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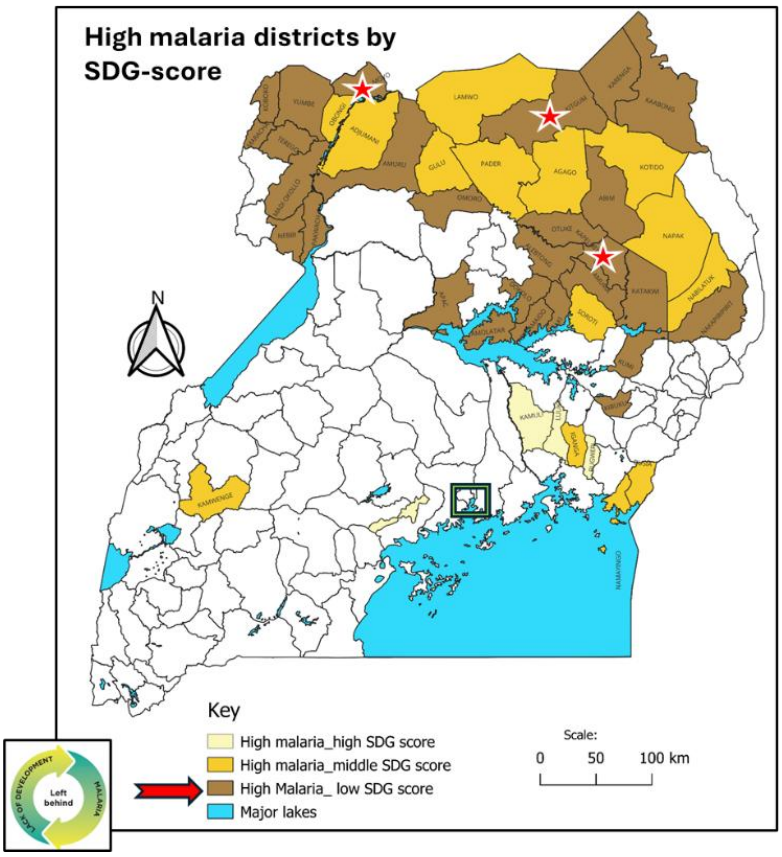

Building Pathfinder Impact and Investment Cases (PIICs) in Uganda

Volume 1: Synthesis

RESUME

The report provides a summary of the case building. It begins with mapping malaria against achievements of development indicators; continues with identifying and listening to some of those districts where the vicious cycle between lack of development and malaria grinds the hardest; and ends with simulating the gains that can be achieved through the Pathfinder Endeavour, small amount of catalytic funding and a process to get more out of existing structures, resources and programmes. The report is brief. For more details, please see Volumes 2, 3, and 4 – covering Kapelebyong, Kitgum and Moyo districts respectively.

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Contents

Teaser

The Pathfinder Impact and Investment Cases (PIICs) built in Kapelebyong, Kitgum and Moyo districts suggest that it is possible to begin slowing the vicious cycle between lack of development and malaria and over a two-to-three-year period maybe even turn it into a virtuous cycle where improved development leads to reduced malaria and reduced malaria leads to improved development.

What is required is structured comprehensive multisectoral action along three concurrent pathways: indivisible Sustainable Development Goals, five steps to become malaria-smart, and 360^{o} accountability.

Such process will release and amplify already existing structures, capacities, resources and programmes across all sectors – public and private. The yields will be threefold, taking form of economic, social and health gains.

1. Short introduction

1.1 The Pathfinder Endeavour

The Pathfinder is about *comprehensive* multisectoral action for sustainable development with malaria as tracer.

The term '*comprehensive*', distinguishes the Pathfinder from selective multisectoral action in which single or selected sectors are in focus and conventional disease interventions that often focus on commodities, service provision and behaviour change. The work underlying both the Agenda 2030[1] and the Pathfinder[2] shows that balanced improvements across all the 17 SDGs are necessary for sustainable results that leaves no one behind.

The Pathfinder is designed to complement and amplify selective and conventional approaches. I.e., not to replace or duplicate – but to get more out of existing structures, resources, programmes. and interventions., etc.

The Pathfinder aims to halt and ultimately turn the vicious cycle between lack of development and malaria into a virtuous cycle through three concurrent pathways (figure 1).

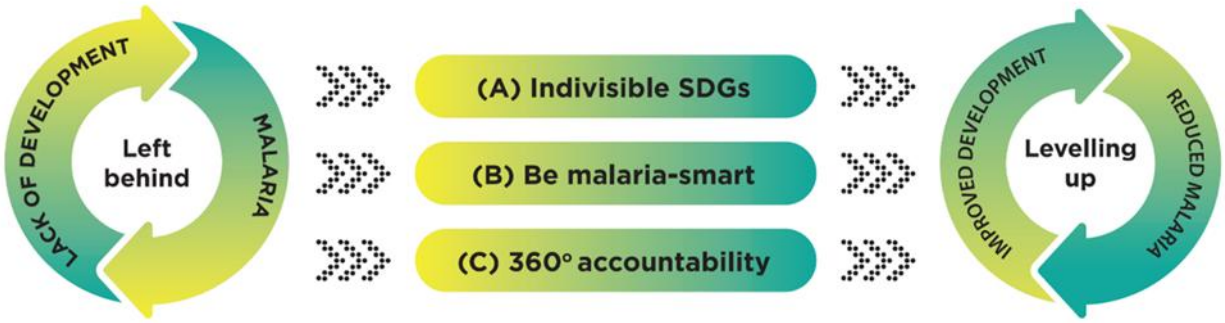

Figure 1: The three pathways from vicious to virtuous

The ethos of the Pathfinder is '***try, learn and share***'; and its eventual roll-out will be through a three-year structured process in which four countries each with three districts that are *left behind* jointly level-up[3].

1.2 Building impact and investment cases

Comprehensive multisectoral action to sustainably halt the vicious cycle is inherently complex in execution as well as in reckoning the resulting gains. The Pathfinder uses malaria as one tracer for the gains. However, there are more gains from comprehensive multisectoral action that manifest across different sectors of society and sustainable development goals. For building the Pathfinder Impact and Investment Cases (PIICs) there are thus many more points of interest than data points.

[1] https://sdgs.un.org/2030agenda and https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202022%20refinement_Eng.pdf
[2] Comprehensive Multisectoral Action Framework – Malaria and Sustainable Development https://www.undp.org/publications/comprehensive-multisectoral-action-framework-malaria-and-sustainable-development
[3] Paving the way for sustainable development with malaria as tracer https://undp-capacitydevelopmentforhealth.org/wp-content/uploads/2025/05/UTF-824-04-28-Pathfinder-Flyer-280424.pdf .

Therefore, an approach mixing quantitative and qualitative methods as well as simulation was pursued.

The PIICs reported in this volume and the companion volumes (2, 3, and 4) are based first on assessment of malaria-critical SDG indicators[4] and disease incidence rates[5] available for district level; and second listening to the districts through individual interviews with 10 to 12 key informants in each district, as well as three focus group discussions with the key informants. During focus group discussions effort-effect simulations were made under three resource scenarios: zero additional funds, USD 10,000 and USD 20,000 per district each six months for two years.

2. The impact

2.1 Who are left behind?

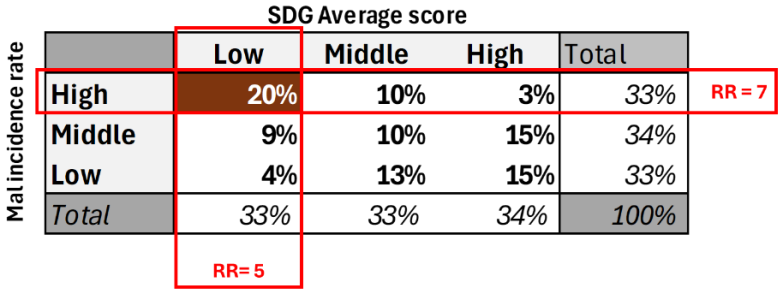

Figure 2: 3by3 matrix (tertiles) based on analysis of disaggregated SDG indicators and malaria incidence rates for Uganda's 136 districts with Relative Risks (RR).

The 136 districts in Uganda were divided in three equal-sized groups (tertiles) based on the average score of one disaggregated SDG indicator per SDG-group (see section 4, figure 4).

The same 136 districts were also divided into tertiles based on their malaria incidence-rates.

Then the districts were listed in a 3by3 matrix, percentages and the Relative Risks (RR) were calculated (figure 2).

Figure 2 shows that 20% of Uganda's 136 districts are characterized as both being 'High' on malaria and 'Low' on development.

The figure also shows that if a district in the High malaria tertile, it is seven times more likely to score 'Low' than 'High' on development (RR=7).

Conversely, if a district is in the Low SDG-score tertile, it is five times more likely to be 'High' than 'Low' malaria (RR=5).

The 3by3 analysis thus suggests that there is a very powerful vicious cycle between lack of development and malaria – likely comprising complex intersections of many parts.

The mapping in figure 3 shows that with a very few exceptions all of the 'High' malaria districts are in the north of Uganda.

[4] Malaria-critical SDG indicators are all the 80 SDG-indicators defined as proportions, coverage, etc. https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202022%20refinement_Eng.pdf

[5] Including malaria, enteric diseases, and neglected tropical diseases.

The map also shows that all the 'High' malaria x 'Low' development districts are in the north (Dark brown). Three districts: Kapelebyong, Kitgum and Moyo (the red stars) were selected from among those by the Pathfinder Champion Team to build the Pathfinder Impact and Investment Cases (PIICs).

2.2 How are they impacted?

There were many examples brought up by the key-informants on how economic, social and other activities and circumstances in each district adversely influence the burden of malaria, NTD and enteric diseases; and how these in turn have negative effects across social and economic activities and on development in general. The quotes below provide a few illustrative examples. For more, please see Volumes 2, 3, and 4.

> "*Every day, I receive requests for sick leave from my staff, who complain they are weak and cannot deliver and doctors advise them to go and rest or to seek further treatment, especially due to malaria. So, you find there is always a gap, there are inadequate staff because of the rate of staff seeking treatment and those on sick leave*." (CAO, Kitgum)

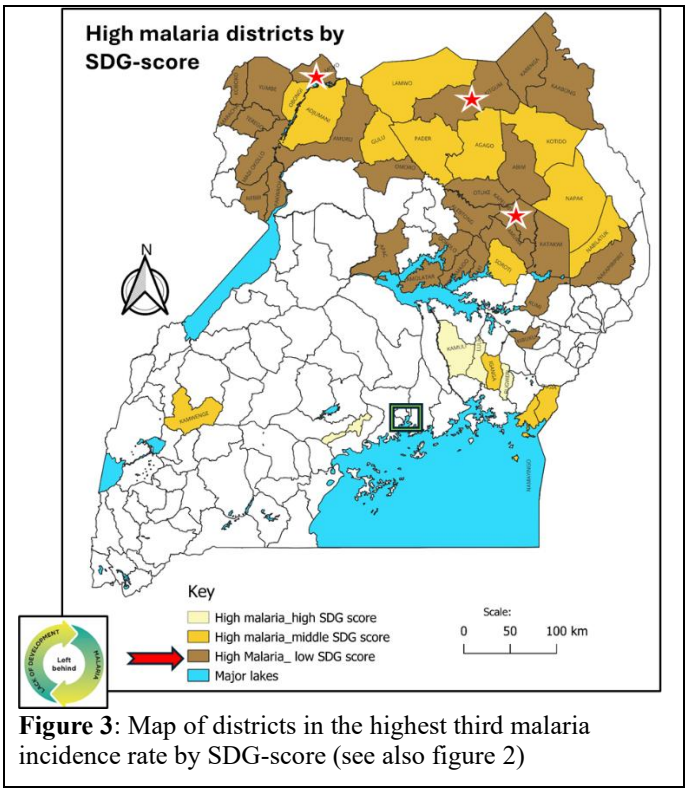

Figure 3: Map of districts in the highest third malaria incidence rate by SDG-score (see also figure 2)

Government capacity to serve and develop the districts is impeded by malaria, structural and financial resources are diverted into providing treatment and handling other effects of the disease – thus slowing the engine that should have driven progress

> "*We lose money as a government. The money is directed to treatment. Then we lose also their manpower when somebody is sick. They cannot do productive work, so that that is a big loss to the district when they are sick all the time, especially when they are admitted in the health facilities. There is a big gap at home – that really brings underdevelopment*." (CAO Kapelebyong)

All those who were interviewed and participated in the FGD reported that malaria and other diseases had negative effects on the success of their work.

> "*The impact of malaria affects members of the community and my work directly. Because you call everyone to this meeting, a mother is supposed to be there. They will tell you this mother has taken a child for treatment. Sometimes in the middle of the meeting, a mother will say I've received the communication, my child is sick. I'm going to take her for treatment. They are mothers who cannot fully participate in development activities because their children are so frequently sick. So, this makes my mobilization very difficult, yeah*." (DCDO, Moyo)

Malaria not only reduces people's ability to focus and participate, but it also forces communities to redirect financial resources meant for development—making the cycle of poverty and poor health even worse.

> *Like in the government programs we currently have, we give communities money, for example. All those are programs that target special interest, including the PDM[6]. But you realize that the communities tell you: 'we used the money for treatment' And yet we are supposed to be monitoring those investments for some time to be able to see that they move somewhere out of their subsistence living. My work is really affected. And then when you want them to participate in development meetings, some of them may not be able to come and we might end up making decisions that do not include them, so we may leave them out in our programming and our implementation which is not good*." (DCDO, Kapelebyong)

The key informants talked about malaria and other target diseases contributing to poverty in the families and districts.

> "*But again, now if in the family there are sick and you know the labor in their farms is from the households, these peasants rarely hire laborers, so they use their household labor so that means few people will go to the farm. Of course, production would be low and eventually that means if production is low, food will not be enough, households will be insecure regarding food and household income. And if those two things are not there, the standard of living is low, and it causes poverty*." (DAO, Moyo)

However, they also had observed that poverty has a direct effect on the level of disease

> "*The poverty levels are so high that people don't pay attention to small things to them, malaria becomes a small thing because the big thing is food. And so, once poverty is high, you can't ... a net is not a priority, and spraying does not become a priority. Those preventive measures, the available time is all taken towards work trying to find something to eat. And so, nobody is going to clear the bushes. Nobody is going to clear the bushes around the home. Nobody is going to pay attention to planting different mosquito repelling plants around the compound and so, at the end of the day, we end up in that infestation of malaria*." (Development partner, Kapelebyong)

Thus, the negative loop between poverty and malaria is apparent. The struggle for livelihood can drive people into activities that produce more malaria for themselves and the community around them.

> "*Then for malaria, we contribute, especially when it comes to time for agriculture. We dig so much to almost our doorsteps because sometimes when it rains heavily, you cannot go very far, so you choose to cultivate nearby and without knowing that, when you dig next to your door especially these tall crops, you are bringing a burden to yourself. And then, we dig pits that we call "mining marram". And it's open holes. We've told those who mine this marram to cover. But how can you cover something that others have already consumed other than pouring the waste rubbish to it gets filled up. They say that's my source of survival. So, that's why we have that burden*." (ADHO-EH, Kapelebyong)

A farm manager from Moyo shared that his three key goals—earning enough income, creating jobs, and improving food security—were all negatively impacted.

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[6] Parish Development Model (https://presidentialinitiatives.go.ug/parish-development-model/)

> "*When diseases, like malaria, hit our employees, it puts them down for days which in turn can affect the production at the farm level. That means it even affects the income at the end of the day. If income stops flowing, well there's a loss somehow. First, as a farm or a company, if things are not being done well, that means it reduces our capacity to keep on producing, which in turn affects the employment opportunities that we intend to give these people. Then not only is production reduced even the goal of making sure this food security is affected, and you know when people are not food secure*." (Business owner / Farm manager, Moyo)

A retail shop owner in Kapelebyong told that he was double threatened by malaria and enteric diseases. His staff was directly hit, causing absenteeism and inefficiency. But also, the demand side was affected, potentially making the enterprise unprofitable and unsustainable.

> "*Whenever someone comes to me that's giving you support for your business to develop, now when someone gets malaria has been put in a hospital for like 3-4 days or maybe the kid is sick it gets this somebody stressed, so they will not even come and buy anything from here in your shop. So basically, I am affected majorly during those days for example also for those enteric diseases like diarrhea. Always when somebody gets diarrhea, it takes some good time to have an appetite, so it takes more time for my stock which stays for long because people don't come and buy at the right time*." (Business owner Kapelebyong)

A teacher and business owner from Kitgum saw malaria challenges from a multiplicity of perspectives, including staff, parents and pupils.

> *But I know most of them are ignorant, some of them have not gone to school because when you go to school, you will be taught the ways of controlling malaria. So, these people lack the concept of controlling malaria. And some other neglected diseases like cholera, I think we have also a shortage of clean and safe water sources in those places*." (Teacher/ business owner, Kitgum)

Finally, the health services themselves are caught in a vicious cycle.

> "*Ideally, we are supposed to focus on the community health strategy whereby we need to prevent rather than treat. But you realize that malaria – as I told you 43% of our OPD is due to Malaria – means that instead of going to community, to have community dialogue, to have sensitization, we concentrate on treating people who are sick and that, in a way has affected our plans. But nevertheless, we are on course to strengthen in our community structure*." (DHO, Kitgum)

In other words, while the health facilities are busy treating disease, more disease is produced in the community because prevention is not adequately supported.

3. The development challenges

During the focus group discussions, participants in each district were asked to write down in bullet form the development challenges faced within the district to explain why some sub-counties appear left behind with respect to malaria. A nuanced picture of development challenges emerged for each district. Below is a brief consolidation of the explanations from the FGD and the individual interviews. More details can be found in the individual district reports (Volume 2, 3. And 4).

Political/ institutional (SDG 16 and 17)

A major challenge is securing cooperation from political leaders. Without it, community engagement suffers, and resources—such as budgets, health services, and staff—are poorly distributed. This weakens efforts in social and economic development, disease prevention, and access to treatment.

Corruption and inadequate enforcement of regulations were highlighted as more rampant in areas with higher malaria burdens.

It was also noted that having one successful and widely accepted government programme builds trust and can encourage others to follow. In contrast, areas with high malaria burdens often lack such programmes— that are both accepted by the community and have shown clear benefits.

Economic (SDG 8, 9, 10, and 12)

In all three districts, economic disparities were highlighted as a main explanatory determinant for differences in malaria burdens.

Higher burden malaria sub-counties have more unstable economies, low economic productivity, and high levels of unemployment and underemployment. They are often in subsistence economic situations, including fishing, farming and ad hoc economic activities.

In one case, the presence of migratory pastoralist populations was mentioned. However, migration itself was not identified as a development challenge in any of the districts.

Social (SDG 1, 2, 4, 5, 7, and 11)

Poverty came up as a pivot explanation in all three districts, i.e., poverty related to both lack of adequate economic opportunities (see above) as well as poverty resulting from disease and health care costs.

High levels of illiteracy and low education were identified as contributing factors to the prevalence of malaria, neglected tropical diseases, and enteric infections. Similarly, poorly managed settlements, inadequate housing, and lack of community services were also linked to these health challenges.

High population density, gender inequality, high rates of domestic violence, and many social events were further emphasized.

Environment and climate (SDG 6, 13, 14, and 15)

The environment and climate explanation (heavy rainfall, streams, rivers, and swamps) for the distribution of the malaria burden was given in all districts. However, most often these were mentioned as intersecting with economic and social factors

Man-made waterlogging, poor maintenance of surroundings, low knowledge of WASH, poor hygiene and waste management, poor sanitation and water management were all mentioned as examples of low uptake and participation in preventive measures

Health system (SDG 3)

Lack of reliable disaggregated malaria and other health data within the district constitute a development challenge – not only for the health system and disease control efforts, but also for the district leadership's broader development efforts.

Skewed distribution of health facilities and health staff was seen as leading to underreporting from the underserved areas as populations must go elsewhere. Facility and staff coverage tends to be lower in areas adversely affected by political/institutional, economic, social, and environmental and climate development challenges (see above). As a consequence, high malaria areas and populations might inadvertently be reported as low or no malaria.

Understaffing appeared to be endemic in those areas in most need of health care. As a result, staff in those areas are overstretched and unable to reach out to the communities to provide good practice of primary health care, including engaging Village Health Workers and community groups for prevention activities.

Instability in supply of drugs, nets, etc. combined with high costs and out-of-pocket spending appeared to be lethal development challenges when intersecting with the political/institutional, economic and social challenges. Intermediate steps include no treatment, self-medication, drug resistance and perpetuating transmissions within families and communities.

It was implied that weak health system management and insufficient monitoring of government supplies, intersecting with corruption (see political/institutional above) might lead to government supplies in certain places getting diverted into private or informal sectors, including the so-called clinics.

4. The impact and investment case

4.1 The model

For an impact and investment case building to be useful in district development it has to be based on a reasonable model, be understandable to the stakeholders, and provide concrete numbers. For the Pathfinder case building, a participatory simulation approach was deemed most appropriate.

For Pathways A and B there were two action scenarios:

- **Actionable by district** – '*yes-we-can-do-it*' ourselves with own resources
- **Actionable by central** – if we can '*articulate*' why the central levels should reallocate resources knowing that the national resource envelope is finite and more resources to us means less to other districts.

The cap was 5% improvement for each line (SDG-group for Pathway A and total of all five steps for Pathway B.

For Pathway C the model has three cumulative resource scenarios: zero additional resources, and USD 10,000 and further 10,000 per half year over a two-year period. The funding is intended to catalyze and to get more out of already existing resources, capacities and structures within the districts. The overall improvement limit for the maximum resource scenario was set at 5% augmentation of each of the above.

The simulation model then calculates economic, social and health gains based on these improvements. A small balance or bonus gain is calculated, based on how well the efforts and benefits are balanced across Pathways A and B.

Top-line results are presented in section 4.3, for details, please see Volume 2, 3, and 4.

4.2 The three pathways

Pathway A: The indivisible SDGs

Five malaria-critical SDG indicators were considered by the focus groups – one from each of the five SDG-groups were predefined in Component One of the PIICs. They represent SDG indicators expressed as proportions for which disaggregated data were available for all districts in Uganda and use in the analysis underlying figures 2 and 3 Thus, they are not necessarily representing priorities for case districts in particular.

In the actual roll-out of the Pathfinder, each participating district will select and focus on one or ideally two priority malaria-critical indicators in each of the five SDG-groups.

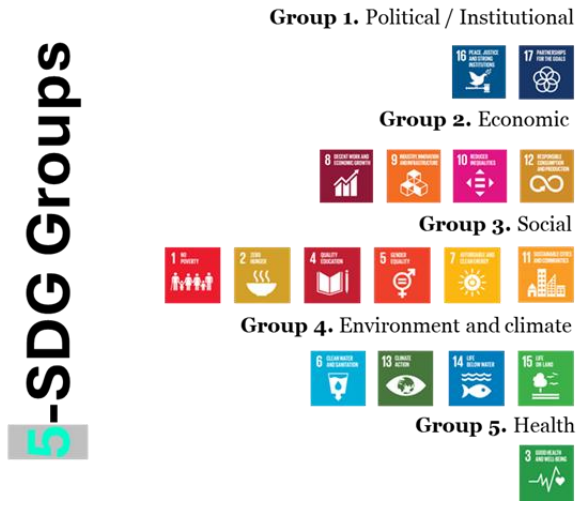

Figure 4: The arrangement of the 17 SDGs into five groups that the Pathfinder uses.

Pathway B: Five steps to becoming malaria-smart

The *first step* to becoming malaria-smart involves engaging public and private employers to realize their own vested interest in bringing down the disease burden and demand actions that reduce barriers to effective coverage of conventional disease interventions for their staff and families. This can be the private sector, district offices, as well as government agencies.

The *second step* is ensuring public and private providers of goods and services also safeguard their clients, customers, and their families. These providers can be public institutions, such as schools, extension services, etc., as well as businesses, including hotels, shops, private clinics, etc.

The *third step* involves mapping and analyzing areas or activities that are high malaria-producing (*do-harm*), including environmental factors, such as stagnant water, or activities, including agricultural practices, road construction and maintenance, marram-mining, brickmaking, etc., that predispose communities to higher disease prevalence.

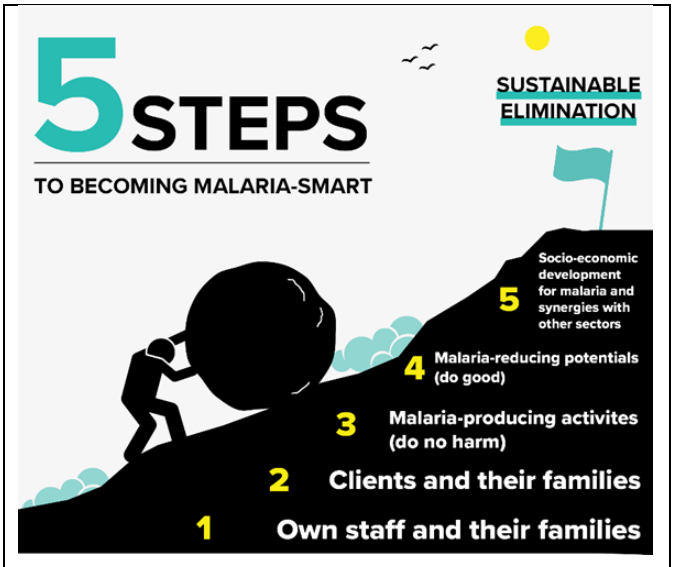

Figure 5 The five steps to become malaria-smart.

The *fourth step* focuses on mapping, analyzing, and encouraging activities that have the potential to reduce malaria (*do-good*). For instance, promoting agricultural, gardening, clear bushes, regulating water flows, latrines, housing and building improvements, etc. that reduce vector load, shield from, or repel rather than attract mosquitoes.

Finally, the *fifth step* addresses the root causes that contribute to malaria inequalities is crucial. These root causes propel the vicious cycle; keep it grinding and leave districts, sub-counties and communities further and further behind.

Pathway C: 360º Accountability

Political accountability focuses on the oversight and monitoring by senior government officials, councils, and others representing the people to ensure effective use of resources and implementation of development and malaria response activities.

Technical accountability deals with the responsibilities of those whose jobs include improving malaria-critical SDG-indicators, malaria, NTD or enteric disease outcome indicators – and, to act and call attention in cases when progress does not happen as intended.

Public accountability emphasizes individuals, families, communities, community leaders, civic society, and public and private services and businesses, etc. all to become malaria-smart – to take responsibility and be accountable. And, in addition to engage directly and real-time with those politically and technically in-charge through digital platforms and other communication channels.

- **Political** // ***local councils*** to act, monitor, and hold district and national players accountable.
- **Technical** // ***analyze and act*** on GTS, NTD, enteric disease, and SDG indicators.
- **Public** // direct and real-time ***engagement of citizens***, including through digital platforms.

Figure 6: 360º Accountability

4.3 Simulation results

Overall, the simulation exercises suggested that the districts could have economic gains between about 10% and 11%, social gains in the 11% to 12% range from participating in the structured Pathfinder process and receiving USD 20,000 catalytic funding per half-year over a two-year period. The gains in terms of malaria, NTD and enteric disease reduction would range between 13% and about 14%. However, there were some differences between the three districts.

Kapelebyong

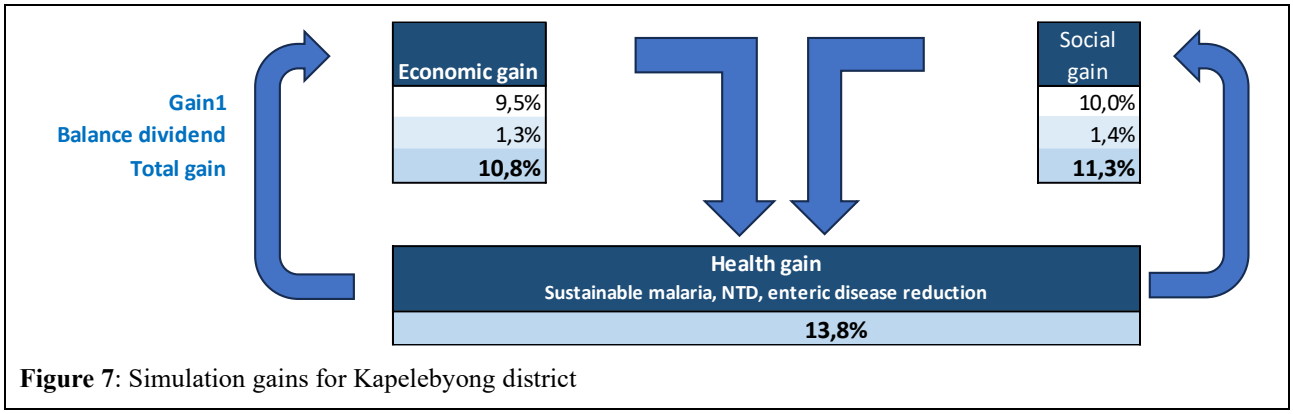

Figure 7: Simulation gains for Kapelebyong district

The health gain was simulated to 13.8% for the duration of the Pathfinder roll-out with 10.8% and 11.3% for economic and social gains respectively (figure 7).

The highest overall improvement was 12% (out of 15% possible) is Group 5 (Health system) followed by 10% in group 3 (social), 4 (environment and climate), and becoming malaria-smart. The least improvement was expected for group 2 (economic) with 6%.

Half or more of the improvements were expected to come from Pathway C: 360o Accountability, including wisely applying the catalytic funding.

For further details, please see Volume 2

Kitgum

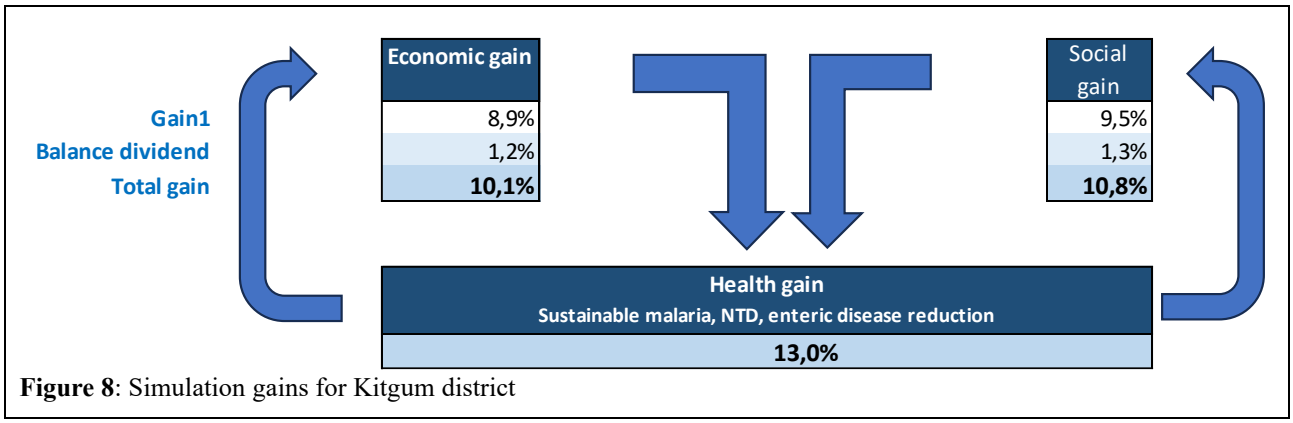

Figure 8: Simulation gains for Kitgum district

The health gain was simulated to 13.0% for the duration of the Pathfinder roll-out with 10.1% and 10.8% for economic and social gains respectively, i.e., slightly less than for Kapelebyong (figure 8).

The highest improvement was estimated to 13% for SDG group 5 (Health system) followed by group 3 (social) with 11%, at the low end were group 2 (economic) with 6% and group 4 (environment and climate) with 7%. For Pathway B a 9% improvement was foreseen.

However, between one-third and half of the improvements were estimated to come from improvements in Pathway C: 360^{o} Accountability.

For further details, please see Volume 3

Moyo

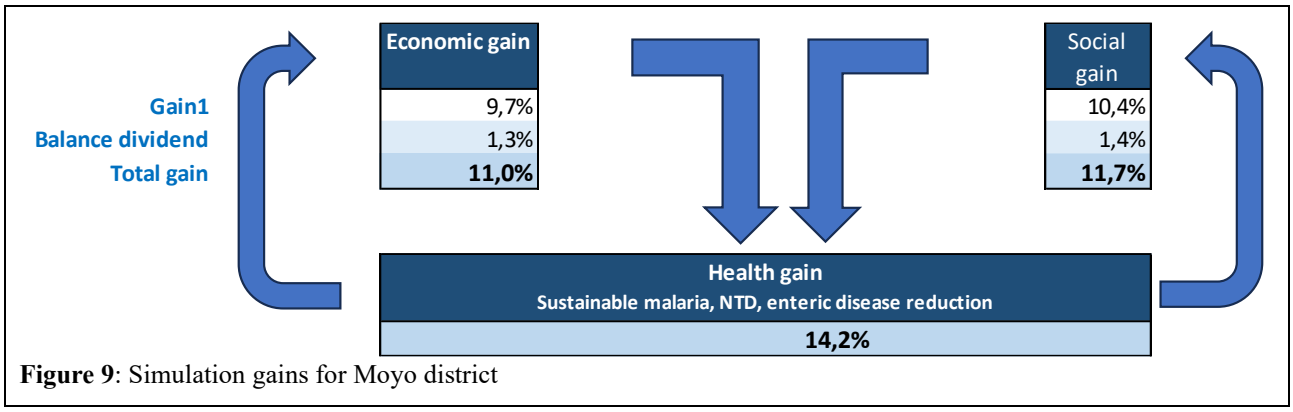

Figure 9: Simulation gains for Moyo district

The health gain was simulated to 14.2% for the duration of the Pathfinder roll-out with 11.0% and 11.7% for economic and social gains respectively, i.e., more than both Kapelebyong and Kitgum (figure 9).

The highest improvements with 12% were foreseen for SDG-groups 3 (social) and group 5 (health system) followed by SDG-group 4 (environment and climate) and Pathway B: Becoming malaria-smart, each with 11% improvements. Again, the least improvement (5%) was foreseen for SDG-group 2 (economic).

Like for the case of Kitgum between one-third and half of the overall improvements are expected to come from Pathway C: 360^{o} Accountability and the combination of directly actionable by the district(yes-we-can-do-it) and effective application of the catalytical funding.

For further details, please see Volume 4

5. Conclusion

The three districts, Kapelabyong, Kitgum, and Moyo and the populations therein and geographical areas are indeed left behind. Yes, indeed they are trapped by vicious cycles in which a large number of factors are at play and intersect in complex ways to impede development and perpetuate malaria, NTD and enteric disease burdens.

The good news is that the districts see considerable room for improvements that can be actioned through participating in the structured Pathfinder Endeavour, *'yes-we-can-do-it'* and application of small catalytic funding over two to three years.

All three districts committed to being part of the Pathfinder, should it become a reality.

The findings from the districts will be presented and discussed during the National Sense- and Consensus workshop in Kampala on the 3rd of September 2025. At the workshop, there will be representatives from each of the districts and in particular Pathway A: *Indivisible SDGs* will be looked deeper into.

Subsequently, the inputs from the workshop will be incorporated into the final synthesis report.