

ASIA PACIFIC LEADERS MALARIA ALLIANCE MALARIA ELIMINATION ROADMAP

TO SAVE MORE THAN A MILLION LIVES AND
DELIVER US\$300 BILLION IN BENEFITS



Endorsed by Leaders of 20 countries: Australia, Brunei Darussalam, Cambodia, India, Indonesia, Japan, Lao People's Democratic Republic, Malaysia, Myanmar, New Zealand, People's Republic of China, Philippines, Republic of Korea, Russian Federation, Singapore, Solomon Islands, Thailand, United States, Vanuatu, and Viet Nam

APLMA MISSION

To support and facilitate elimination of malaria across Asia Pacific by 2030: Driving implementation of the APLMA Leaders Malaria Elimination Roadmap by benchmarking progress against priorities, coordinating regional action and brokering policy, technical and financing solutions to regional and national challenges and bolstering effective country leadership to expedite elimination of malaria at country level by 2030.

BOARD OF DIRECTORS



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Chair, Board of Directors

Ms Shang is a former Senior Manager, Advisor and Asia Director at the Clinton Foundation, where she established the Health Access Initiative (CHAI) in Cambodia, Indonesia, Lao PDR, Papua New Guinea, Thailand, and Viet Nam, and the Climate Change Initiative in eleven cities. She previously implemented CHAI in China during her time as CHAI Country Director for China. She assisted the China Ministry of Health successfully implement a national care and treatment program for HIV/AIDS, focusing on Yunnan province and the Xinjiang Special Autonomous Region. She is a Trustee of the Asian Cultural Council in New York City, and a member of the Board of Director of the Impact Investment Exchange Foundation in Singapore.



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Vice Chair, Board of Directors

Dr Rodgers trained as a medical practitioner, specializing in anaesthesia. He also holds a post-graduate degree in health administration. Before joining the Secretariat of the Pacific Community (SPC) as Director of Programmes in 1996, he held the position of Under-Secretary for Health Care in the Solomon Islands' Ministry of Health and Medical Services. Dr Rodgers was appointed to the role of Deputy Director-General of SPC in 1998, Senior Deputy Director-General in 2000, and Director-General from 2006 to 2014. He is now an adviser on development in Pacific island countries.



Ms Julianne Cowley
Assistant Secretary, Health Policy Branch, Department of Foreign Affairs and Trade, Australia

Ms Cowley is the Assistant Secretary of the Health Policy Branch at the Australian Department of Foreign Affairs and Trade. She has also worked in human resources, partnerships policy, and for the Parliamentary Secretary for International Development. She was a founding board member of the Ayui Foundation (Thailand) and served on the Board of Lifeline Canberra. For several years, she worked for the Australian Prime Minister's Community Business Partnership. She has degrees in business administration, education, communications and music, and is an accredited partnership broker.



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Dr Mboi is former Minister of Health of Indonesia and former Board Chair of the Global Fund to Fight AIDS, Tuberculosis and Malaria. Prior to becoming Minister she was secretary of the National AIDS Commission. Internationally, Dr Mboi served as Director of the WHO Department of Gender and Women's Health and as Chair of the UN Committee on the Rights of the Child. Throughout her career she has been active in the fields of public health, human rights, and tobacco control.



Mr Richard Moore

Mr Moore has served as Australia's Alternate Executive Director on the Asian Development Bank Board, worked as a ministerial adviser and has overseen Australia's aid programs across Asia. He was an AusAID Deputy Director General, Program Committee Chair and Senior Gender Advocate 2008–2011. He also served as Senior Adviser to the Myanmar Ministry of National Planning and Economic Development (2012–13), supporting the country's international re-engagement. He has degrees in economics, education and international development. His main research interest is the role of development cooperation in international relations.



Professor Tikki Pang
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Professor Pang is an academic and expert on arboviruses and other tropical diseases. He has a special interest in infectious diseases, genomics and global health, health research systems, global health governance, and linkages between research and policy. He holds a PhD in immunology from the Australian National University. Previously, Professor Pang was Director, Research Policy and Cooperation at the World Health Organization, Geneva, Switzerland and Professor of Biomedical Sciences, at the University of Malaya in Kuala Lumpur, Malaysia.



Dr Benjamin Rolfe
CEO, APLMA

Dr Rolfe is the Chief Executive Officer of the Asia Pacific Leaders Malaria Alliance. Formerly Pacific Lead Health Advisor at the Australian Department of Foreign Affairs and Trade, he has more than twenty years' experience in supporting health initiatives across 30 countries. His expertise focuses on health policy, systems strengthening and financing. Ben is currently based in Singapore, having previously lived and worked for long periods in Cambodia, Nepal, India, Tanzania, Australia, Nigeria, Eritrea and the Philippines. Dr Rolfe holds a PhD from the University of Wales and is a Fellow of the UK Faculty of Public Health Medicine.



Mr Edmund Tang

Mr Tang has over 25 years of audit, due diligence and senior management experience in the United Kingdom, China (Hong Kong) and Singapore. He currently holds a diverse board portfolio of Singapore private limited companies in various industries. Until November 2015, he was on the board of a main-board listed company in Singapore as an Independent, non-executive director and Chairman of the Audit Committee. Mr Tang received a BSc from the University of Leeds.



Mr Chris White
Senior Program Officer, Program Advocacy and Communications, Bill & Melinda Gates Foundation

Mr White has served as Senior Malaria Technical Advisor with Population Services International (PSI) where his focus was the containment of artemisinin drug resistance in Southeast Asia and, more broadly, elimination of malaria in the Asia-Pacific region. Between 2004 and 2006, he represented the NGO constituency on the Roll Back Malaria Partnership board. He obtained his BSc in zoology from the University of Nottingham and MSc in medical entomology from the Liverpool School of Tropical Medicine.

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EXECUTIVE SUMMARY

In November 2014, Asia Pacific Heads of Government ('Leaders') agreed to the *goal of an Asia Pacific free of malaria by 2030*. The Leaders tasked the Co-Chairs of the Asia Pacific Leaders Malaria Alliance (APLMA) to develop a 'Roadmap' as a plan to achieve it. This Leaders' Malaria Elimination Roadmap, supported by the APLMA Secretariat, has been developed through extensive consultation with experts and officials from across the region. It identifies six essential priorities Leaders will need to support to realize the 2030 goal.

Together, the priorities will establish a technically robust, strategically coherent and regionally coordinated approach to malaria elimination; an approach that is consistent with key global malaria plans and technical strategies, including the World Health Organization (WHO) *Global Technical Strategy for Malaria 2016–2030*, WHO *Greater Mekong Subregion Elimination Strategy 2015–2030*, and the Roll Back Malaria (RBM) *Action and Investment to Defeat Malaria*.

Malaria elimination will also strengthen regional economic prosperity by saving more than a million lives and creating cost savings and social benefits of almost US\$300 billion.

Elimination has never been more urgent. Today, more than two billion people in Asia and the Pacific remain at risk and nearly 50,000 die annually from malaria. In the Mekong, where malaria medicines are becoming ineffective, immediate acceleration is required to safeguard regional health security. Multidrug-resistance to malaria threatens the enormous gains made during the past decade and could well undermine the global investments of US\$41 billion made since 2000. Deaths from malaria in Asia Pacific could more than double should there be resurgence.



Leaders' support for the Roadmap will serve as a catalyst for both regional collaboration, and national acceleration driven by a coordinated response across multiple agencies. By taking forward the six essential priorities, the region will be able to coordinate more effectively, improve the quality and accessibility of key commodities and services, and sustain the financing required to see elimination through.

Roadmap Priority Actions

1. Unite national efforts and regional actions
2. Map, prevent, test and treat the disease, everywhere
3. Ensure high quality malaria services, tests, medicines, nets and insecticides
4. Improve targeting and efficiency to maximize impact
5. Mobilize domestic financing and leverage external support
6. Innovate for elimination

The Roadmap concludes with recommendations for action that Leaders may consider as a framework to support and advance effective malaria elimination nationally and regionally.

We know the challenge. We know what needs to be done and how to do it. The financial and human costs of inaction are too high. It is now time for Leaders from the National Governments to community level, to advocate for, monitor and drive progress towards elimination. There is no time to lose.



ACHIEVING AN ASIA PACIFIC FREE OF MALARIA BY 2030

In November 2014, Asia Pacific Heads of Government ('Leaders') agreed to the goal of a region free of malaria within 15 years. This Roadmap sets out how we will achieve it.

The Roadmap is based on extensive consultation with government officials, international organizations and stakeholders from across the region. It aligns with national malaria strategies and key global plans including the World Health Organization (WHO) Global Technical Strategy for Malaria 2016–2030 (GTS),¹ WHO Greater Mekong Subregion Elimination Strategy 2015–2030,² and the Roll Back Malaria (RBM) Action and Investment to Defeat Malaria.³ Asia Pacific malaria elimination efforts will contribute to the Sustainable Development Goals.⁴

By committing to the Roadmap, Leaders can catalyze united action across Asia Pacific through a multi-pronged approach. The Roadmap identifies greater coordination as a key path to progress; unifying national approaches, linking and harmonizing regional efforts and joining up partners. It adds value by focusing on what Leaders can achieve, that others cannot.



The Global Fund/John Rae

WHY ELIMINATE MALARIA?

Elimination is a sound and affordable investment

Malaria elimination is unequivocally one of the ‘best-buys’ in global public health.⁵ The disease is both highly debilitating and transmissible. In many parts of Asia Pacific, it imposes a huge drain on health resources; it also degrades productivity, undermines household income and reduces child learning. With more than 2 billion people at risk across the region, it remains a major killer, and disproportionately impacts poor people in remote areas. Close to 50,000⁶ people die from malaria annually in Asia Pacific with the potential for this to more than double should there be a resurgence.⁷ Malaria is also a brake on the development of poorer regions, discouraging tourism, agriculture and industry.

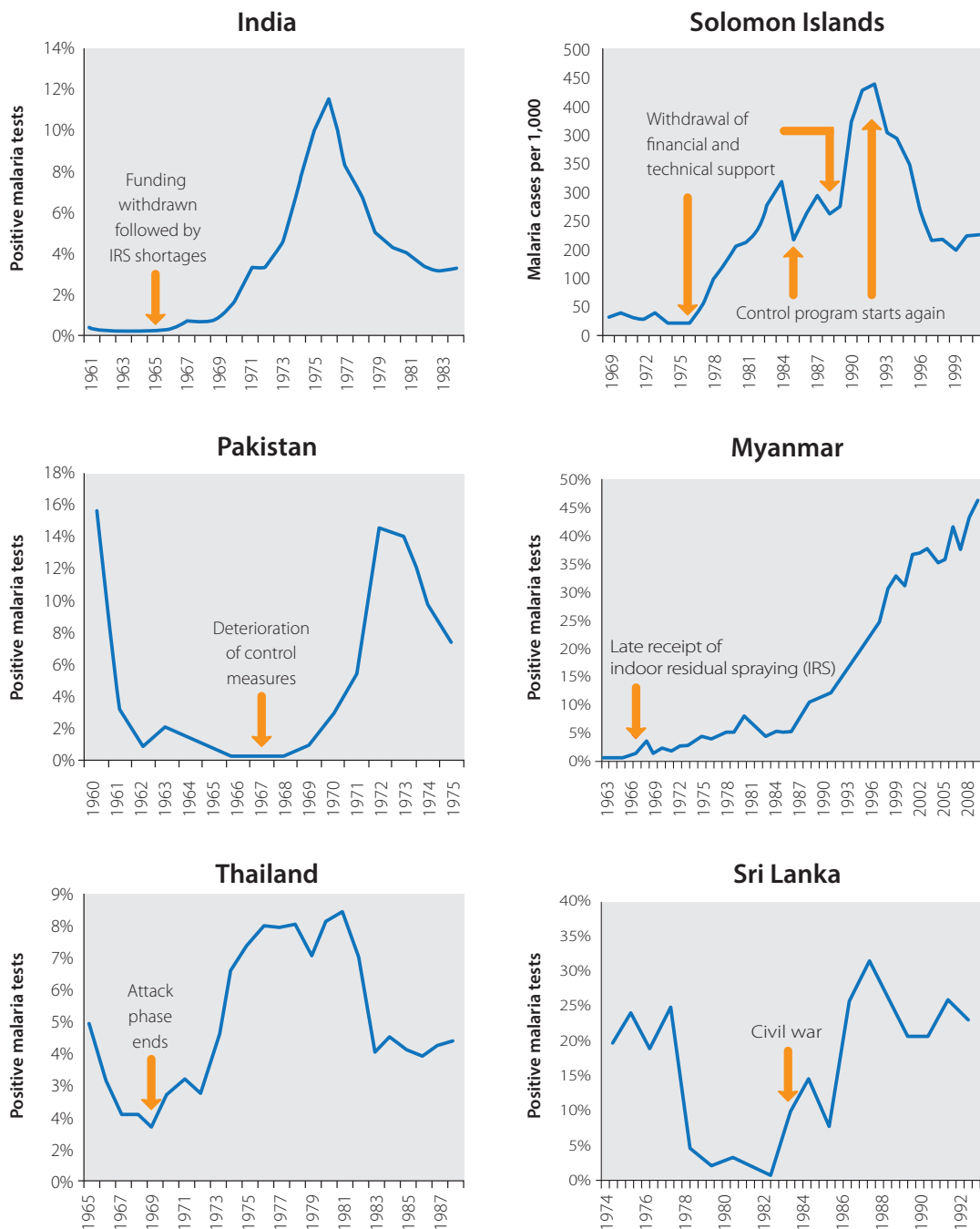
Achieving elimination will be an historic achievement. It will also save more than a million lives and create cost savings and social benefits of almost US\$300 billion in Asia Pacific.³ A recent review of 55 studies estimated that elimination will cost only US\$5–8 per case averted.⁸

When the disease is highly prevalent, prevention and treatment costs are high because of the numbers infected, and at risk. When prevalence is low, costs are high because an intense effort must be maintained to keep the disease from returning. When malaria is **eliminated**, most of the specific costs are also eliminated, for good.

The risk of resurgence

The large numbers of people at risk has galvanized a huge and successful international effort. The regional burden has been halved in the last 15 years. As a result, many no longer see malaria as a major threat, but we risk becoming victims of our own success. We have been at the point where malaria looked beaten before – but over and over again we have seen resurgence of the disease. This time we are determined to heed our own history.

Since the 1930s, there have been 75 resurgences of malaria in 61 countries, mostly linked to reduced funding or political commitment. If we do not step up our efforts now and pursue malaria elimination, the region could incur over 200 million preventable malaria cases by 2030 and an additional 1.3 million deaths.⁹



Source: Cohen et al. *Malaria Journal* 2012, 11:122.



Gates Foundation

The risk of untreatable malaria

Today, we not only face the risk of resurgence, but also of multidrug-resistant malaria that has emerged in the Mekong. After initial detection on the Thailand–Cambodia border, malaria that is resistant to artemisinin – part of all today’s front-line malaria treatments – has been detected as far west as Myanmar.⁶ An Asia Pacific free of malaria by 2030 is only achievable if the problem of multidrug resistance is vigorously addressed in the Mekong.²

Unless we stop it, once and for all, multidrug-resistant malaria may soon emerge throughout the Asia Pacific – and beyond. Countries that have made good progress or have already eliminated malaria have the most to lose: with the potential for large, new case-loads of untreatable malaria, fast-rising sickness and death, as well as escalating costs. Malaria deaths worldwide could potentially increase by millions.¹⁰

Resistance to the previous first line malaria treatment, chloroquine, was also first discovered in the Mekong. In the second half of the 20th century, resistance ultimately spread through South Asia and Africa. In the 1980s and 1990s, it contributed to an 80% increase in malaria mortality among children in Africa.¹¹ Today, with new drugs years away, multidrug resistance is truly a global threat.

While malaria has been reduced to unprecedented levels, the World Health Organization (WHO) has concluded that malaria elimination in the Mekong is now the only way to address the threat and prevent the loss of the most potent front-line malaria treatments – and millions of lives.²

Health systems and health security can both be strengthened by targeting malaria

Malaria elimination and health system strengthening are complementary strategies: we require both. Strong health systems are crucial for sustainability, but they are not quick or easy to develop. Disease-specific programs have led to eradication of smallpox and accelerated progress against HIV, tuberculosis and malaria.

Investments in personnel, infrastructure, surveillance and tracking systems for malaria elimination can and must be designed to serve wider purposes. In doing so, they would contribute towards the goal of universal health coverage. At the same time, investments in more robust malaria prevention, surveillance and treatment can create health systems better able to tackle other communicable diseases. As the focus shifts from malaria control to elimination, efforts will require far greater integration into overall health systems operations in order to find, test, treat and track every single malaria case.

The Asia Pacific is at the forefront of a global movement to eliminate malaria and achieve long-term success against a major threat to regional health security and economic growth. With universal health coverage as a platform, the region will be in a far stronger position to respond to future health security threats, including emerging infectious diseases.¹²

Health security: Tackling communicable disease threats



Disease surveillance across borders in Southeast Asia
(Richard Nyberg, USAID)

At the November 2014 meeting of the G20, members committed to support other countries to implement the *International Health Regulations* and make the investments required to mitigate communicable disease risks. By investing in core surveillance and response capacity for some of the poorest and most vulnerable populations in Asia Pacific, malaria elimination can support broader health security for the region as a whole.

The frequency of communicable disease outbreaks in Asia Pacific has risen consistently over the past 50 years.¹³ In 2002, Severe Acute Respiratory Syndrome (SARS) caused major disruption to the region's tourist industry with an estimated cost of US\$18 billion.¹⁴ Subsequently, avian flu severely damaged the region's poultry industry,¹⁵ forcing Viet Nam alone to cull 45 million birds.

Drug-resistant malaria and tuberculosis pose 'slower moving', but equally serious threats. Investments in more robust malaria prevention, surveillance and treatment boosts broad-based resilience against threats such as Ebola, SARS, flu viruses and antimicrobial drug resistance.

THE ROADMAP: A PATHWAY TO ACHIEVING REGION-WIDE ELIMINATION

This Roadmap envisages three five-year phases for Asia Pacific malaria elimination. In the first phase, six countries that have successfully reduced the disease to low levels should achieve elimination.¹⁶ That is the easier part. Simultaneously, we need to rapidly scale-up and sustain our effort in the Mekong to eliminate multidrug-resistant malaria already present. If these national malaria plans are adequately supported, five more countries¹⁷ will be able to achieve elimination by 2025, contributing towards more than three quarters of a million lives being saved. By that stage, 50% of the region's countries will be malaria free, allowing an intense focus on the remaining endemic countries. This will require improved service delivery in some of the region's most remote areas and communities. Within this phased approach, there is scope for a number of countries to increase their level of ambition to support both their own and their neighbors' efforts to eliminate malaria sooner.



2016–2020



6 nations malaria-free
40 million cases averted
260,000 lives saved

2021–2025



11 nations malaria-free
127 million cases averted
780,000 lives saved

2026–2030



22 nations malaria-free
216 million cases averted
1.3 million lives saved



The Global Fund/John Rae

A FORWARD-LOOKING AGENDA FOR THE COMMON GOOD

Through successive East Asia Summit agreements, Asia Pacific Leaders have demonstrated they appreciate the risks of drug resistance, understand the financial and human costs of inaction and are prepared to work together in pursuit of long-term, shared interests.¹⁸ Leaders agreed regional elimination is a necessary step for increased regional health security and economic prosperity. Furthermore, in agreeing to the goal of *an Asia Pacific free of malaria by 2030*, Leaders have affirmed that it is time to see the job through.

Success will require strong national commitment and effective collaboration from a wide range of actors, including multiple Government Ministries and technical agencies, health care workers, affected communities, the private sector and scientists. We need to ensure all partners show determination to work together more productively, for the common good.



A key role for **Leaders** can be to drive this collaboration by endorsing the Roadmap and ensuring that arrangements are in place for it to be implemented. If not already in place, in each country, Leaders may choose to empower a senior figure with a central coordinating role in Government and overall responsibility for implementing the Roadmap. That person, who may report directly to the Leader, should take action to see that related priorities are advanced, progress is tracked and senior officials can be responsible for delivery and results.

External partners should also play their part in supporting national efforts, through technical assistance and finance. We should ensure they redouble their collaboration, always being guided by national and regional priorities. They should respect each other's mandates, but also be flexible and innovative in order to accelerate progress. The private sector should also work cooperatively with government to improve product quality, extend access to commodities and reduce prices. Community bodies and affected people can also help guide more effective responses.

Malaria does not respect borders. We must ensure elimination is the business of the entire region. Non-endemic countries also have a shared interest in malaria elimination to strengthen regional health security and the foundations of shared prosperity. They can support the effort by becoming advocates of health security and through investment in regional public goods, such as research and innovation. Regional bodies can assist in linking malaria programs to ensure best practices are shared and new techniques are rapidly adopted.



Innovate for elimination



Mobilize domestic financing and leverage external support



Improve targeting and efficiency to maximize impact



ROADMAP PRIORITIES

The Roadmap presents six essential priorities that Leaders may wish to support to accelerate progress towards elimination. The first three actions outline key ways to establish a robust and coherent approach to malaria elimination. The last three present the key ways to build sustained and effective financing and delivery.



Unite national efforts and regional action



Map, prevent, test and treat the disease, everywhere



Ensure high quality malaria services, tests, medicines, nets and insecticides



Our People. Our Community. Our Vision
MALAYSIA 2015

10th East Asia Summit

Kuala Lumpur, Malaysia 22 November



ROADMAP PRIORITIES



1. Unite national efforts and regional action

Malaria elimination requires a comprehensive and integrated strategy for each malaria-endemic country. A fully costed, Leader-endorsed plan is a prerequisite. However a plan is only a starting point. A multi-agency effort is required, with Leaders empowering agencies and officials to see it through.

Ministries of Health are responsible for designing and implementing specific elimination activities. Ministries of Finance are crucial for ensuring sustained funding – including as the burden of malaria declines – and for deploying new types of financing. Ministries of Foreign Affairs are essential for cross-border coordination and ensuring that mobile populations have access to prevention and treatment. Likewise, Ministries of Agriculture, Trade, Immigration and Industry all need to be involved to ensure relevant regulations are harmonized and enforced.

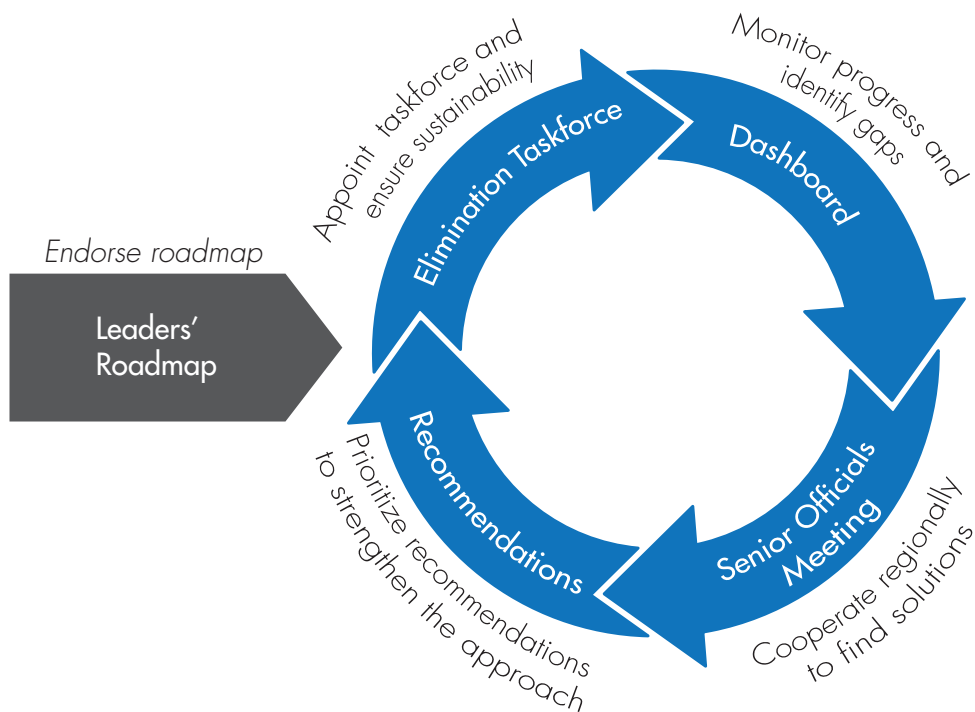
To facilitate this complex effort, we should ensure that:

- i. Each endemic country has a National Malaria Elimination Task Force (or similar body) in place, chaired by a senior central agency official. Its purpose will be to:
 - Ensure follow through on priority actions and delivery of the resources required to achieve them;
 - Harmonize policy across Government, so that all agencies are pulling in the same direction;
 - Effectively coordinate different actors in the public, non-government and private sectors;
 - Identify and take forward necessary bilateral, sub-regional and regional cooperation activities.



- ii. The Task Force Chair from each endemic country can also achieve strong inter-country cooperation by joining fellow Chairs at an annual Senior Officials' Meeting on Malaria Elimination.
- iii. At this meeting, the Task Force Chairs and the Leaders' Envoy will monitor regional progress against a common Malaria Elimination Dashboard and identify recommendations to accelerate progress towards elimination. National Task Force Chairs can then be responsible for driving these recommendations nationally and ensuring that Heads of Government are aware of progress.

To ensure everyone pulls in the same direction, we must ensure strong interagency collaboration is incorporated into the work of external partners. The National Task Forces can ensure external partners are working together to deliver on a unified and country led strategy. The Senior Officials Meeting can also be an ideal forum for governments to provide coordinated feedback to key partners.



The APLMA Secretariat can play a unique role in facilitating this collaboration, while being mindful of the mandates and responsibilities of specialized bodies.



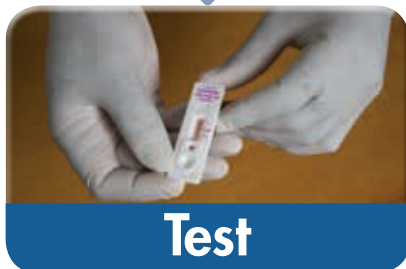
2. Map, prevent, test and treat the disease, everywhere



Map



Prevent



Test



Treat

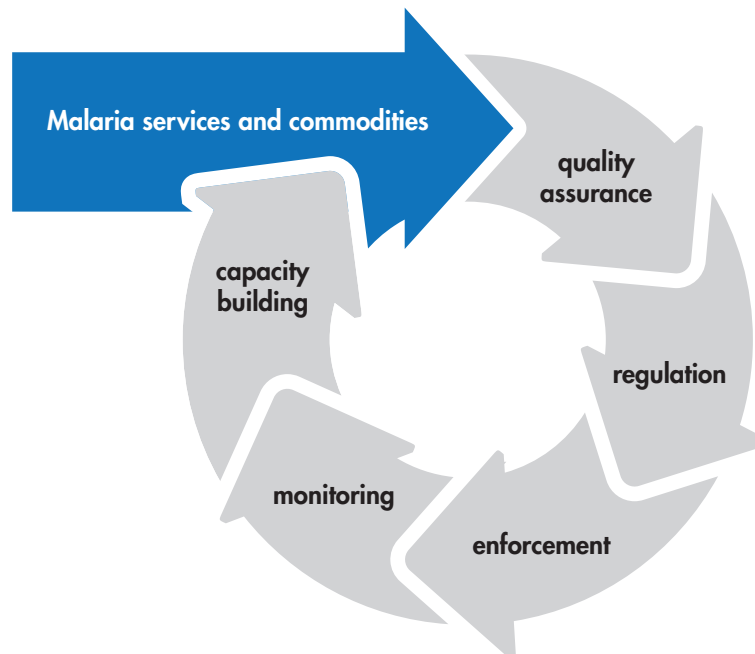
Elimination will require access to quality-assured products such as bed nets, diagnostics and medicines. It is critical that we make these products available to underserved communities, especially for those in remote regions and border areas, people moving from place to place and minority groups. Ensuring that universal access includes these groups is a vital first step. The development of a targeted approach to the testing and tracking cases will enable this to grow to the necessary scale and allow for the fast and flexible approaches required for elimination.

A focus on universal access and targeted approaches to malaria prevention, diagnosis and treatment requires a substantial shift for malaria programming in many countries. Leaders' support is essential if we are to facilitate that transition. Ministries of Health can be empowered and resourced to:

- i. Staff and supply the anti-malaria effort to achieve universal access to prevention, testing and treatment;
- ii. Develop robust, real-time information systems for reporting disease data and the supply of medicines, bed nets, and test kits;
- iii. Map all populations at risk – especially remote, mobile and underserved communities – to identify gaps in the program;
- iv. Work with underserved populations to ensure that all those in need receive uninterrupted malaria prevention, testing and treatment;
- v. Track ongoing malaria transmission and respond rapidly to control outbreaks; and
- vi. Share information and, in partnership with the Ministry of Foreign Affairs, coordinate with neighbors to address the regional spread of the disease.



3. Ensure high quality malaria services, tests, medicines, nets and insecticides



The effectiveness of our response to malaria critically depends on good quality products and skilled people. We need inexpensive, effective, and reliable products for diagnosis, treatment and mosquito control. We need well-trained health professionals to manage supplies, report shortages, identify inferior products and dispense the right drugs and advice. We need strong regulatory systems to make sure that elimination programs maintain high levels of quality, even for the most hard-to-reach populations.

A large majority of anti-malarial commodities are manufactured in the Asia Pacific and exported across the world. Many regional manufacturers are approved by internationally recognized quality standards; however, diagnosis, treatment and mosquito control products of unknown quality are still common in many health systems. These create substantial risks. For example, ineffective and expired drugs allow malaria to spread and, where medicines are substandard or used incorrectly, they can contribute to drug resistance.

In parallel, maintaining quality services is also a challenge in elimination programs because health care staff come across fewer and fewer cases of the disease as the program succeeds. Reduced skills and malaria knowledge make it more difficult to address cases and prevent outbreaks.

To reduce these risks, Ministries of Health and National Regulatory Authorities can work closely with Ministries of Industry, Commerce and Trade to:

- i. Strengthen regulatory and supply systems to ensure the exclusive use of high quality products;
- ii. Better regulate and motivate the private sector to promote use of effective medicines in pharmacy retail outlets and health clinics; and
- iii. Regularly train health workers and managers to promote high quality services across a range of communicable disease priorities, including malaria.



4. Improve targeting and efficiency to maximize impact

Intensifying anti-malaria actions requires more resources, but the first step is to get the most from what we already have. This drives resources further and builds the case for further external support, where required. Four key actions would serve to maximize the efficiency and reach of our malaria investments:

- i. Carefully tailoring the supply of products and services to local conditions. We should get the most effective products to those who need them most. We should identify and reduce wastage of tests, medicines and nets;
- ii. Wherever possible, use existing national systems. Partners should support countries by using national planning, procurement and reporting systems;
- iii. Engaging other stakeholders, such as the private sector and community representatives, to join the fight. For example to take advantage of business logistics capacity for bed net distribution; and
- iv. Improving the health of workers and their families by encouraging large enterprises to support elimination in their areas of operation, and to promote the wider social good.

Targeting mosquito control



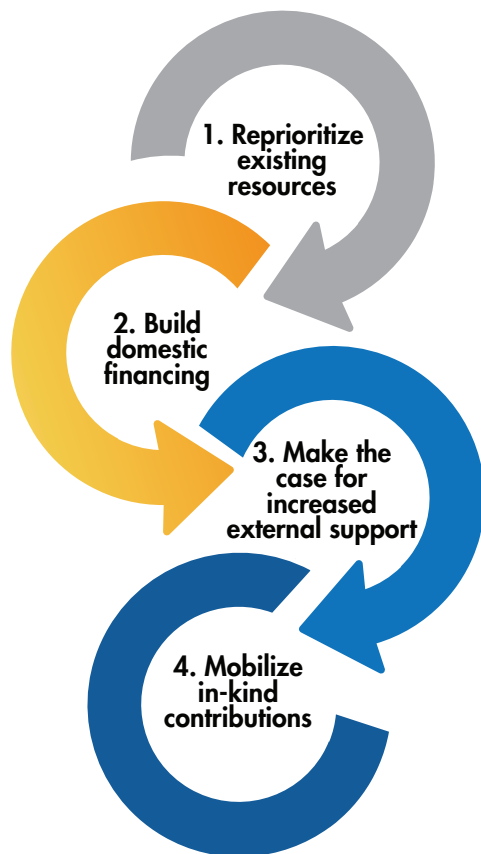
Australian Department of Foreign Affairs and Trade

A 'business as usual' approach could see up to 90% of the investment required to achieve Asia Pacific elimination spent on mosquito control strategies such as bed nets. Moving from interventions based only on mass net distribution to more targeted approaches could deliver savings of almost 90 million nets and over US\$600 million between 2016 and 2030.⁹

Reducing the cost of procuring and distributing mosquito control products could have an even greater impact. For example, a modest 10% reduction in the cost of mosquito control activities between 2016 and 2030 could result in over US\$2 billion savings.⁹



5. Mobilize domestic financing and leverage external support



Even with much greater efficiency, achieving elimination will require that we significantly boost resources in the short to medium term. For all but the most resource constrained countries, the major share of the additional financing will need to be mobilized by countries themselves. Elimination requires that as a region, we retain and increase external support while building domestic financing.

Malaria investment in the region has grown steadily over the past decade, but has now plateaued at around US\$350 million per year.¹⁹ While in total more than 50% of funding currently comes from domestic sources, most of the growth originated from multilateral funding provided by the Global Fund²⁰ and bilateral partners. Future growth will need to come predominantly from within the region, which in turn will help mobilize complementary external financing.

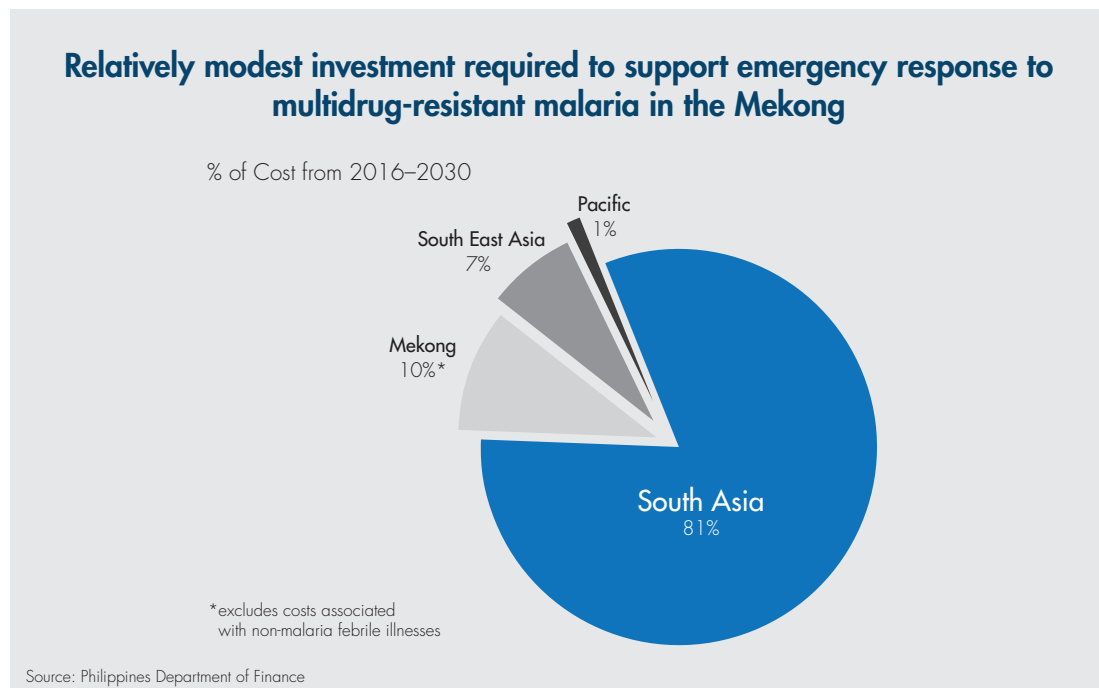
Costing the effort

The APLMA Secretariat has utilized the WHO Global Malaria Program Modelling for the Global Technical Strategy for Malaria 2016–2030⁹ in order to establish a benchmark estimate on the indicative cost of elimination for Asia Pacific. The model has been developed using a standard set of assumptions. It indicates that just over US\$1 billion per year must be spent on average in the first five-year phase of Asia Pacific malaria elimination, and just under US\$2 billion per year in subsequent phases. Approximately 80% of the estimated costs are specific to South Asia – most notably India. Further work is required to adapt the model to individual country settings.

As an immediate priority therefore, if not already in place, we would urge each nation to develop or update a fully costed national malaria elimination plan. This will determine the level of investment required to achieve elimination. Such plans will need to be built from the ‘bottom-up’ and should consider options for front-loading investment and the early introduction of innovative technologies. Doing so can accelerate the move towards elimination and achieve very significant cost savings over time. Support by the APLMA Secretariat and other partners may be provided to countries in developing strategy costings and the associated investment case.

Given the threat to global health security, we need to prioritize investment in elimination of multidrug-resistant malaria in the first five-year phase. We cannot allow resistant malaria to spread outside of the Mekong, especially to sub-Saharan Africa where the impact could be

catastrophic. The relatively modest level of investment required for us to eliminate malaria in the Mekong in the short term is far outweighed by the positive long-term impact of such an investment.



Financing the effort

To support endemic countries raise additional financing for malaria elimination, Leaders can:

- i. Encourage Health Ministries to re-prioritize existing resources to reflect the current drug-resistant malaria threat and the opportunity for elimination;
- ii. Substantially increase domestic budget allocations for malaria elimination for a time-limited period, as appropriate;
- iii. Make the case for increased external support through higher levels of domestic funding, enhanced efficiency, demonstrated impact and accountability;
- iv. Mobilize in-kind contributions and investigate opportunities for cross-regional financing and technical support particularly to exploit strengths of major regional powers.

Each of these approaches can help us collectively increase and broaden the base for regional malaria financing, ensuring a sustained push for elimination. The sequencing of these efforts is important. Leaders of countries with a high disease burden may wish to commit to frontloading an acceleration of their malaria elimination strategy. This can be done, for example, through a combination of borrowing and staged increases in the domestic budget allocation, in order to achieve greater savings, and realize benefits earlier in the process.

To deliver the products and services required, we need to exploit a range of sources of finance. These might include, generating further efficiencies from current spending, raising additional domestic revenue, maintaining the full support of existing development partners and for some countries, accessing new concessional lending or grant-based support. Several countries are leading the way by establishing programs that will provide universal health coverage to their populations. The Philippines, Indonesia and Myanmar have announced significant increased allocations for health, including malaria.



6. Innovate for elimination

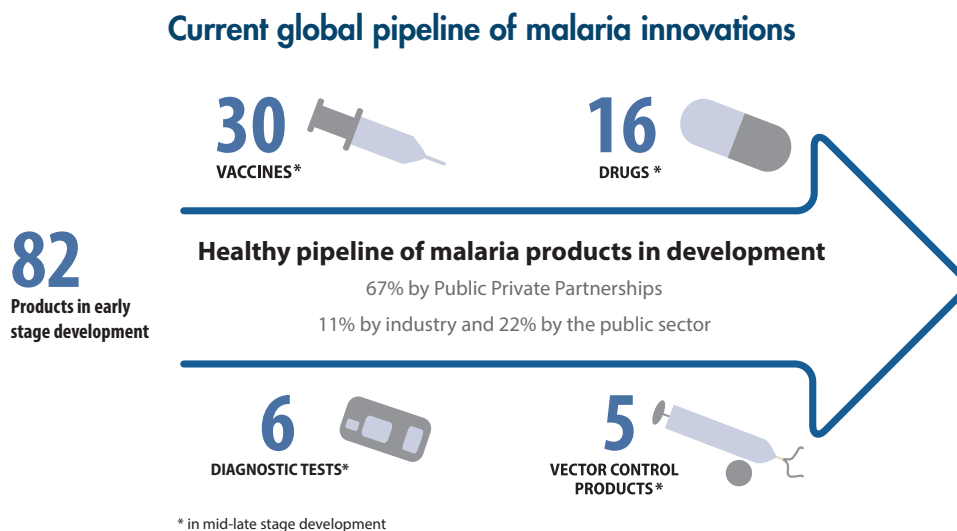
All countries in the region, including non-endemic countries, can contribute towards innovation by supporting the development and roll-out of a pipeline of new approaches and technologies in financing and implementation.

Introduce new technologies, products and approaches for malaria elimination

When artemisinin combination therapies were introduced twenty years ago they represented a breakthrough in front-line malaria treatment – three doses in three days resulted in a cure. Similarly, long-lasting insecticide bed nets killed mosquitoes upon contact. These technologies have represented major advances in the fight against malaria and have produced striking results.

Powerful new technologies can be game-changers, but they must be sponsored and their introduction pioneered. Particular priorities are innovations that address rapidly emerging insecticide-resistant mosquitoes and multidrug-resistant malaria parasites. In addition, we need new ways to tackle the large number of early and outdoor-biting mosquito species not countered by insecticide-treated nets; and the need for improved surveillance technologies. Hyper-sensitive rapid diagnostic tests will allow both better mapping, and much quicker and efficient responses overall. Complete-cure treatments for different strains of malaria could be revolutionary.

The current global research and development pipeline includes an impressive array of new technologies, but few of these products and studies have been designed to target the specific challenges of Asia Pacific.



Source: Adapted from *The unrecognized revolution in global health. Policy Cures, 2015 (in press)*.

In order to accelerate towards elimination, Leaders can:

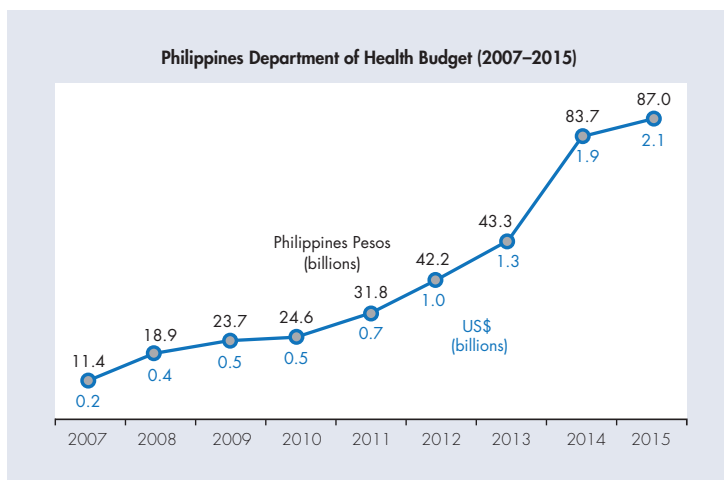
- i. Request their Ministries of Finance and Health to support initiatives that invest in new technologies; and
- ii. Encourage the fast-track adoption and roll-out of innovative approaches as they become available.

Innovative financing

Innovative financing needs to be considered when supplementing gaps in funding for elimination. It can provide countries with the opportunity to increase, diversify and complement existing sources of financing.

There are a number of critical reasons why malaria elimination should receive specific focus when considering innovative finance. Firstly, malaria is a major on-going cost driver, burdening national health systems. By investing in elimination, national health systems will realize public health benefits and savings sooner. Secondly, sustained financing is critical. We know that financing malaria elimination is particularly challenging because as the number of malaria cases decreases, the 'unit cost' of detecting and treating each case rises dramatically. Earmarking revenues from innovative sources can protect against this possibility, and add new and predictable funding streams without detriment to other priorities. Finally, there is a causal link between declining malaria investments and the risk of disease resurgence. As health development assistance declines globally, governments can now step up efforts to close funding gaps through innovative finance.

A multitude of innovative finance options are available and many of these structures already exist within countries. These include hypothecated taxes, debt for health mechanisms, national lotteries and the private sector. Several countries have imposed tobacco or alcohol taxes in



recent years. For example, the Philippines 'sin tax' on tobacco products has generated US\$2.3 billion in incremental revenues for the first two years of implementation, enabling the Government to subsidize health insurance premiums for almost 15 million poor primary members in 2014, up from 5.2 million registered in 2012.

Another example is the UNITAID airlines solidarity levy, which raised an average of US\$208 million per year in revenue between 2007 and 2011. This example is particularly relevant to Asia because Indonesia, Thailand, Singapore, Malaysia, Philippines and Viet Nam collectively have about 1.6 times the number of air passengers as the major contributor to UNITAID, France. Assuming a similar take-up rate, an airline ticket levy could raise more than US\$300 million per year – enough to close the financing gap during the 2016–2020 phase of elimination for most countries in the region. These sums are likely to increase substantially, given the forecast of 6.7% annual growth in aviation in Asia Pacific for the next 20 years.²¹

Financing *innovation* will also be important to address regional needs and to strengthen health security efforts. Japan's Global Health Innovative Technology Fund is one successful example of harnessing private and public funding to develop new malaria tools. Since its inception, the Fund has invested US\$15 million into 18 malaria drug and vaccine projects of regional interest.

Additional examples of innovative financing

Innovative finance	Examples to consider
Consider introducing new or expanding existing hypothecated taxes such as alcohol and tobacco taxes ("sin taxes"), tourism and airline levies	<ul style="list-style-type: none"> ✓ Indonesia's tobacco tax generated annual averages of US\$5.4billion revenues 2005–2011. ✓ Vietnam's tobacco tax generated annual averages of US\$478million revenues. ✓ Philippines "sin tax" generated US\$2.3billion enabling subsidization of health insurance premiums. ✓ Tourism Levy in Zanzibar for specific elimination financing that could cover 15–20% of funding needs by 2020. ✓ UNITAID's airline levies raised an average of US\$208million per year from 2007–2011
Explore options for leveraging national lotteries and earmarked financing for elimination	<ul style="list-style-type: none"> ✓ Costa Rica allocated earmarked funds towards health causes such as the National Immunization Fund for the purchase of vaccines, since 2006. ✓ South African National lotteries generated US\$1.8billion (2000–2011), since its creation in 2000. Cash earmarked and available for distribution to various social causes was US\$142million.
Investigate ways to increase private sector involvement in malaria elimination	<ul style="list-style-type: none"> ✓ AngloGold Ashanti (Ghana) implemented malaria interventions by committing to an investment of US\$1.3million per year, since 2005. ✓ Oilsearch Health Foundation committed to improving Papua New Guinea's access to health, in partnership with the Global Fund. ✓ Pfizer's "Mobilize Against Malaria" program 2007–2011 successfully met objectives to "treat, teach, build, and serve communities affected by malaria".
Consider expanding and leveraging innovative debt financing mechanisms such as malaria bonds	<ul style="list-style-type: none"> ✓ Global Fund along with the Government of Nigeria, World Bank, Bank of America, Islamic Development Bank and the Bill and Melinda Gates Foundation are exploring a unique bond structure to facilitate financing for LLIN campaigns and health systems strengthening. ✓ Global Fund along with the Government of South Africa leveraged a Social Impact Bond for reducing HIV and TB among high risk populations. ✓ World Bank Green Bonds has raised nearly US\$7billion for programmes, since 2008.



To support endemic countries explore innovative financing options for malaria elimination, Leaders can:

- i. Consider introducing new or expanding existing hypothecated taxes such as alcohol and tobacco taxes (“sin taxes”), tourism and airline levies;
- ii. Explore options for leveraging national lotteries and earmarked financing for elimination;
- iii. Investigate ways to increase private sector involvement in malaria elimination;
- iv. Consider expanding and leveraging innovative debt financing mechanisms such as malaria bonds.

In support of Leaders, the APLMA Secretariat can assist countries to review innovative financing mechanisms both nationally and regionally. It will establish a high level Task Force on Resource Mobilization and Innovative Financing for Malaria Elimination by early 2016 with the Chair appointed by the APLMA Leaders’ Envoy. The Task Force will support the APLMA Secretariat in initiating and supporting policy processes, and in providing advice and assistance aimed at facilitating innovative financing and resource mobilization options for malaria elimination.



Keeping the Roadmap and the region on track

Developed through an extensive process of consultation, this Roadmap reflects a consensus from both expert opinion and the views of Senior Officials from Asia Pacific Governments. When added to efforts already underway, the six priority actions represent our best pathway to eliminate malaria in the region by 2030:

- All of the actions represent areas where we can improve progress.
- Many require working differently and doing more.
- These actions will not be achieved without very deliberate effort and the active support by Heads of Government.
- All of us will need to keep track of progress to celebrate our gains and take action when we fall short. We will need to specifically assess progress against each of the priorities. We will need to establish milestones of success and apply smart indicators that tell us what we need to know, without imposing new burdens.



NEXT STEPS



NEXT STEPS FOR AN ALLIANCE OF LEADERS

The Roadmap outlines a number of key actions under each of the six priorities that Leaders can support within their Governments. In addition, there are a small number of specific actions that require immediate attention to accelerate progress.

Early actions for Leaders to consider


Following endorsement of the Roadmap, Leaders of malaria-endemic countries may wish to initiate the following three steps promptly, if they have not already done so:

- i. Confirm and communicate a personal endorsement of the Roadmap to all Ministries;
- ii. Appoint a Senior Official, ideally from a central agency, to be personally responsible for progressing the plan at the national level;
- iii. Create a National Malaria Elimination Task Force (or similar body, as appropriate) to achieve a coordinated multi-agency elimination effort across Government Ministries and technical agencies.

Leaders from non-endemic countries also have a critical role. They can encourage their officials to provide relevant and appropriate support to malaria-endemic countries and regional cooperation efforts, consistent with the Roadmap.

Support from a Leaders' Envoy and the APLMA Secretariat

To ensure Leaders' wishes are carried forward regionally as well as nationally, an *APLMA Leaders' Envoy* will encourage greater collaboration and coordination, and maintain momentum towards malaria elimination. The *APLMA Secretariat* will be overseen by the Leaders' Envoy, who may convene a strategically focused board of key stakeholders to steer its work and provide advice.



The Secretariat will continue to convene meetings, commission studies to help build the evidence base and share lessons learned, and advocate for malaria elimination. In doing so, it will assemble panels and task forces as appropriate, including the establishment of the Resource Mobilization and Innovative Financing for Malaria Elimination Task Force.

Tracking progress

During the annual Senior Officials' Meeting the Leaders' Envoy and APLMA Secretariat will convene discussions and analysis of progress against priorities. A report on progress will be presented to Asia Pacific Leaders by the Envoy midway through each of the three five-year phases outlined in this Roadmap (that is in 2018, 2023 and 2028). This will ensure continued momentum and support from both malaria endemic and non-endemic countries in pursuing the shared goal.

The APLMA Secretariat will support the Envoy to drive implementation of the Leaders' Malaria Elimination Roadmap, by benchmarking progress against priorities, coordinating regional action and facilitating required policy and financing solutions.

The Secretariat will develop a **Malaria Elimination Dashboard** as a simple tool that will be further developed to measure progress. It will support mutual accountability by:

- Tracking progress against each of the priority actions;
- Identifying key areas requiring attention;
- Allowing visibility of progress at both the national and regional levels.

The Dashboard will be developed by the APLMA Secretariat and the World Health Organization, in collaboration with other partners. The initial version will be finalized at the next Senior Officials Meeting on Malaria Elimination in the second quarter of 2016. A proposed model may be found in the Annex. The Senior Officials Meeting will review progress annually, based on the data gathered. That in turn, will inform key recommendations by the Chairs of the National Malaria Elimination Task Forces.

A photograph of a boat's silhouette against a bright orange sunset sky. The sun is a large, glowing orb on the right side. The boat's structure, including the mast and rigging, is dark against the light background.

CONCLUSION

The Asia Pacific is at the forefront of a global movement to eliminate malaria. Multidrug-resistant malaria requires particularly urgent action in the *Mekong*. This must be an immediate priority for the region and the world.

The ultimate achievement of malaria elimination will create great gains for countries and citizens. With bold leadership, vision and adequate financing, Leaders can address the risks of resistance and achieve the benefits of a region free of malaria.



The choice is stark: capitalize on the results of US\$41 billion in prior global investments²² and make a final push to eliminate malaria, or commit to indefinite spending on a disease for which critical drugs and insecticides are becoming increasingly ineffective.

This Roadmap sets out the collective actions required to accelerate towards elimination. With strong backing of Heads of Government and through coordinated national and international action, the region can meet this goal.

We have no time to lose.

ANNEX: APLMA MALARIA ELIMINATION DASHBOARD (DRAFT)

	Progress towards			1 Unite national efforts and regional action		2 Map, prevent, test and treat the disease, everywhere	
	On track to eliminate malaria by 2030 (WHO defined)	# Deaths	# Local cases/among all reported cases	Elimination task force in place	Malaria elimination plan in place and adopted	Malaria is notifiable disease	Case reporting from the private sector is mandatory
Country 1							
Country 2							
Country 3							
Country 4							
Country 5							
Country 6							
Country 7							
Country 8							



ON TRACK / YES



PROGRESS BUT MORE EFFORT NEEDED

NOTE: DRAFT DASHBOARD LAYOUT USING PROPOSED MILESTONES

a. Stratification by disease burden is required to optimize the implementation of malaria interventions

FT)

3		4		5		6	
Ensure high quality malaria services, tests, medicines, nets and insecticides		Improve targeting and efficiency to maximize impact		Mobilize domestic financing and leverage external support		Innovate to eliminate	
Commodity quality assurance programme	Monitoring of service quality	Updated stratification strategy (2 years) ^a	Targeted interventions for underserved populations	MoH and MoF collaborate in the costing exercise for elimination	Funding gap based on national costing elimination plan	Fast track national regulation requirements for new commodities	Innovative financing options appraisal conducted

 NOT ON TRACK / NO

 NOT AVAILABLE / NOT APPLICABLE

Endnotes

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19. In addition to domestic and multilateral malaria funding, bilateral partners contributing funding across the region include the United States, Japan, Australia, United Kingdom, France, and Republic of Korea.
20. Major donors to the Global Fund include the United States, France, United Kingdom, Germany, Japan, European Commission, Canada, Sweden, Italy, Netherlands, Australia, and the Bill & Melinda Gates Foundation.
21. Policy Cures. (2012) Innovative Financing Mechanisms Policy Brief 2. Sydney.
22. Data extracted from World Malaria Report 2011, Annex 2 (2000–2010) and World Malaria Report 2014, Annex 3 (2011–2013) using contributions reported by countries.

Cover photos:

(Above left-right) World Bank, Gates Foundation

(Below left-right) World Bank, Asian Development Bank, Khaing Min Htoo



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