20/head one time 5. Total cost (30x3+3x2+2+20) = 118/Participant	Per participant cost	118	0	0	700	82600	350	41300	0	0	1050	123900	



No#	Modules	Interventions	Activities	Descriptions	Measurement Unit	Unit cost (\$)	2023		2024		2025		2026		Total Quantity	Total Cost	Remarks
							Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost			
56	Case Management	Involvement of private health sector practitioner in Malaria Elimination setting at case management and reporting system	Training of private practitioner (Doctors) on malaria case management, in (western, north and northeastern regions 14 provinces).	Trainer cost for two trainers 1. Perdiuum: 43/head/day x 3 days 2. Refreshment: 3/head/day x 2 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time 5. Trainer cost per training budget (239*2=478)/batch	Per batch	478	0	0	28	13384	14	6692	0	0	42	20076	
57	Case Management	Involvement of private health sector practitioner in Malaria Elimination setting at case management and reporting system	Training of private practitioner (Lab technician) on malaria case management, in (western, north and northeastern regions 14 provinces).	Trainee five days training for 1400 private Lab technician in (western, north and northeastern regions 14 provinces): 1. Perdiuum: 30/head/day x 6 days (with travel day) 2. Refreshment: 3/head/day x 5 days 3. Stationary: 2/head one time 4. Transportation: 20/head one time 5. Total cost (30x 6+3x5+2+20) = 217/Participant	Per participant cost	217	0	0	1400	303800	700	151900	0	0	2100	455700	
58	Case Management	Involvement of private health sector practitioner in Malaria Elimination setting at case management and reporting system	Training of private practitioner (Lab technician) on malaria case management, in (western, north and northeastern regions 14 provinces).	Trainer cost for two trainers 1. Perdiuum: 43/head/day x 6 days 2. Refreshment: 3/head/day x 5 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time 5. Trainer cost per training budget (325*2=650)/batch	Per batch	650	0	0	56	36400	28	18200	0	0	84	54600	
59	Case Management	Involvement of private health practitioner in Malaria control setting case management and reporting system	Consumable for Private sector Lab	1- Box of 72 glass slide (1.5\$/box*3*12=54\$) 2- Slide box wooden have capacity of 100 slides (3\$/box*4=12\$) 3- Lancet stainless steel box of 200 (1.3\$/box*12=15.6\$) 4- Latex gloves box of 100 piece (5\$/box*4*12=240\$) 5- Alcohol pads box 100 piece (1\$/box*2*12=24\$) 6-Giemsa 500ml bottles (30\$/ bottle*2=60\$) 7- Methanol 500ml (1.5\$ cost) <b>Total Cost per Lab (407.1\$)</b>	Per Lab	407.1	250	101775	250	101775	250	101775	250	101775	1000	407100	Average number of Lab is 250 based on 500 Lab technician
60	Case Management	Involvement of private health sector practitioner in Malaria Elimination setting at case management and reporting system	Procurement of ACT	Procurement of ACT (Artemether 20+Lumefantrin120mg, 24 tablets) for 120 private practitioner (120 PP Nangarhar) for treatment of Pf. 5 ACT per PP. cost 1 USD per ACT	Per ACT (AL) treatment course	1	137	137	120	120	102	102	85	85	444	444	
61	Case Management	Involvement of private health sector practitioner in Malaria Elimination setting at case management and reporting system	Procurement of RDT	Procurement of (Pv +Pf) RDT for 120 private practitioner (120 PP Nangarhar).	Per RDT cost	0.7	70688	49482	70688	49482	70688	49482	70688	49482	282752	197926	

No#	Modules	Interventions	Activities	Descriptions	Measurement Unit	Unit cost (\$)	2023		2024		2025		2026		Total Quantity	Total Cost	Remarks
							Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost			
62	Case Management	Coordination between health and non-health sector	Annual Review workshop Between, MVDP key staff and non-health sector including representative of interior ministry, defense ministry, agriculture... etc.	One day annual review workshop for 20 Participant at central level. 1. Perdiium: 0/head/day x 1 days (with travel day) *20 person 2. Refreshment and lunch: 6/head/day x 1 days*20 3. Stationary: 2/head one time*20 4. Transportation: 5/head one time *20 5. Total cost (6*20+2*20+5*20) = 260\$/Workshop	Per workshop	260	1	260	1	260	1	260	1	260	4	1040	
63	Case Management	Coordination between central and province (MVDP and PMVDP) staff	Annual Review workshop Between, MVDP key staff, PMVDP Managers and QA officers, SNOs and Partner	Two days annual review workshop for 68 Participant (PMVDP and CMFP) and 35-person central staff. 1. Perdiium: 30/head/day x 3 days (with travel day) *68 person 2. Refreshment: 3/head/day x 2 days*103 3. Stationary: 2/head one time*103 4. Transportation: 50/head one time *68 5. Total cost (30*3*68+3*2*103+2*103+50*68) = 10344\$/Workshop	Per workshop	10344	1	10344	1	10344	1	10344	1	10344	4	41376	
64	Case Management	Coordination between MVDP and partners	Vector Born Diseases Task Force meetings/Center and province	Monthly VBDFTF meeting at National level (20/meeting*12=240\$) Quarterly VBDFTF meeting at provincial level (20/meeting*4*33=2640\$) 240\$+2640\$=2880\$	Per year	2880	1	2880	1	2880	1	2880	1	2880	4	11520	
65	Case Management	Therapeutic efficacy surveillance	Therapeutic efficacy surveillance study in Nangarhar and Kunar provinces	Total cost 30000\$	Per year	30000	1	30000	1	30000	1	30000	1	30000	4	120000	
66	RSSH - Health information systems and M&E	Analysis, review and transparency	Malaria Program Performance Review (MPR) in 2026	Total MPR cost 85700	One time	85700	0	0	0	0	0	0	1	85700	26	85700	
67	RSSH - Health information systems and M&E	Analysis, review and transparency	2 Days workshop on M&E digitalized system	Trainee cost Two days training for (PMVDP manager, CMFP): 1. Perdiium: 30/head/day x 3 days (with travel day) 2. Refreshment: 3/head/day x 2 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time 5. Total cost (30x3+3x2+2+50) = 148	Per training batch	148	0	0	0	0	68	10064	0	0	68	10064	
68	RSSH - Health information systems and M&E	Analysis, review and transparency	2 Days workshop on M&E digitalized system	Trainer cost Two days training for (PMVDP manager, CMFP and QA officers): 1. Perdiium: 0/head/day x 3 days (with travel day) 2. Refreshment: 3/head/day x 2 days 3. Stationary: 2/head one time 4. Transportation: 0/head one time 5. Total cost (0x3+3x2+2+0) = 8*2=16	Per training batch	16	0	0	0	0	2	32	0	0	2	32	
69	RSSH - Health information systems and M&E	Analysis, review and transparency	3 Days workshop on DHIS2 for PMVDP and CMF	Trainee cost Three days training for (PMVDP manager, CMFP): 1. Perdiium: 30/head/day x 4 days (with travel day) 2. Refreshment: 3/head/day x 3 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time 5. Total cost (30x4+3x3+2+50)= 181	Per participant cost	181	0	0	0	0	68	12308	0	0	68	12308	

No#	Modules	Interventions	Activities	Descriptions	Measurement Unit	Unit cost (\$)	2023		2024		2025		2026		Total Quantity	Total Cost	Remarks
							Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost			
70	RSSH - Health information systems and M&E	Analysis, review and transparency	3 Days workshop on DHIS2 for PMVDP and CMF	Trainer cost Three days training for (PMVDP manager, CMFP): 1. Perdiem: 0/head/day x 3 days (with travel day) 2. Refreshment: 3/head/day x 3 days 3. Stationary: 2/head one time 4. Transportation: 0/head one time 5. Total cost (0x3+3x3+2+0) = 11*2=22	Per training batch	22	0	0	0	0	2	44	0	0	2	44	
71	RSSH - Health information systems and M&E	Analysis, review and transparency	3 Days workshop on M&E digitalized system	Two days' workshop for 102 participants (PMVDP manager, CMFP and QA officers): 1. Perdiem: 30/head/day x 3 days (with travel day) 2. Refreshment: 3/head/day x 2 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time 5. Total cost (30x3+3x2+2+50) = 148/Participant	per trainer per batch	148	0	0	0	0	102	15096	0	0	102	15096	
72	RSSH - Health information systems and M&E	M&E Supervisory visit from private sector	Supervisory visits of private sector health service delivery centers for malaria services (from PMLCP to private health facilities)	Supervisory visits for 3 high risk provinces (each visit for 1 days) by 2 visitors (1 doctor and 1 QA staff): Costing/visitor/visit; 30 USD/day including Perdiem, accommodation, 20 USD round trip Total: 30*2+20*2= 100 USD 12/ quarter (6 visit for Nangarhar, 3 for Laghman and 3 for Kunar)	Per visit	100	48	4800	48	4800	48	4800	48	4800	192	19200	
73	RSSH - Health information systems and M&E	M&E Supervisory visit from private sector	Supervisory visit conducting from center to province in high-risk province	3 supervisory visits/quarter in three high risk provinces (each visit for 3 days) by 2 visitors (1 doctor and 1 QA staff): Costing/visitor; 43 USD/day including Perdiem, accommodation, 50USD round trip Total: 43*2*3+50*2= 358 USD/ visit	Per visit/ 2 visitor	358	12	4296	12	4296	12	4296	12	4296	48	17184	
74	RSSH - Health information systems and M&E	M&E Supervisory visit from public sector	Supervisory visit conducting from center to province	17 supervisory visits/quarter (each visit for 3 days) by 2 visitors (1 doctor and 1 QA staff): Costing/visitor; 43 USD/day including Perdiem, accommodation, 50USD round trip Total: 43*2*3+50*2= 358 USD/ visit	Per visit/ 2 visitor	358	64	22912	64	22912	64	22912	64	22912	256	91648	
75	RSSH - Health information systems and M&E	M&E Supervisory visit from public sector	Supervisory visit conducting from provinces to districts and health facilities	Supportive supervisory visit from 3623 HF staffs (RH 8, PH 26, SHP 43, DH 91, CHC 437, BHC 901, MHT 581 and HSC 1125, FHH 265, Others HF 146) in 34 provinces 1 DSA 30 USD *3 2 Transportation cost 20 * 3 3 Total: 30*3+20*3= 150 USD	Per visit/ 2 visitor	150	3623	543450	3623	543450	3623	543450	3623	543450	14492	2173800	
76	RSSH - Health information systems and M&E	Routine Reporting	Printing of MLIS/DHIS2 forms and registers	Cost 50 USD/month/province (50*12*34 = 20400) /year	Per year	20400	1	20400	1	20400	1	20400	1	20400	4	81600	
77	RSSH - Health information systems and M&E	Survey	Malaria Indicator Survey (MIS)	Total MIS cost 300,000	One time	300,000	0	0	0	0	1	300000	0	0	1	300000	
78	RSSH - Health information systems and M&E	M&E Digitalized System	Maintenance and updating	Application/Website Update and maintain Application :1400 Website:600	Per two Year	2,000	0	0	1	2000	0	1	2000	2	4000		
79	RSSH - Health information systems and M&E	M&E Digitalized System	Device Tab late/Mobile	Device for running the M&E application	Per three Year	300	40	12000	0	0	40	12000	80	24000			
80	RSSH - Health information systems and M&E	Hosting/Domain name	Hosting and Domain name for MVDP official Email address and M&E Digitalized system support	Hosting :800 Domain:50	Per Year	850	1	850	1	850	1	850	1	850	4	3400	

No#	Modules	Interventions	Activities	Descriptions	Measurement Unit	Unit cost (\$)	2023		2024		2025		2026		Total Quantity	Total Cost	Remarks
							Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost			
81	Vector Control	Conduct regular meetings of IVM steering committee	Biannually meetings or as per need in MVDP	Semi-annual meeting 20 participants/meeting 1- Stationary 2*20=40 2- Lunch and refreshment 5*20=100 Total cost=140/meeting	Per meeting	140	1	140	2	280	2	280	2	280	7	980	
82	Vector Control	Entomological Monitoring	Bioassay test on LLINs	Conduction of Bioassay test on LLINs at three high risk provinces: 1- Peridium 43*15 days central Entomologist= 645\$ 2- Peridium 30*10 days provincial Entomologist= 300\$ 3- Transportation central to province 50*1=50 4- Transportation (field work) 50*6days=300 Total cost 645+300+50+300=1295\$/ province	Per province	1295	3	3885	3	3885	3	3885	3	3885	12	15540	
83	Vector Control	Entomological Monitoring	Susceptibility test on adult mosquitoes to insecticide	Conduction of Susceptibility test at 7 regions: 1- Peridium 43*15 days central Entomologist= 645\$ 2- Peridium 30*10 days provincial Entomologist= 300\$ 3- Transportation central to province 50*1=50 4- Transportation (field work) 50*6days=300 Total cost 645+300+50+300=1295\$/ province	Per region	1295	7	9065	7	9065	7	9065	7	9065	28	36260	
84	Vector Control	Entomological Monitoring	Susceptibility test on adult mosquitoes to insecticide	Procurement of test kit	Per year	10000	1	10000	1	10000	1	10000	1	10000	4	40000	
85	Vector Control	Entomological Surveillance	Regular entomological assessment at provincial level	Conduction of entomological assessment at 14 provinces (2 province per region): 1- Peridium 30*10 days provincial Entomologist= 300\$ 2- Transportation central to province 50*1=50 3- Transportation (field work) 50*6days=300 Total cost 300+50+300=650\$/ province	Per province	650	0	0	14	9100	14	9100	14	9100	42	27300	
86	Vector Control	Entomological Surveillance	Running cost of 3 insectaria and 5 entomological sentinel sites	Running cost of 3 insectaria (Kabul, Nangarhar and Kunduz) Cost 50\$/month *12=600\$	Per year	600	3	1800	3	1800	3	1800	3	1800	12	7200	
87	Vector Control	Epidemic preparedness and response	Provision of equipment at center and 7 regions (entomology stock)	Hand pump, IRS complete suit and PPE kits etc... Total cost: 1- Hudson spry pump 80\$*140=11200\$ 2- IRS PPE kit 20\$*140*5PPE kits=14000\$ Total cost 11200\$+14000\$=25200	Total cost	25200	0	0	1	25200	0	0	0	0	1	25200	
88	Vector Control	IVM committee establishment	Two days' workshop on malaria and other vector born disease for IVM steering committee	Cost of workshop for 20 participants 1- Stationary 2*20=40 2- Lunch and refreshment 5*20*2days=200 Total cost=240/meeting	Per participant cost	240	1	240	0	0	0	0	0	0	1	240	
89	Vector Control	Larva source management	Procurement of larvicide	Procurement of larvicide (Temiphous1%) Total needed quantity 24000Kg The cost is 42\$/kg	Per Kg larvicide cost	42	0	0	24000	1008000	24000	1008000	24000	1008000	72000	3024000	
90	Vector Control	Larva source management	Operational cost for LSM	Operation cost for Larva source management per kg cost is 2\$	Per Kg	2	0	0	24000	48000	24000	48000	24000	48000	72000	144000	
91	Vector Control	LLINs distribution	Procurement of LLINs for mass campaign in category one	Procurement of LLIN for campaign	Per LLIN	3.5	0	0	0	0	3332441	11663544	0	0	3332441	11663544	with 25% Buffer Stock
92	Vector Control	LLINs distribution	provision of LLINs for IDPs in 6 high-risk (cat 1 & 2) provinces	Procurement of LLIN for IDPs	Per LLIN	3.5	0	0	0	0	448878	1571073	0	0	448878	1571073	with 25% Buffer Stock
93	Vector Control	LLINs distribution	Continuous distribution for <5 children through EPI (complimentary to campaign)	Procurement of LLINs for under five children though vaccination unit of HF Total under five population (5%)	Per LLIN	3.5	288047	1008165	293924	1028734	299920	1049720	306038	1071133	1187929	4157752	with 25% Buffer Stock

No#	Modules	Interventions	Activities	Descriptions	Measurement Unit	Unit cost (\$)	2023		2024		2025		2026		Total Quantity	Total Cost	Remarks
							Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost			
94	Vector Control	LLINs distribution	Continuous distribution for Pregnant women through ANC (complimentary to campaign)	Procurement of LLINs for pregnant women though ANC of HF Total pregnant women population (5%)	Per LLIN	3.5	288047	1008165	293924	1028734	299920	1049720	306038	1071133	1187929	4157752	with 25% Buffer Stock
95	Vector Control	LLINs distribution Monitoring	Monitoring of LLINs distribution at field level during and after campaign.	Field visit by program staff (84 targeted district should be visited during or after campaign) 1- Perdiem 30*2 visitor*2days=120 2- Transportation= 50\$ Total cost per visit =170\$	Per visit	170	0	0	0	0	84	14280	0	0	84	14280	
96	Vector Control	LLINs waste Management	Collection and safe disposal of old LLINs from the HH	Collection of LLINs from HH during LLINs replacement campaign for safe disposal	Per LLINs	1		0		0	2047750	2047750	0	0	2047750	2047750	
97	Vector Control	Monitoring of LLINs	LLINs Durability and Net pattern studies	Conduction of LLINs durability and pattern of net studies at high-risk provinces	Per study	50000	0	0	1	50000	0	0	0	0	1	50000	
98	Vector Control	Vector surveillance	Training of entomology staffs on larva and mosquito collection and analysis	5 days entomology training for Total 34 participants at central level: 1- Perdiem 30*6=180 2- Refreshment 3*5=15 3- Stationary 2 4- Transportation 50 Total cost 180+15+2+50=247/ participant	Per participant cost	247		0	34	8398	0	0	34	8398	68	16796	
99	Vector Control	Vector surveillance	Training of entomology staffs on larva and mosquito collection and analysis	Trainer cost Three days training for (PMVDP manager, CMFP): 1. Perdiem: 0/head/day x 3 days (with travel day) 2. Refreshment: 3/head/day x 3 days 3. Stationary: 2/head one time 4. Transportation: 0/head one time 5. Total cost (0x3+3x5+2+0) = 17*2=34	Per training batch	34	0	0	2	68	0	0	0	0	2	68	
100	Vector Control	External testing biochemical	Status of insecticide resistance	Status of insecticide resistance and biochemical in Anopheles Mosquitoes	Per region	20000	0	0	1	20000	0	0	1	20000	2	40000	
101	Vector Control	External testing biochemical	Status of insecticide resistance	Status of insecticide resistance and molecular mechanisms in Anopheles Mosquitoes	Per region	25000	1	25000	0	0	1	25000	0	0	2	50000	
102	Vector Control	Status of insecticide resistance	Susceptibility test on adult Aedes mosquitoes to insecticide	Conduction of Susceptibility test at 5 regions: 1- Perdiem 43*15 days central Entomologist= 645\$ 2- Perdiem 30*10 days provincial Entomologist= 300\$ 3- Transportation central to province 50*1=50 4- Transportation (field work) 50*6days=300 Total cost 645+300+50+300=1295\$/ province	Per region	1295	2	2590	2	2590	3	3885	2	2590	9	11655	
103	Vector Control	Entomological Surveillance	equipment procurement for adult mosquitoes, larva and other activities	Procurement of Insecticide impregnated papers, Aspirator, Bioassay cones, Paper cup, sample tub, etc.	Total cost	2000	1	2000	1	2000	1	2000	1	2000	4	8000	
104	Program Management	Capacity building in PSM	PSM related staff at National and provincial level including SR relevant staff.	Trainee cost Three days training for (PMVDP manager, CMFP): 1. Perdiem: 30/head/day x 4 days (with travel day) 2. Refreshment: 3/head/day x 3 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time 5. Total cost (30x4+3x3+2+50) = 181	Per year	181	0	0	78	14118	0	0	0	0	78	14118	
105	RSSH - Health information systems and M&E	Capacity building in PSM	PSM related staff at National and provincial level including SR relevant staff.	Trainer cost Three days training for (PMVDP manager, CMFP): 1. Perdiem: 0/head/day x 3 days 2. Refreshment: 3/head/day x 3 days 3. Stationary: 2/head one time 4. Transportation: 0/head one time 5. Total cost (0x3+3x3+2+0) = 11*2=22	Per training batch	22	0	0	3	69	0	0	0	0	3	69	
106	Program Management	Coordination (cross border meeting).	Biannual malaria cross border meeting with bordering country (control and elimination program)	Cost of biannual meeting for 8 participants (6 central 2 provincial): 1. Transportation 250\$*8=2000\$ 2. DSA 175\$* 4days*8 participants=5600\$ Total cost/meeting 7600\$	Per meeting	7600	2	15200	2	15200	2	15200	2	15200	8	60800	

No#	Modules	Interventions	Activities	Descriptions	Measurement Unit	Unit cost (\$)	2023		2024		2025		2026		Total Quantity	Total Cost	Remarks
							Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost			
107	Program Management	External Capacity Assessment (ECA)	Hiring International consultant for External Capacity Assessment (ECA) preparatory workshop and selection of Microscopist for ECA	15 working Day's cost of consultant	Per year	20000	0	0	1	20000	0	0	0	0	1	20000	
108	Program Management	External Capacity Assessment (ECA)	Participation of Lab technician in ECA outside country	Cost of Lab technician to participate in ECA outside the country 4 participants: 1. Transportation 1000\$ 2. DSA 200\$* 12 days = 2400\$ Total cost/person 3400\$	Per year	3400	0	0	4	13600	4	13600	4	13600	12	40800	
109	Program Management	External Capacity Assessment (ECA)	Participation of Lab technician in ECA workshop	ECA preparatory workshop participant cost Five days training for (PMVDP QA officer): 1. Perdiem: 30/head/day x 7 days (with travel day) 2. Refreshment: 3/head/day x 6 days 3. Stationary: 2/head one time 4. Transportation: 50/head one time) 5. Total cost (30x7+3x6+2+50) = 280	Per year	280	0	0	41	11480	41	11480	41	11480	123	34440	
110	Program Management	MVDP operational cost	MVDP and PMVDP running cost and maintenance cost	Total running cost 56000\$ (Vehicle fuel and maintenance, Stationary, top-up card and other)	Per year	56000	1	56000	1	56000	1	56000	1	56000	4	224000	
111	Program Management	Other (international Seminars, meetings, workshops)	Participation of MVDP and PMVDP in international seminars, meeting and workshop	Cost of participation in international meeting for 10 participants: 1. Transportation 1000\$ 2. DSA 200\$* 6 days = 1200\$ Total cost/person 2200\$	Per person cost	2200	10	22000	10	22000	10	22000	10	22000	40	88000	
112	Program Management	Policy, coordination and management	Hiring International consultant for COMBI (IEC/BCC) guideline and material development	15 working Day's cost of consultant	Per year	20000	0	0	1	20000	0	0	0	0	1	20000	
113	Program Management	Policy, coordination and management	Program management and implementation cost	Total cost 3108800 are considered for Program management and implementation including Program, PR, SR and Technical Assistance.	Per year	3108800	1	3108800	1	3108800	1	3108800	1	3108800	4	12435200	
<b>Grand Total</b>								7,475,566		11,305,278		25,373,059		9,270,083		53,423,986	