

Audit Report



Global Fund grant for the

Regional Artemisinin-resistance Initiative (RAI)

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Geneva, Switzerland

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1. Executive Summary

1.1 Opinion

The Global Fund created the Regional Artemisinin-resistance Initiative (RAI) in 2014 to respond to the growing threat of *P. falciparum* artemisinin resistance in Southeast Asia's Greater Mekong Subregion (GMS). This grant covers five countries: the Kingdom of Cambodia; Lao People's Democratic Republic (Lao PDR); the Republic of the Union of Myanmar; the Kingdom of Thailand and the Socialist Republic of Viet Nam. The grant also includes a regional component to manage and organize cross-cutting coordination, oversight and operational research.

During the first cycle of the RAI grant, it was determined that the most effective way to fight drug resistance is elimination of *P. falciparum* malaria, which became the main objective of the grant. However, given the RAI grant's exceptional achievements, the Global Fund has since evolved the grant's overall objective to eliminating *all* types of malaria, amid a decreasing malaria burden in the region.

The countries have developed innovative and effective approaches in their responses. However, preparedness for a scenario in which there is a re-establishment of malaria and response to malaria strains other than *P. falciparum* could be improved. The Secretariat has taken action to address specific issues identified through its risk management process and determine key mitigating actions.

Overall, the continuity of programs and the achievement of elimination objectives through effective program adaptation and integration of malaria services into the health system **is effective**. However, the resurgence of malaria in Western GMS stemming from increased people movement across borders as a result of the political situation in Myanmar risks jeopardizing elimination efforts in the region. While the resurgence and the political situation in Myanmar is out of the Global Fund's span of control, it highlights the need for all countries to enhance their preparedness in dealing with re-establishment of malaria. These initiatives are part of the RAI 4E grant but are not budgeted for, meaning they are at risk of not being implemented. In order to not threaten the successes achieved thus far, malaria must remain on the countries' public health agenda, even in a resource-constrained environment where the disease does not represent a major threat and where trade-offs are needed.

As most of the RAI countries approach the target of elimination of malaria, sustainability¹ of programming and of financing is critical. Adequate transition planning and preparedness are essential, given the current downward trend in external funding. The countries lack a comprehensive regional approach to sustainability. While the military coup in Myanmar affected how countries planned for sustainability of the regional components of the grant, the Regional Steering Committee (RSC) and Regional Principal Recipient (PR) did not leverage available resources in order to develop and implement initiatives to address the issue of sustainability. In May 2024 the RSC established a Subcommittee on Transition and Sustainability. The committee has put in place initiatives that could address the lack of sustainability planning. However, the issue of sustainability planning was raised since the inception of the RAI Grant, but not followed through. The OIG considers the observations raised in this report to be significant impairments to a successful transition and will **need significant improvement**.

¹ See section 2.4 for the Global Fund definition of, and priorities related to, sustainability

1.2 Key Achievements and Good Practices

Reduction of the malaria burden

Since the beginning of the grant in 2014, RAI countries have achieved a remarkable reduction in their malaria burden. The overall disease burden decreased by 87% and the number of deaths decreased by 98%. Multidrug resistance to *P. falciparum* malaria also declined across the region, in line with the initial goal of the grant. However, when it was determined that the best way to fight resistance in a sustainable manner was to eliminate *P. falciparum* malaria, this became the overarching objective of the RAI grant. Starting in the second grant cycle (RAI 2E), it became the first multi-country elimination initiative.

The establishment of a regional approach with such an ambitious agenda was a first for the Global Fund, making RAI unique among Global Fund grants. Despite the challenges in the western part of the region, in Eastern GMS (Cambodia, Lao PDR, and Viet Nam), malaria elimination is within reach. In 2023, there were less than 200 cases of *P. falciparum* and mixed malaria, and less than 2,200 malaria cases in total (all types)².

Regional coordination and research components instrumental to achievements

The RAI grant consolidates the malaria allocations for the five countries and includes a regional component. The overall coordination of the grant and the regional collaboration between countries is managed through this regional component.

The regional component funded and coordinated operational research up until RAI 3E, which enabled the region to develop, test and take to scale innovative approaches to malaria response and elimination. This includes the expansion of malaria diagnosis and treatment at the community level in Cambodia and Myanmar (which is where the preponderance of diagnosis and treatment services are implemented), as well as Accelerator/ "last mile" strategies, implemented in specific areas of the countries (based on stratification). These strategies include targeted drug administration and preventive treatment.

The strong and collaborative RSC³ also contributes to the success of the grant, which it coordinates. The RSC has enabled effective cross-border collaboration and driven a unified regional approach to tackling malaria elimination. The RSC's members include representatives from the RAI countries as well as other neighboring countries (China, India and Bangladesh), in order to promote wider regional collaboration. Membership also includes several prominent malaria experts in the region. The RSC's Independent Monitoring Panel provides oversight and conducts research, providing sound technical advice.

Tailoring the approach to the evolving context

Initially, the RAI grant focused on combating drug resistance for *P. falciparum* malaria. It has since evolved to target all forms of malaria in countries covered by the grant. This has meant an increased focus on responding to *P. vivax* malaria, now the most prevalent type of malaria in the sub-region. The grant introduced effective treatment options for *P. vivax* malaria, including a "radical cure" that treats both the blood stage and the liver stage of the parasite. The Global Fund also plans to introduce innovative approaches for prevention - including targeted drug administration for *P. vivax* malaria - in some of the RAI countries.

² Source: RAI Malaria Elimination Database

³ The RAI Regional Steering Committee is the equivalent of a Country Coordinating Mechanism for country grants

Malaria is mostly present in hard-to-reach and forested areas. It primarily affects mobile and migrant populations, as well as forest-goers, who have limited access to regular health services. Civil society organizations (CSOs) and community health/malaria workers are critical to delivering services to these populations, as they identify most of the cases. The RAI 4E grant channels almost 60% of the regional component and more than 30% of the overall grant allocation through CSOs and includes support to community-based health workers (CHWs) in all RAI countries. There are several innovative approaches to malaria community work, such as dedicated malaria posts in Thailand and multi-disciplinary teams at the district/community level that do foci investigations⁴ together.

Thailand developed an “acceleration plan” for its provinces that border Myanmar, with a primary focus on the elimination of *P. falciparum*, because the movement of people and the increased number of cases along the Myanmar border were causing a growing burden on its health system.⁵ This acceleration plan will allow the country to differentiate its response and focus on tackling effectively some of the resurgence observed at its border areas.

1.3 Key Issues and Risks

Dedicated sustainability approaches necessary to ensure continuity after transition of Global Fund support

The importance of sustaining and scaling up disease response after a transition away from Global Fund financing has been highlighted from the start of the RAI grant in 2014. In response, countries have increased domestic financing of their national malaria responses. They are taking important steps to integrate malaria services into their wider health systems and are aiming towards malaria elimination (a cornerstone of sustainable transition).

However, dedicated sustainability and post-transition plans exist neither at the individual country level nor for the regional components of the grant. The closer the region gets to elimination, the more important well-developed, costed, and actionable sustainability and transition plans become, particularly plans that require the involvement of relevant ministries and the broader health system.

Resurgence of malaria in Western GMS

Prior to 2021, all RAI countries were on track to eliminate *P. falciparum* malaria. Following the military takeover in Myanmar in February 2021, malaria resurged in Myanmar and neighboring Thailand (due to the movement of populations and the establishment of informal settlements). In 2022, a total of 157,538 indigenous⁶ cases of malaria were reported for Myanmar, a doubling of cases compared to the prior year (79,000 indigenous cases reported in 2021).⁷ In 2023, Thailand reported a total of 16,676 cases – a 423% surge compared to 2021. Most of these cases (93%) were reported in the six provinces that border Myanmar.

The inflow of people and increased disease burden put a strain on the health system in Thailand and hampered its ability to effectively respond to each case. This has pushed back Thailand’s targets for *P. falciparum* elimination from 2023 to 2025 and for the elimination of all species of malaria from 2024 to 2026. There is a risk that the increase in malaria in the Western part of GMS could spread throughout the entire region, jeopardizing broader elimination goals and the fight against drug resistance. The resurgence highlights the need for all countries to enhance their preparedness in

⁴ Foci investigation refers to the actions taken around the malaria index case to detect any other potential cases in the immediate vicinity of the patient and to stop the transmission around the case.

⁵ There are also *P. Vivax* outbreak response plans in place.

⁶ Myanmar calculates indigenous cases as “Confirmed cases – imported and introduced cases” (WHO information)

⁷ 2023 WHO World Malaria Report

dealing with re-establishment of malaria and to continue focusing on malaria interventions through a regional approach.

Malaria becomes one of many competing health priorities

Malaria is no longer a major public health threat in three out of the five RAI countries⁸, given the success achieved to date in reducing the burden of this disease. To reach elimination and to fight resurgence, governments need to continue focus on malaria response, surveillance, case and foci investigations, as well as the availability of health products and the malaria knowledge and competence of health workers. When the malaria burden diminishes, resources will likely be directed elsewhere – thereby affecting countries' ability to stay on course to reach elimination of the disease.

Most RAI countries are undergoing decentralization to provide more autonomy to provincial and district levels in determining their own budgets and priorities in a range of areas, including health. At the national level, countries need to develop dedicated strategies to ensure provinces and districts continue to include malaria elimination and prevention of re-establishment on their public health agendas.

⁸ Cambodia, Lao PDR and Viet Nam

1.4 Objectives, Ratings and Scope

The overall objective of the audit is to provide reasonable assurance to the Global Fund Board of the adequacy and effectiveness of Global Fund's RAI grant.

The OIG recognizes the achievements of the RAI grant and the trajectory of the decreasing malaria burden in the region. As these countries approach elimination, the importance of ensuring sustainability increases.

The Global Fund's Technical Review Panel (TRP)⁹ recommended the development of sustainability plans that would ensure continuation of the country and regional components of the grant¹⁰ in order to demonstrate that sustainability is a critical objective of the RAI grant's programs.

Accordingly, the OIG focused its review on the approaches to sustainability adopted at the regional level, as well as those adopted by individual countries.

The audit's specific objectives, ratings and scope are outlined in the below table.

Objectives	Rating	Scope
Objective 1: The sustainable transition of the regional approach	Needs significant improvements	Audit period RAI 3E grant period: January 2021-December 2023. The design (but not the implementation) the RAI 4E grant (January 2024-December 2026) was also assessed. Grants and implementers The audit covered the Regional PR. the United Nations Office for Project Services (UNOPS), as well as co-PRs and sub-recipients (SRs) in Cambodia, Thailand and Viet Nam.
Objective 2: The continuity of programs and achievement of elimination objectives through effective program adaptation and integration of malaria services into the health system	Effective	Scope exclusion Myanmar was excluded from the scope of the audit due to current security constraints. The audit team also did not include Lao PDR in the scope of countries to visit, as it received the least funding among the countries under RAI 3E.

⁹ The Technical Review Panel evaluates the technical merit of the funding request and recommends it for funding: Global Fund website "Technical Review Panel" <https://www.theglobalfund.org/en/technical-review-panel/> latest accessed on 15 May 2024

¹⁰ TRP's Funding Request Review and Recommendation Form RAI 3E (issues 3, 5 & 6) and RAI 4E (Issue 1)

2. Background and Context

2.1 Global Fund Regional Artemisinin Resistance Initiative grant

The Global Fund created the Regional Artemisinin-resistance Initiative (RAI) in 2014 to respond to the growing threat of *P. Falciparum* artemisinin resistance in the GMS region with an accelerated and coordinated approach. *P. Falciparum* is the deadliest form of malaria and was, at the time, the form of malaria most prevalent in the GMS.

The grant covers five countries: Cambodia; Lao PDR; Myanmar; Thailand and Viet Nam. It includes a regional, cross-cutting component and a Regional Steering Committee (RSC) provides oversight and coordination.

During the first round of the RAI grant (RAI 1, 2014-2017), RAI's stakeholders determined that the most effective way to fight malaria drug resistance is to eliminate all forms of malaria. Starting with the second round (2018-2020), the grant became RAI 2E, with "E" for "elimination" of *P. Falciparum* malaria in all five countries. The RAI 3E (2021-2023) and RAI 4E (2024-2026) grants have expanded elimination efforts to include all forms of malaria, beyond just *P. Falciparum*.

Implementation arrangements:

UNOPS, based in Bangkok, has been the RAI grant's regional PR since the grant's inception in 2014. The grant also has co-PRs¹¹ in Thailand, Myanmar and Viet Nam that are directly involved in the implementation of grant activities and interventions. In Thailand, SRs report to the co-PR, while SRs in Myanmar, Cambodia, Lao PDR and Viet Nam report directly to UNOPS (SRs under the co-PR Save the Children in Myanmar report to Save the Children). The Regional Steering Committee (RSC), a multi-stakeholder governance body, provides oversight, guides and monitors the implementation of the RAI grant across all countries.

RAI programmatic and funding priorities are centered around case management, surveillance, elimination approaches, vector control, and health systems strengthening, as well as governance and coordination. The RAI 3E grant was comprised of six components. Five individual country components - one for each RAI country - and a regional component containing six sub-components called "packages." The regional component included coordination of the grant and cross-cutting interventions to catalyze the regional malaria response towards elimination, including:

- interventions aimed at strengthening cross-border collaboration
- research on key themes, such as a *P vivax* radical cure¹²
- conducting therapeutic efficacy studies
- maintaining a regional malaria elimination database, and
- providing independent technical expertise through an independent monitoring panel

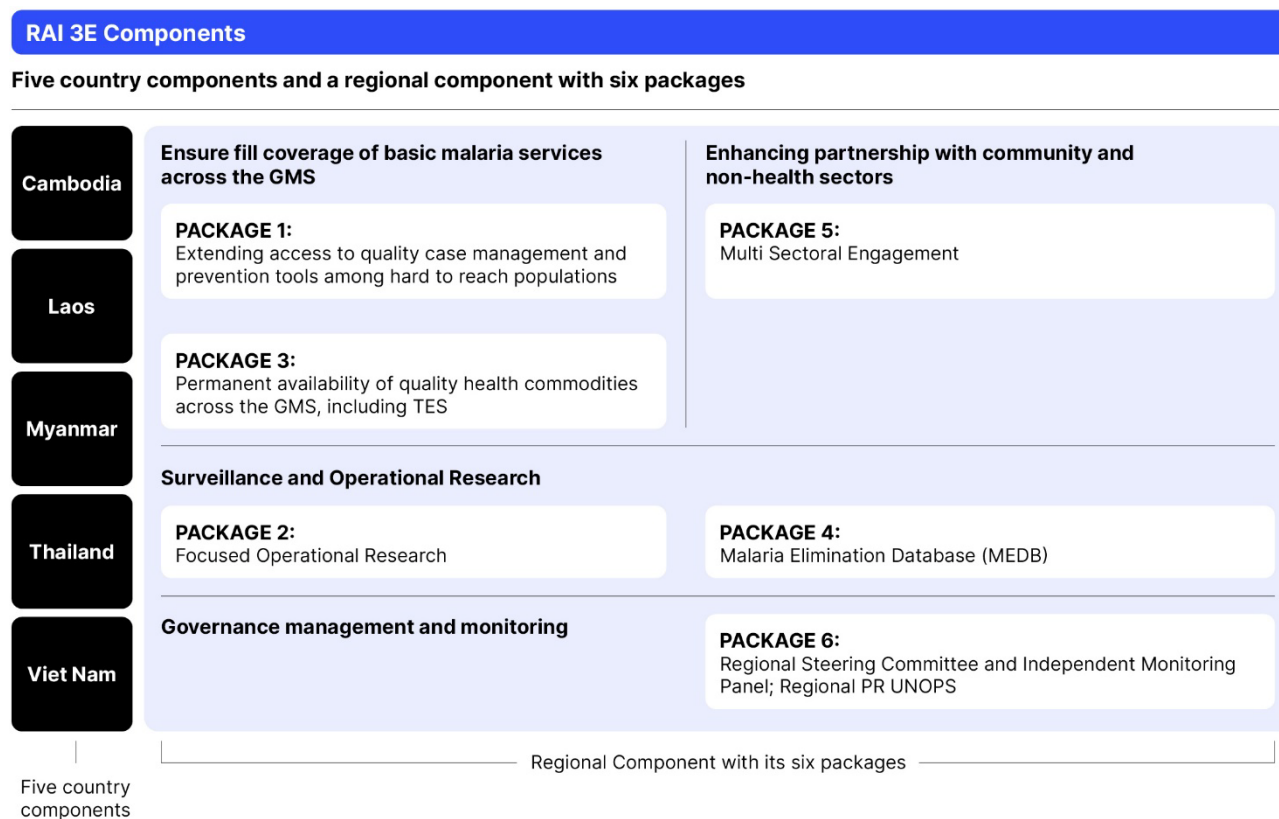
In RAI 4E, the Global Fund organized the grant into three components, which focus on national malaria service delivery and cross-cutting themes of data, surveillance, malaria elimination and coordination. The main aspects of the grant remain the same as in RAI 3E (with some adjustments,

¹¹ The co-PRs are the Department of Disease Control (DDC) for Thailand, Save the Children Federation, Inc (SCFI) for Myanmar and National Institute of Malariology, Parasitology and Entomology (NIMPE) for Viet Nam

¹² *P vivax* malaria parasites can be present in both the blood and the liver of an infected person. The radical cure treats both the blood stage and the liver stage of the infection.

such as the discontinuation of operational research). The figure below depicts the different components of the RAI grant for RAI 3E and RAI 4E.

Figure 1 : RAI 3E vs RAI 4E components/packages



In terms of funding, the RAI 3E allocation was US\$230.6 million, with US\$130.6 million from core grant funding and US\$100 million from catalytic funding. In RAI 4E, the Global Fund reduced the funding envelope to US\$146.3 million, comprised of US\$96.3 million from national malaria allocations and US\$50 million from multi-country catalytic funding.

Figure 2: RAI 3E and RAI 4E final approved allocation, split by country and regional funding

Components	RAI 3E final approved allocation (USD)	RAI 4E final approved allocation (USD)
Cambodia	36.2mn	30.8mn
Lao PDR	14.6mn	16.2mn
Myanmar	101.2mn	48.2mn
Thailand	20.8mn	15.2mn
Viet Nam	29.6mn	14mn
Regional	28.2mn	21.9mn
Total	230.6mn	146.3mn

(excluding C19RM funding for COVID-19 response)

2.2 Greater Mekong Subregion Context

The GMS is a natural economic area linked by the Mekong River, covering 2.6 million km² with a combined population of over 300 million. In addition to the RAI countries, the GMS region also consists of the Yunnan Province and the Guangxi Zhuang Autonomous Region in the People's Republic of China.

The RAI countries are all middle-income countries¹³ and, as such, sustainability and transition planning should be a priority for programs supported by Global Fund financing. Despite its middle-income status, however, wealth and income distribution remain unequal, and a significant portion of the population lives below the poverty line.¹⁴ This is also reflected in the malaria burden, which is highest among marginalized groups.

Figure 3: Country data

Country data ¹	Cambodia	Lao PDR	Myanmar	Thailand	Viet Nam
Population (2022)	16.8 million	7.5 million	54.2 million	71.6 million	98.2 million
GDP per capita (USD 2022)	1,760	2,054	1,149	6,910	4,164
Corruption Perception Index (2023)	158/180	136/180	162/180	108/180	83/180
UNDP Human Development Index (2022)	148/193	139/193	144/193	66/193	107/193
Government spending on health (% of GDP in 2021)	7.53%	2.74%	5.63%	5.16%	4.59%

2.3 Malaria in the Greater Mekong Subregion

The GMS has achieved remarkable success in the fight against malaria. Since 2012, there has been an 87% reduction in malaria cases and a 98% reduction in malaria deaths. Malaria is most prevalent in hard-to-reach areas, among mobile and migrant populations, forest-goers and loggers. The RAI grant has dedicated interventions to reach these groups.

Prior to the military takeover in Myanmar in February 2021, all five countries were on course towards malaria elimination. Since then, the incidence of malaria cases in Myanmar has increased, and has also spread to neighboring Thailand.

While *P. falciparum* malaria was previously the most prevalent type of malaria, successful efforts to reduce its incidence has resulted in another type, *P. vivax* malaria, becoming the most prevalent type of malaria in the region.

GMS is now informally divided into “Western GMS” (Myanmar and Thailand), which has seen a recent resurgence in malaria cases, and “Eastern GMS” (Cambodia, Lao PDR, Viet Nam), which is continuing its path towards elimination. Several regions in each country are already malaria-free.

¹³ Thailand is classified as an “upper-middle income” country, while the others are classified as “lower-middle income” countries. World Bank, 2022.

¹⁴ Percentage of the population living below the poverty line ranges from 46.4% in Thailand to 74.4% in Cambodia. World Bank, 2022

Figure 4: Malaria facts and case numbers for the RAI countries



Cambodia

Presumed and confirmed malaria cases reduced from 70,304 in 2014 to 4,053 in 2022.

2022

Indigenous cases	4,047
Total P. falciparum	396
Total P. vivax	3,577
Total mixed cases	16
Imported cases	6

Cambodia has not reported malaria related death since 2018.

Malaria rapid diagnosis test is the main method of confirmation with over 4.5 million tests carried out in between 2014 and 2022. Microscopy tests carried out in the same period was 293,526



Lao PDR

Presumed and confirmed malaria cases reduced from 50,674 in 2014 to 2,340 in 2022.

2022

Indigenous cases	2,272
Total P. falciparum	473
Total P. vivax	1,789
Total mixed cases	-
Imported cases	59

Lao PDR reported one malaria related death in 2022.

Malaria rapid diagnosis test is the main method of confirmation with over 3 million tests carried out in between 2014 and 2022. Microscopy tests carried out in the same period was 952,886.



Myanmar

Presumed and confirmed malaria cases reduced from 205,658 in 2014 to 157,538 in 2022.

2022

Indigenous cases	157,533
Total P. falciparum	29,519
Total P. vivax	127,797
Total mixed cases	1,154
Imported cases	5

Reported malaria deaths reduced by 74%, from 92 in 2014 to 20 in 2022.

Malaria rapid diagnosis test is the main method of confirmation with over 25 million tests carried out in between 2014 and 2022. Microscopy tests carried out in the same period was 818,129.



Thailand

Presumed and confirmed malaria cases reduced from 41,216 in 2014 to 10,154 in 2022.

2022

Indigenous cases	6,263
Total P. falciparum	167
Total P. vivax	6,012
Total mixed cases	32
Imported cases	3,726

Reported malaria deaths reduced by 97%, from 38 in 2014 to 1 in 2022.

Microscopy test is the main method of confirmation with over 9 million tests carried out in between 2014 and 2022. Rapid diagnostic tests carried out in the same period was 1.2 million.



Viet Nam

Presumed and confirmed malaria cases reduced from 15,752 in 2014 to 455 in 2022.

2022

Indigenous cases	412
Total P. falciparum	234
Total P. vivax	163
Total mixed cases	1
Imported cases	43

Viet Nam has not reported malaria related death since 2019.

Microscopy test is the main method of confirmation with over 15 million tests carried out in between 2014 and 2022. Rapid diagnostic tests carried out in the same period was 3.9 million.

Source: World Malaria Report 2023

2.4 The Global Fund's approach to sustainability

The Global Fund defines “sustainability”¹⁵ as *“the ability of a health program or country to both maintain and scale up service coverage to a level - in line with epidemiological context - that will provide for continuing control of a public health problem and will support efforts for elimination of the three diseases, even after funding from the Global Fund or other major external donors comes to an end.”*¹⁶ The Global Fund encourages and supports countries and multi-country efforts to strengthen sustainability in all of its grants, not only those that are nearing transition from Global Fund funding. Strengthening sustainability includes (but is not limited to) improving domestic resource mobilization and strengthening health systems.

The Global Fund has published a Sustainability, Transition and Co-financing Policy¹⁷ together with a Guidance Note¹⁸ to steer countries in their journeys towards sustainability. As countries and grants progress on the development continuum (income level increases and/or disease burden decreases), they are expected to take additional measures towards long-term sustainability and transition readiness.

For upper middle-income countries (UMICs) and/or lower middle-income countries (LMICs) with low disease burdens,¹⁹ as the RAI countries are, the Global Fund encourages a national sustainability and transition planning process. This would ideally be informed by a transition readiness assessment or equivalent analysis. In addition to strengthening sustainability (including increased domestic resource mobilization, strategic health systems strengthening, removing barriers for key populations and aligning with country systems), these countries/grants are expected to also focus on transition preparedness. This includes enhanced transition planning, addressing transition challenges in grant and program design, increased focus on sustainability and interventions for key populations and accelerated co-financing for all grant components.

Transition away from Global Fund support is considered complete when the Global Fund stops providing financing. Transition may also be driven by changes in the allocation amount from either the Global Fund and/or other external donors. This requires countries to progressively take responsibility for key aspects of the grant. The RAI grant saw a 37% funding reduction from RAI 3E to the current RAI 4E. The Sustainability, Transition and Co-financing Guidance Note highlights early and proactive preparation as key when it comes to transition. Middle-income countries²⁰ are expected to accelerate their transition preparedness by making transition a priority in grant design and implementation, supported by transition assessments.

¹⁵ Global Fund website, “Sustainability, Transition & Co-financing” <https://www.theglobalfund.org/en/sustainability-transition-and-co-financing/>, latest accessed on 15 May 2024

¹⁶ Sustainability, Transition and Co-financing Policy - https://archive.theglobalfund.org/media/4221/archive_bm35-04-sustainabilitytransitionandcofinancing_policy_en.pdf, latest accessed on 15 May 2024

¹⁷ Ibid

¹⁸ Sustainability, Transition and Co-financing [Guidance Note](#)

https://www.theglobalfund.org/media/5648/core_sustainabilityandtransition_guidancenote_en.pdf latest accessed on 15 May 2024

¹⁹ All RAI countries are middle-income with low disease burdens

²⁰ All upper-middle income countries and lower-middle income countries without high disease burdens

3. Portfolio Risk and Performance Snapshot

3.1 Portfolio Performance

RAI 3E was a programmatic success and achieved good results for the countries it covered. When excluding Myanmar, the average achievement rate (for the remaining four countries) for RAI 3E performance indicators on testing, treatment and case and foci investigation was 98% (as of 30 June 2023). This is commensurate with a “B” rating (90% to 99%).

In line with Global Fund grant performance rating criteria, any indicator that achieves less than 60% of the target automatically triggers a downgrade in the overall rating of the grant. Myanmar had some indicators that achieved less than 60%, which therefore resulted in an overall lower rating of the entire RAI grant. Examples of low-performing indicators for Myanmar (Jan-June 2023) included those shown below.

Figure 5: RAI grant performance and grant ratings

Comp	Grant	Principal Recipient	Grant Period	Total Budget Amount (USD)	Total Signed Amount (USD)	Budget as at June 23 (USD)	Expenditure as at June 23 (USD)	Absorption as at June 23 (%)	June 2021	Dec 2021	June 2022	Dec 2022	June 2023
Malaria	QSE-M-UNOPS	United Nations Office for Project Services	1 Jan 21 - 31 Dec 23	339,252,319	319,127,964	275,440,888	191,843,820	70%	B1	C	C	C	C
									4	5	3	4	
Total				339,252,319	319,127,964	275,440,888	191,843,820	70%					

3.2 Risk Appetite

The OIG compared the Secretariat's aggregated risk levels within the key risk categories covered in the RAI grant audit objectives with the residual risk, based on the OIG's assessment which mapped risk to specific audit findings. The full risk appetite methodology and explanation of differences are detailed in [Annex B](#) of this report.

Audit area	Risk category	Secretariat aggregated assessed risk level	Assessed residual risk based on audit results	Relevant audit issues
The sustainable transition of the regional approach	Health Financing – Sustainability and efficiency	Moderate	High	4.1
Malaria elimination and program adaptations	Malaria program quality: Program implementation and efficiency	High	High	4.2

4. Findings

4.1 Absence of sustainability planning and preparedness threatens ongoing RAI grant success

Since the inception of RAI grant, various stakeholders have highlighted that sustainability and transition planning are critical to the continuity of its successes. While sustainability assessments were prepared for three out of five RAI countries, this did not, however, translate to any detailed sustainability approaches, either for the grant's regional components or for the individual countries. This could lead to losing cross-border collaborative aspects of the grant, de-prioritization of malaria interventions, loss of critical capacity and a potential resurgence of malaria in the event of transition from Global Fund support.

The successes achieved by the RAI grant are the result of efforts at both the domestic and the regional levels. As such, a structured approach to the sustainability and continuation of both is necessary to ensure gains are not lost in the event of a transition away from Global Fund financing. The Global Fund Technical Review Panel (TRP)²¹ has raised sustainability issues since the inception of the grant. Its recommendations focused on sustainable RAI grant governance and in RAI 3E and 4E, it raised issues on continuation of PR responsibilities, as well as individual countries' sustainability planning.

Lack of regional sustainability planning leads to risk of losing cross-border collaboration

Governance sustainability: In RAI 1 and RAI 2E, the TRP flagged that grant governance was not well tied into the regional political and economic structures. It recommended that high-level political representation²² at the country level be included in the governance arrangements to mobilize further resources, achieve elimination and contribute to anchoring the regional approach to malaria response and elimination at the national level.

The RSC²³ has strengthened engagement with key regional entities such as ASEAN and APLMA; and national Country Coordinating Mechanisms (CCMs) (who often include cross-ministerial representation) are members of the RSC. However, there was no evidence from RAI 3E RSC meeting minutes that this CCM ministerial representation was leveraged at the RSC to further the sustainability agenda. The TRP then noted in RAI 3E that the RSC had grown into a complex and bureaucratic institution negatively impacting the effectiveness and viability of the initiative when Global Fund financing ceases. It recommended that the RSC develop an operational sustainability plan for 2021-2025, based on an independent assessment of the RSC's structure.

Neither the independent assessment, nor the regional sustainability plan, have been prepared by the RSC. There are no concrete plans for the sustainability and continuation of the regional collaboration mechanism post-transition.

²¹ The TRP evaluates the technical merit of the funding request and recommends it for funding: Global Fund website" <https://www.theglobalfund.org/en/technical-review-panel/> latest accessed on 15 May 2024

²² Including other ministries than the Ministry of Health who are involved in the malaria response (such as the Ministry of Finance and the Ministry of Interior)

²³ See also section 1 "Key Achievements and Good Practices"

The RSC took part in “CCM Evolution;”²⁴ a Global Fund-wide initiative to strengthen the capacity of coordinating mechanisms. It chose to focus on the “positioning” area,²⁵ which aims to promote health governance and align the coordinating mechanism with national institutions to increase sustainability. However, it did not leverage the support available to conduct TRP-recommended assessments and create an Operational Sustainability Plan. Instead, the RSC opted for some less strategic actions²⁶, which did not result in any progress in addressing the issues raised by the TRP.

As a result, the RSC structure remains a vulnerability to the sustainability of the RAI grant’s achievements.

Continuation of regional PR responsibilities: For RAI 3E, the TRP recommended that the regional PR, UNOPS, prepare a dedicated regional sustainability plan. UNOPS provides overall coordination of the grant and performs critical activities, including procurement of health products and funding disbursements to CSOs. The TRP-recommended plan was supposed to ensure that the regional dimensions of the RAI initiative remain financially viable post-Global Fund financing and that critical PR activities are continued. UNOPS did not develop this plan.

UNOPS cites its sustained commitment to eliminate malaria as the ultimate sustainability measure. However, focusing on elimination relies exclusively on the timely achievement of elimination objectives, which remain a challenge for a sizable portion of the region. In the event of a Global Fund transition from the RAI grant, these tasks would fall under the responsibility of individual countries, which assumes that these countries have the capacity and willingness to continue such tasks.

Overdependence on external funding leaves countries vulnerable

Countries covered by the RAI grant have been successful in reducing their malaria burden. However, this progress will be compromised if malaria services are not sustainably integrated into the general health system and allocated necessary resources ahead of a transition from Global Fund support.

During RAI 3E, Cambodia, Thailand and Viet Nam prepared individual sustainability assessments with the support of University of California San Francisco (UCSF) but have not yet followed this work up with concrete sustainability and transition plans. In 2023, Lao PDR, also supported by UCSF, prepared an assessment to map and prioritize opportunities to leverage universal health coverage to improve country-level malaria financing. This report also recommended that a sustainability and transition plan be prepared.

Integration of malaria CHWs: In countries covered by the RAI grant, malaria primarily affects populations that live far from health centers. Consequently, mobile or CHWs are essential service providers. However, the current system of malaria workers is highly reliant on external funding, and the degree to which malaria workers are part of the general health system varies. In Viet Nam, CHWs perform malaria services, while in Thailand integration is ongoing (malaria post workers are funded by the Global Fund). In Cambodia, the integration has not yet started.

Although malaria testing and treatment by CHWs is a cornerstone of the malaria response in Cambodia, this is still limited in Viet Nam and Thailand due to national legislations preventing CHWs from malaria diagnostic and treatment activities.

²⁴ Global Fund website, “Evolution” <https://www.theglobalfund.org/en/country-coordinating-mechanism/evolution/> latest accessed on 15 May 2024

²⁵ The four areas of CCM Evolution are a) Oversight: active oversight of existing and emerging investments; b) Engagement: meaningful, inclusive and active participation of key stakeholders; c) Positioning: working within national structures and existing emerging platforms to increase efficiency of health investments; d) Operations: CCM Secretariats’ core functions (including the code of conduct), enabling and sustaining health governance

²⁶ The actions were: a) invite UCSF to present its findings from country-level sustainability assessments during the 19th RAI RSC meeting; and b) consider support from the Independent Monitoring Panel to investigate integration of services.

Capacity-strengthening efforts are required to ensure integration of malaria services in the national health systems of these countries and to ensure that critical mobile and CHW services are continued in the event of a Global Fund transition. A review was conducted of village malaria worker integration into health systems across the RAI countries in 2022, with recommendations to be implemented by countries.

Decentralization and de-prioritization of malaria services: Cambodia, Thailand and Viet Nam are undergoing decentralization processes that could divert attention away from malaria. These national governments delegate decision-making authority, including for health, to the provinces. In turn, provincial and district agencies are responsible for training, supervising and making incentive payments to CHWs and volunteers. Given the low disease burden, provinces may no longer prioritize malaria in their public health agenda, thereby limiting resources and limiting the objectives to achieve and maintain elimination.

RSC Subcommittee on Transition and Sustainability

In May 2024 the RSC established a Subcommittee on Transition and Sustainability. The committee is currently working on two deliverables:

- Deliverable 1 is a checklist of essential system-related components of malaria elimination and prevention of re-establishment that should be transitioned/sustained beyond RAI4E and is meant for use by the CCMs of the RAI Grant covered countries.
- Deliverable 2 will be a briefing on the various components of the regional component of RAI4E and the steps to be taken during RAI4E to facilitate transitioning and sustainability of components required after 2027. It is expected to be finalized by November 2024.

These plans could significantly improve the sustainability of both the individual countries' fight against the disease and the regional approach. They will therefore require close oversight and monitoring to ensure they remain relevant and are implemented.

The Secretariat acknowledges that the RSC is taking the necessary actions on sustainability and addressing the TRP recommendations for GC7. The subcommittee, coupled with the GC7 TRP recommendation on sustainability which is included as a Key Mitigating Action in the Integrated Risk Management system for the RAI Grant, provides, according to the Secretariat, the necessary level of action and oversight. For these reasons no AMA was proposed for this finding.

4.2 RAI grant-funded programs effectively contributed to country progress towards eliminating malaria

While timelines to achieve the RAI 4E grant goals²⁷ will not be fully achieved, particularly elimination of *P. falciparum* malaria by 2023 in Eastern GMS countries have nonetheless made remarkable progress in reducing their burden. Eastern GMS countries may achieve *P. falciparum* elimination soon, as a result of programs specifically designed to work towards elimination. In addition, robust information systems were put in place, allowing timely and effective case and foci investigation and innovative targeted approaches.

Cambodia, Thailand and Viet Nam have all implemented programs to address elimination and their respective country challenges. These programs have contributed to the reduced disease burden, increasing the likelihood that elimination objectives will be achieved.

The countries have developed malaria elimination plans that have been disseminated at all levels of the health system. Surveillance (a critical component of malaria elimination programs) is effective. Case and foci investigation and response activities based on nationally developed standard operating procedures and guidelines are in place. National and real-time malaria information systems support interventions, enabling timely response to cases.

Individual countries have developed their own tailored and innovative approaches for their national responses. For example, Thailand adopted an acceleration plan for malaria response in high-burden provinces in its border regions. The countries adopted innovative approaches and treatment options for *P. vivax* malaria, now the predominant form of malaria in the region. They are implementing shortened treatment regimens and a radical cure for *P. vivax* malaria. This will ensure higher treatment adherence and contribute to elimination of all forms of malaria.

Country responses can still benefit from incremental improvements. Specifically, addressing prevention of re-establishment of *P. falciparum* malaria and bolstering interventions targeting other types of malaria.

Measures to prevent re-establishment of malaria needed

Cambodia, Thailand and Viet Nam have government sub-nationally verified malaria-free provinces.²⁸ However, Thailand and Viet Nam have seen re-establishment of cases in 22 of these provinces.²⁹ According to studies, effective “prevention of re-establishment” programming is instrumental in ensuring malaria elimination is continued.³⁰ Thailand developed “prevention of re-establishment guidelines” that have been in place in malaria-free provinces since 2023. Cambodia and Viet Nam have plans to prepare similar guidelines, but they are not yet finalized, as the countries are waiting for WHO to publish further guidance.

RAI 4E includes “case-based surveillance and prevention of re-establishment” as one of its strategies. However, the grant’s budget includes only few specific activities that support countries in developing prevention of re-establishment approaches or integrating such activities within national

²⁷ To eliminate malaria in all GMS countries by 2030. *P. falciparum* elimination achieved in 2023 for Lao PDR, Cambodia and Viet Nam will be consolidated with the prevention of re-establishment, and *P. falciparum* elimination will be achieved in Thailand by 2025 and Myanmar by 2026 - Source: RAI4E grant confirmation

²⁸ 4 out of 25 provinces in Cambodia, 46 out of 63 provinces and municipalities in Viet Nam and 42 out of 77 provinces in Thailand did not have malaria cases in 2022, according to the countries’ malaria programs

²⁹ In Thailand, between 2018 and 2023, malaria was re-introduced in 7 provinces and in Viet Nam in 2023, 15 malaria-free provinces had imported cases, primarily from workers returning from abroad, according to the countries’ malaria programs

³⁰ Nasir et al. Malar J (2020) 19 :452 <https://doi.org/10.1186/s12936-020-03527-8>

health systems. Without adequate resources allocated, it is likely that these activities will not be completed.

Increased capacity to respond to all forms of malaria

RAI countries are all working actively to fight *P. vivax* malaria in epidemiological contexts where cases of this type are becoming predominant.

Cambodia implemented “last mile” activities for local *P. falciparum* cases, measures which include foci investigation and targeted drug administration. However, the national program has not yet extended these activities to *P. vivax* cases. With only three locally transmitted *P. falciparum* cases in 2023, this is an opportune moment to extend the “last mile” activities to *P. vivax* cases that now represent 97% of all cases.

National guidelines in Thailand include case and foci investigation for all malaria cases, including *P. vivax*. The national treatment guidelines include the radical cure 14-day treatment with chloroquine and primaquine (CQ+PQ14d) for *P. vivax* malaria. A shortened, seven-day treatment of the same drugs is in pilot stage, and the country is also piloting an innovative, single-dose,³¹ radical cure treatment. These treatment options are not yet widely rolled out. The OIG noted that health centers do not follow up on all patients according to guidelines³²; this, in turn, could result in poor treatment adherence. Vietnam had less than 300 *P. vivax* cases in 2022 and in 2023, thanks to their progress towards malaria elimination.

In a resource-constrained environment with a reduced grant allocation and governments facing many other competing health priorities, it is important to actively ensure that the integrated approach towards elimination of all types of malaria continues and is strengthened. Otherwise, there is a risk that cases will resurge, and countries may not achieve elimination.

The Secretariat has determined that countries already have mechanisms in place to prioritize and address this finding and stated that it remains committed to prioritizing portfolio investment decisions, when possible, to enable adequate coverage going forward. The Secretariat also stated it will continue to support country adherence to WHO Prevention of Reintroduction guidance on an ongoing basis. However, as the substantive response to this finding is dependent on partners and not within the control of the Global Fund Secretariat, and the complementary action being taken by the Secretariat is on an ongoing basis, the Secretariat have declined an AMA to respond to this issue.

³¹ Tafenoquine, co-administered with chloroquine

³² Guidelines indicate that follow-up for *P. vivax* malaria cases should be done on days 7, 28, 60 and 90. The OIG reviewed malaria data for two provinces and found that complete follow-up until day 90 was done for 24% of patients in the first province and 73% of patients in the second province.

Annex A. Audit rating classification and methodology

Effective	No issues or few minor issues noted. Internal controls, governance and risk management processes are adequately designed, consistently well implemented, and effective to provide reasonable assurance that the objectives will be met.
Partially Effective	Moderate issues noted. Internal controls, governance and risk management practices are adequately designed, generally well implemented, but one or a limited number of issues were identified that may present a moderate risk to the achievement of the objectives.
Needs significant improvement	One or few significant issues noted. Internal controls, governance and risk management practices have some weaknesses in design or operating effectiveness such that, until they are addressed, there is not yet reasonable assurance that the objectives are likely to be met.
Ineffective	Multiple significant and/or (a) material issue(s) noted. Internal controls, governance and risk management processes are not adequately designed and/or are not generally effective. The nature of these issues is such that the achievement of objectives is seriously compromised.

The OIG audits in accordance with the Global Institute of Internal Auditors' definition of internal auditing, international standards for the professional practice of internal auditing and code of ethics. These standards help ensure the quality and professionalism of the OIG's work. The principles and details of the OIG's audit approach are described in its Charter, Audit Manual, Code of Conduct and specific terms of reference for each engagement. These documents help safeguard the independence of the OIG's auditors and the integrity of its work.

The scope of OIG audits may be specific or broad, depending on the context, and covers risk management, governance and internal controls. Audits test and evaluate supervisory and control systems to determine whether risk is managed appropriately. Detailed testing is used to provide specific assessments of these different areas. Other sources of evidence, such as the work of other auditors/assurance providers, are also used to support the conclusions.

OIG audits typically involve an examination of programs, operations, management systems and procedures of bodies and institutions that manage Global Fund funds, to assess whether they are achieving economy, efficiency and effectiveness in the use of those resources. They may include a review of inputs (financial, human, material, organizational or regulatory means needed for the implementation of the program), outputs (deliverables of the program), results (immediate effects of the program on beneficiaries) and impacts (long-term changes in society that are attributable to Global Fund support).

Audits cover a wide range of topics with a particular focus on issues related to the Impact of Global Fund investments, procurement and supply chain management, change management, and key financial and fiduciary controls.

Annex B. Risk appetite and risk ratings

In 2018, the Global Fund operationalized a Risk Appetite Framework,³³ setting recommended risk appetite levels for eight key risks affecting Global Fund grants, formed by aggregating 20 sub-risks. Each sub-risk is rated for each grant in a country, using a standardized set of root causes and combining likelihood and severity scores to rate the risk as Very High, High, Moderate, or Low. Individual grant risk ratings are weighted by the grant signed amounts to yield an aggregate Current Risk Level for a country portfolio. A cut-off methodology on high risks is applied (the riskiest 50% of grants are selected) to arrive at a country risk rating.

The OIG incorporates risk appetite considerations into its assurance model. Key audit objectives are generally calibrated at broad grant or program levels, but OIG ratings also consider the extent to which individual risks are being effectively assessed and mitigated.

The OIG's assessed residual risks are compared against the Secretariat's assessed risk levels at an aggregated level for those of the eight key risks that fall within the Audit's scope. In addition, a narrative explanation is provided every time the OIG and the Secretariat's sub-risk ratings differ. For risk categories where the organization has not set formal risk appetite or levels, the OIG opines on the design and effectiveness of the Secretariat's overall processes for assessing and managing those risks.

Global Fund RAI grant: comparison of OIG and Secretariat risk levels

The Global Fund Secretariat rated³⁴ the categories under the "Health Financing" risk as moderate for "Sustainability and efficiency" and 'high' for "Program implementation and efficiency".

Given the TRP's recommendations, country situations and the decreasing funding envelope seen in RAI 4E, sustainability and preparing for a sustainable transition from Global Fund financing are of fundamental importance to the RAI grant. This sustainable transition is called into question by the observations highlighted in this report. Accordingly, the OIG considers the risk that "Sustainability and efficiency" will not achieve their intended objectives as high.

The high rating on "Program implementation and efficiency" is primarily driven by the increase in malaria burden in the Western GMS, influenced by the political situation in Myanmar. However, given that Myanmar was out of scope for this audit, the OIG cannot assess the risk level observed. Through the grant, the Secretariat also raises concerns about the implementation of elimination-specific activities – an observation the OIG also reports on in its findings. The OIG's risk rating for these risk categories aligns with the Secretariat's assessment.

³³ [Risk Appetite Framework](#).

³⁴ In their Integrated Risk Matrix Report January 2024