



Development and application of an integrated framework for evaluating malaria control programmes funded by the Global Fund: a narrative review of logical frameworks, logic models and theories of change

KUPANGI TSHIMBALANGA Maurice¹, TOHEMO LUKAMBA Alexis², MANGALU MOBHE AGBADA José³, NZITA KIKHELA Paul-Denis⁴

¹Head of Studies at the Higher Institute of Medical Technology in Kinshasa, DRC, mauricekupangitshimbalanga@gmail.com, +243815094614, ORCID: 0009-0003-9790-390X

²PhD student and researcher at the Higher Institute of Medical Technology in Kinshasa, DRC, tohemoalessiluka6@gmail.com

³Professor at the Catholic University of Louvain and the University of Kinshasa, DRC, jose.mangalu@unikin.ac.cd

⁴Professor at the University of Kinshasa, DRC, nzita_denis@yahoo.fr

LICENSE



This article is licensed under the
Creative Commons Attribution
4.0 International License (CC BY 4.0).

<https://creativecommons.org/licenses/by/4.0/>



PREFIX :

10.63883

IJSRIS JOURNAL



This is an open access article
distributed under the terms of
open access.

ABSTRACT

Introduction: The effectiveness of malaria control programmes depends on robust planning, monitoring and evaluation systems. The Global Fund, the WHO and technical partners recommend the logical framework, the logic model and the theory of change. However, using them in isolation limits their complementarity and the quality of evaluations.

Methods: A narrative review of the literature based on scientific publications, methodological texts and institutional documents published between 2000 and 2025 (WHO, Global Fund, OECD, World Bank, UNICEF, UNDP). A comparative analysis identified the characteristics, advantages, limitations and complementarities of the three approaches, with a view to their application to the GC7 Malaria/Health System Strengthening (HSS) project in the DRC.

Results: The logical framework structures objectives, indicators and assumptions. The logic model visualises the results chain from inputs to outcomes. The theory of change sets out the causal mechanisms and conditions for success. Together, they form an integrated framework that enhances the coherence of planning, the relevance of monitoring and the interpretation of results.

Discussion: This integrated framework, which is innovative and tailored to current requirements, when applied to the GC7 Malaria/HSS project in the DRC, improves the quality of evaluations, evidence-based decision-making and the performance of malaria control interventions.

Keywords: logical framework; logic model; theory of change; programme evaluation; malaria.

1. Introduction

Malaria remains one of the world's most pressing infectious diseases. Despite the considerable progress made over the last two decades through the expansion of preventive and curative interventions, this disease continues to pose a major public health challenge, particularly in sub-Saharan Africa. According to estimates by the World Health Organisation, this region accounts for the vast majority of malaria cases and deaths, with children under five and pregnant women remaining the most vulnerable groups.

In the Democratic Republic of the Congo, malaria remains one of the leading causes of illness, hospitalisation and death. To address this situation, the Congolese Government, through the National Malaria Control Programme (PNLP), is implementing several interventions supported by the Global Fund under Grant Cycle 7 (GC7). These interventions

combine prevention, diagnosis, treatment, epidemiological surveillance, human resources development, supply chain improvements and health system strengthening.

The scale of the resources mobilised and the complexity of these interventions make it essential to put in place rigorous evaluation mechanisms. Evaluations must not only measure the results achieved, but also explain the mechanisms that produce them and assess the coherence of implementation. To this end, several methodological tools are used in international programmes, notably the logical framework, the logic model and the theory of change.

Although these approaches are widely recognised, their use often remains compartmentalised. Logical frameworks focus on planning and indicators; logic models primarily describe the results chain; whilst theories of change place greater emphasis on causal assumptions. This methodological fragmentation can limit the overall understanding of a programme's performance and reduce the scope of evaluations.

Against this backdrop, this narrative review offers a critical analysis of these three approaches and develops an integrated evaluation framework specifically tailored to malaria control programmes funded by the Global Fund. The aim is to provide a methodological framework capable of improving the quality of monitoring and evaluation, facilitating the interpretation of performance, and strengthening evidence-based decision-making in the context of the Democratic Republic of the Congo.

2. Methodology

2.1. Type of study

This is a narrative review of the scientific and technical literature on the main methodological frameworks used for the planning, monitoring and evaluation of health programmes, with a particular focus on malaria control interventions funded by the Global Fund.

2.2. Sources

The review drew on articles published in peer-reviewed international journals, reference works, methodological guides, and technical reports from the WHO, the Global Fund, the OECD, the UNDP, UNICEF and the World Bank, as well as strategic documents from the Democratic Republic of the Congo's National Malaria Programme (PNLP).

2.3. Selection criteria

Documents were selected that dealt with logical frameworks, logic models, theories of change, the evaluation of health programmes, results-based management and health system strengthening; these were published in French or English and made a relevant methodological contribution.

2.4. Data analysis

The selected documents were subjected to a comparative analysis aimed at identifying the concepts, principles, advantages, limitations and complementarities of the various approaches. The results of this analysis formed the basis for the proposal of an integrated evaluation framework for programmes funded by the Global Fund.

3. Results

3.1. The Logical Framework: a structuring tool for planning and evaluation

The Logical Framework Approach (LFA) is one of the most widely used tools in the design, management and evaluation of development programmes. Originally developed in the late 1960s for USAID, it has gradually been adopted by the main international development agencies, notably the World Bank, the European Commission, the United Nations and the Global Fund.

Its main objective is to organise the various levels of a programme in a coherent manner by linking activities, outputs, outcomes and expected impact. This structure makes it possible to clarify the programme's objectives, define objectively verifiable indicators, identify sources of verification and highlight the assumptions that may influence the success of interventions.

In programmes funded by the Global Fund, the logical framework serves as the reference document for grant planning, monitoring of implementation and performance evaluation. It also facilitates dialogue between donors, programme managers and implementing partners.

However, several authors highlight certain limitations. The logical framework favours a linear representation of interventions and does not take sufficient account of the complexity of health systems, interactions between stakeholders and contextual changes. It provides little explanation of the mechanisms linking activities to outcomes and does not always allow for an understanding of the unintended effects of interventions.

Despite these limitations, it remains an indispensable tool for organising a programme's intervention logic and defining evaluation criteria.

3.2. The logic model: a representation of the results chain

The logic model complements the logical framework by visually describing the sequence of steps linking the resources mobilised to the expected impacts.

It is generally based on five components:

- Inputs;
- Activities;
- Outputs;
- Outcomes;
- Impact.

This representation provides a better understanding of how the resources invested are transformed into measurable results. Unlike the logical framework, the logical model places greater emphasis on the internal workings of the programme and on the relationships between the various components of the results chain.

In malaria control programmes, in particular, it facilitates the analysis of the links between funding, the distribution of insecticide-treated bed nets, the availability of rapid diagnostic tests, access to antimalarial treatments, improved coverage of interventions and reduced morbidity.

The logic model is also a valued communication tool for programme managers, as it provides a simple and intuitive representation of the intervention logic.

However, it has certain limitations. Like the logical framework, it describes functional relationships rather than explanatory mechanisms. It places relatively little emphasis on assumptions, contextual factors and the behaviour of stakeholders.

3.3. The Theory of Change: understanding the mechanisms of transformation

The Theory of Change emerged in response to the limitations of previous approaches. Its aim is to clarify the mechanisms through which an intervention brings about the expected changes.

Unlike the logical framework and the logic model, it is not limited to describing a sequence of steps. It identifies the underlying assumptions, the conditions necessary for the success of interventions, and the factors likely to promote or hinder outcomes.

In malaria control programmes, for example, this approach helps to explain how the availability of mosquito nets actually leads to their use by households, how this use reduces exposure to mosquitoes, and how this reduction in turn leads to a decrease in morbidity and mortality.

The theory of change thus enables a better understanding of causal relationships, takes account of contextual effects, and identifies risks that could jeopardise the programme's success.

Its main drawback lies in the complexity of its construction. It requires strong stakeholder involvement and a good understanding of the intervention context.

3.4. Comparative analysis of the three approaches

A review of the literature shows that the logical framework, the logic model and the theory of change pursue complementary rather than competing objectives.

The logical framework primarily answers the question: 'What needs to be achieved and how should results be measured?'

The logic model focuses more on the question: 'How are resources transformed into results?'

Finally, the theory of change answers the question: 'Why and under what conditions should these outcomes be achieved?'

Each of these approaches therefore sheds specific light on how a programme operates.

Using them in isolation does not always provide a complete picture of performance. However, combining them offers a more robust, coherent and appropriate approach to complex programmes such as those funded by the Global Fund.

3.5. Proposal for an integrated evaluation framework

Based on the findings of this review, we propose an integrated evaluation framework built on the integration of the three approaches.

The logical framework forms the basis of strategic planning by defining objectives, indicators and assumptions.

The logic model then describes the chain of results, from the resources mobilised to the health impacts.

The theory of change complements these two tools by setting out the causal mechanisms, critical assumptions and conditions for success.

Integrating these approaches enables the development of a more comprehensive evaluation methodology, capable of simultaneously assessing the quality of planning, the coherence of implementation, the mechanisms of change and the observed outcomes.

In the context of the GC7 Malaria/RSS project in the Democratic Republic of the Congo, this integrated framework facilitates the interpretation of results, enhances the quality of monitoring and evaluation, and improves the formulation of recommendations for programme managers and national decision-makers.

4. Discussion

The findings of this narrative review highlight that the logical framework, the logic model and the theory of change should not be regarded as competing approaches, but as complementary tools serving distinct purposes in the evaluation process.

The logical framework remains an indispensable tool for results-based planning and management. Its use by the Global Fund facilitates the identification of objectives, performance indicators, sources of verification and implementation assumptions. This standardisation improves the comparability of programmes and strengthens accountability. However, as highlighted by Bakewell and Garbutt (2005) and NORAD (1999), this approach presents a relatively linear view of interventions and does not take sufficient account of the complexity of health systems.

The logic model adds value by describing the results chain linking the resources mobilised to the expected impacts. This representation facilitates understanding of the relationships between inputs, activities, outputs and outcomes, which improves communication between stakeholders and guides the operational monitoring of programmes. Nevertheless, it offers little explanation of the mechanisms that actually lead to the observed changes.

The theory of change addresses this limitation by highlighting causal links, critical assumptions and contextual factors likely to influence outcomes. This approach is particularly well-suited to complex interventions such as malaria control programmes, where performance depends not only on

available resources, but also on beneficiaries' behaviour, service quality, governance, the supply chain and numerous environmental factors.

The analysis thus shows that these three approaches are complementary. Integrating them enhances the methodological coherence of evaluations by combining rigorous planning, the mapping of the results chain and the analysis of mechanisms of change.

The integrated framework proposed in this study offers several advantages. Firstly, it improves coherence between programme design, implementation and evaluation. Secondly, it facilitates the identification of performance determinants as well as the causes of discrepancies between expected and actual outcomes. Thirdly, it provides Global Fund managers, the PNLP and technical partners with a more comprehensive decision-making tool than any of the approaches taken in isolation.

This proposal is of particular relevance to the Democratic Republic of the Congo, where malaria control programmes are implemented in a context characterised by logistical constraints, geographical disparities, security challenges and significant needs for health system strengthening. The use of an integrated framework could help to improve the quality of future evaluations, optimise resource allocation and enhance the effectiveness of interventions.

5. Limitations of the review

This review has certain limitations. Firstly, it is based on a narrative approach rather than a systematic review with a meta-analysis. Consequently, the process of selecting publications may be influenced by the authors' choices.

Secondly, the proposed integrated framework has not yet been empirically validated across multiple national contexts. Its applicability will need to be assessed through field studies focusing on various programmes funded by the Global Fund.

Finally, the available literature remains relatively limited regarding methods for simultaneously integrating the logical framework, the logic model and the theory of change into malaria control programmes, which highlights the scientific value of this proposal.

Conclusion

This narrative review shows that the logical framework, the logic model and the theory of change fulfil complementary functions in the planning, monitoring and evaluation of health programmes. When used separately, they each have

methodological limitations. By contrast, their integration enables the development of a more comprehensive approach, better suited to the complexity of Global Fund-funded malaria control programmes.

The proposed integrated framework represents a methodological contribution that has the potential to improve the quality of evaluations, enhance understanding of performance mechanisms and support evidence-based decision-making. Its application to the GC7 Malaria/RSS project in the Democratic Republic of the Congo provides a model that can be adapted to other public health programmes in sub-Saharan Africa.

Future research should validate this integrated framework in different contexts and examine its impact on the quality of evaluations, programme performance and the sustainable improvement of health systems.

1. Authors' ORCID

- Maurice KUPANGI TSHIMBALANGA: 0009-0003-9790-390X
- Alexis TOHEMO LUKAMBA: [0009-0008-5782-738X](https://orcid.org/0009-0008-5782-738X)
- José MANGALU MOBHE AGBADA: [0000-0002-2280-3475](https://orcid.org/0000-0002-2280-3475)
- Paul-Dénis NZITA KIKHELA: 0000-0001-7202-4528

2. Acknowledgements

The authors would like to thank the National Malaria Control Programme (PNLP), the Global Fund and ISTM-Kinshasa for providing access to technical documentation. We would also like to thank the reviewers for their constructive comments, which have helped to improve this manuscript.

3. Funding

This study did not receive any specific external funding. It was carried out using the authors' own resources as part of their academic and research activities.

4. Declaration of conflicts of interest

The authors declare that they have no financial or non-financial conflicts of interest relating to this article. The views expressed are those of the authors alone and do not represent the views of their affiliated institutions.

5. Ethical considerations

As this is a narrative review of the literature involving neither human subjects nor personal data, no ethical approval was required. The principles of scientific integrity and rigorous citation of sources have been observed.

6. Authors' contributions

M. K. TSHIMBALANGA: conceptualisation, methodology, original drafting and literature review. José MANGALU MOBHE AGBADA and Alexis TOHEMO LUKAMBA: scientific supervision, methodological validation and critical review. Paul-Dénis NZITA KIKHELA: supervision, final validation and project administration.

References

- Alkire, S., & Foster, J. E. (2011). Counting and multidimensional poverty measurement. *Journal of Public Economics*, 95(7–8), 476–487.
- Bakewell, O., & Garbutt, A. (2005). The use and abuse of the logical framework approach. *Sida*.
- Bamberger, M., Rugh, J., & Mabry, L. (2012). *RealWorld Evaluation* (2nd ed.). Sage.
- Brousselle, A., Champagne, F., Contandriopoulos, A. P., & Hartz, Z. (2011). *Evaluation: concepts and methods*. Presses de l'Université de Montréal.
- Centres for Disease Control and Prevention. (2022). *Malaria surveillance, monitoring and evaluation toolkit*.
- Chen, H. T. (2015). *Practical programme evaluation: Theory-driven evaluation and the integrated evaluation perspective* (2nd ed.). Sage.
- European Commission. (2004). *Aid delivery methods. Volume 1: Project cycle management guidelines*.
- De Savigny, D., & Adam, T. (Eds.). (2009). *Systems thinking for health systems strengthening*. World Health Organisation.
- Donaldson, S. I. (2007). *Programme theory-driven evaluation science*. Lawrence Erlbaum Associates.
- Global Fund to Fight AIDS, Tuberculosis and Malaria. (2023). *Grant Cycle 7 Modular Framework Handbook*.
- Global Fund to Fight AIDS, Tuberculosis and Malaria. (2023). *Monitoring and Evaluation Framework*.
- Global Fund to Fight AIDS, Tuberculosis and Malaria. (2023). *Operational Policy Manual*.
- Funnell, S. C., & Rogers, P. J. (2011). *Purposeful programme theory: Effective use of theories of change and logic models*. Jossey-Bass.
- Kellogg Foundation. (2004). *Logic model development guide*.
- McLaughlin, J. A., & Jordan, G. B. (1999). Logic models: A tool for telling your programme's performance story. *Evaluation and Programme Planning*, 22(1), 65–72.
- Ministry of Public Health, Hygiene and Social Welfare, Democratic Republic of the Congo. (2023). *National Strategic Plan for Malaria Control 2023–2027*.
- Ministry of Public Health, Hygiene and Social Welfare, Democratic Republic of the Congo. (2022). *National Health Development Plan 2022–2031*.
- NORAD. (1999). *The Logical Framework Approach (LFA): Handbook for Objectives-Oriented Planning*.
- Organisation for Economic Co-operation and Development. (2021). *Applying evaluation criteria thoughtfully*.
- World Health Organisation. (2022). *WHO guidelines for malaria*.
- World Health Organisation. (2023). *Global technical strategy for malaria 2016–2030: Update*.
- World Health Organisation. (2024). *World Malaria Report 2024*.
- World Health Organisation. (2023). *Framework for strengthening health systems*.
- World Health Organisation – Regional Office for Africa. (2023). *Malaria programme review manual*.

- Patton, M. Q. (2008). *Utilisation-focused evaluation* (4th ed.). Sage.
- United Nations Development Programme. (2009). *Handbook on planning, monitoring and evaluating for development results*.
- National Malaria Control Programme. (2023). *Annual performance report*.
- Rossi, P. H., Lipsey, M. W., & Freeman, H. E. (2004). *Evaluation: A systematic approach* (7th ed.). Sage.
- Roll Back Malaria Partnership. (2021). *Strategic framework 2021–2025*.
- Scriven, M. (1991). *Evaluation Thesaurus* (4th ed.). Sage.
- Stufflebeam, D. L., & Shinkfield, A. J. (2007). *Evaluation theory, models and applications*. Jossey-Bass.
- The Global Fund. (2024). *Technical Evaluation Reference Group (TERG): Evaluation guidance*.
- The Global Fund. (2023). *Resilient and sustainable systems for health information note*.
- UNICEF. (2023). *Malaria programme guidance for high-burden countries*.
- USAID. (2022). *President’s Malaria Initiative monitoring, evaluation and learning guidance*.
- Weiss, C. H. (1995). Nothing as practical as good theory: Exploring theory-based evaluation for comprehensive community initiatives. *New Directions for Evaluation*, 67, 65–92.
- World Bank. (2022). *Health system strengthening for universal health coverage*.
- World Health Organisation. (2022). *Monitoring health systems performance: A framework for analysis*.
- World Health Organisation. (2023). *World health statistics 2023*.
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage.