Stakeholder engagement rationale and approach

Target Malaria is a not-for-profit research consortium working collaboratively with universities and research institutes in Africa, Europe and North America. Stakeholder Engagement is one of the three pillars of the Target Malaria project along with Science and Regulatory Affairs. We believe that taking into account the interests, knowledge, values, goals and perspectives of our stakeholders increases the likelihood of them making informed decisions about our research, increases ownership of a potential malaria vector control tool and raises public trust in science. As a project, we are also committed to openness and accountability in the development of our technology, and this includes active and timely dissemination of scientific advances and project activities.

Target Malaria is focusing on genetic methods for malaria vector control, one of them being a technology called gene drive. Gene drive mosquitoes have the potential to complement existing vector control tools, providing long-lasting, sustainable control of malaria without the need for behavioural changes. As such it raises ethical considerations regarding which stakeholders to engage and the means of engagement needed for the project.

Our rationale

Although current tools have prevented millions of deaths over the last two decades, progress is stalling. The WHO recognises that new ways of controlling malaria need to be explored, including the use of genetically modified mosquitoes.[1]

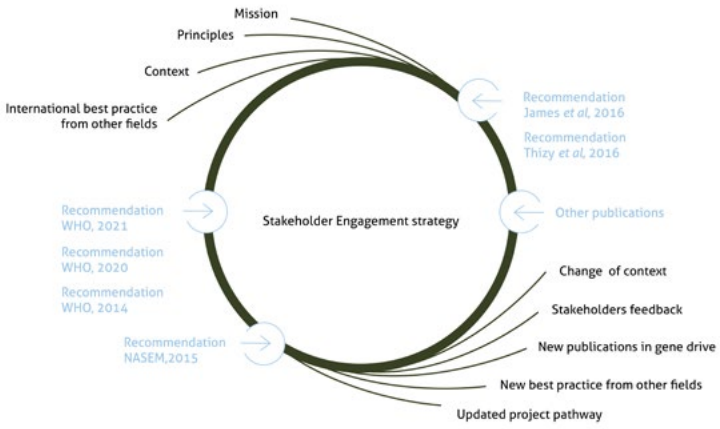
Target Malaria began its engagement at an early stage of the research as the project appreciated it is essential that those who could be impacted are informed and consulted, not simply when the intervention is ready, but during the development phase as well. Alongside regulatory authorities, they will be the ones to decide if this technology can be evaluated in the field. Engaging with stakeholders ensures that the technology, and our project activities, are accurately and honestly communicated to all, and most importantly to the potential beneficiaries of this research in Africa.

Target Malaria is listening to concerns and responding to questions about the gene drive technology. We also believe that it is important that the development of this potentially life-saving technology is not stifled due to misinformation.

Our approach

We are working to incorporate stakeholder engagement in all phases of the research and development process for our technology.

Target Malaria developed its stakeholder engagement strategy considering the context of the countries where we operate, our ethical principles for engagement (including core project values), emerging guidance and developing best practices in the field.[2] Our strategy was conceived as an evolving approach, adapting to changing contexts, stakeholder feedback, potential changes in the project's activities, and new guidance documents and relevant scientific discoveries as they arise.



Development Process for Target Malaria's Stakeholder Engagement Strategy

From local to global engagement

Target Malaria began its engagement efforts in 2012, when our African collaborating partners joined the consortium. It started in local communities where we were collecting mosquitoes for entomological studies. Since then, as our work has advanced and our technology has progressed, our engagement has expanded to include regional, national and global stakeholders.

Target Malaria has dedicated stakeholder engagement teams in each of our African partner sites made up of stakeholder engagement practitioners and social scientists.

Their role is to open and maintain a dialogue with a wide variety of stakeholders at local, regional and national levels.

There are currently no gene drive mosquitoes in Africa. Target Malaria's African scientists, who are all working in malaria-endemic countries, are studying the mosquitoes that cause malaria and have built and equipped insectaries suitable for rearing and studying mosquitoes and specifically genetically modified mosquitoes. Facilities that host genetically modified mosquitoes are compliant with the recognised Arthropod Containment Level 2 guidelines that are used by insectaries around the world. We interact with national regulatory authorities to make sure that we adhere to the national regulatory process. We also interact with local communities to inform them about our project and to obtain support and agreement for our work, before research activities take place. Our engagement with local communities is co-developed so that we learn from their knowledge and respect their cultural practices. We are committed to ensuring that traditionally marginalised groups are not overlooked.

Our dialogue extends beyond the local communities to other stakeholders at regional and national level, to ensure that we understand stakeholders' views, listen to their concerns, and feedback those perspectives to integrate them in the project development.

As well as ensuring we are engaging with stakeholders that will directly benefit from the development of a new tool for vector control for malaria, our engagement specialists ensure that there is ongoing coordination and information sharing at sub-regional and Pan-African levels among the various countries where Target Malaria operates. We also participate in various international policy forums where public health and scientific innovation are discussed. We want to make sure that we disseminate the latest developments in gene drive research and stakeholder engagement research at international meetings.

Who are our stakeholders?

Our overall stakeholder engagement approach is focused on the most relevant groups: **Potential beneficiaries and those directly impacted by our research in Africa.** This fundamental principle is based on ethical considerations, starting with the fact that malaria in Africa mostly impacts vulnerable rural populations characterised by a low income, limited access to health care facilities, and low average literacy level. Our work starts in these communities.

In the villages and around our insectaries, we use culturally appropriate communication tools that are co-developed by the communities and the teams in local languages taking into consideration stakeholders' preferences. The tools are adapted to the audience, and thus can differ between local communities and other stakeholders. For instance, we have developed visual aids to support oral explanations, partnered with theatre companies to hold plays explaining the project phases, used radio broadcasts and microprograms to alert communities of new activities, used loudspeaker announcements, produced animation videos to explain the science, and printed posters and flyers so people know who to contact.

At the national and regional levels, the project is engaging with multiple stakeholders such as public health agencies (for instance National Malaria Control Programs, Ministries of Health), relevant regulatory authorities, and other research institutions and civil society organizations, to ensure awareness about the research and its potential as a new tool for vector control for malaria.

At the Pan-African level, Target Malaria engages with key actors involved in making decisions on public health and research. Because the technology would be an area-wide environmental intervention across countries, this engagement takes place at the sub-regional level (West and East African communities) as well as at the Pan-African level. It is necessary to inform and share knowledge so countries can engage in Pan-African policy discussions about the framework for this research.

At a global level, gene drive attracts considerable attention because it is an innovative technology with great potential for controlling insect vectors. Target Malaria recognises that there are still questions to be addressed and that responsible research is the only process that can generate responses to these questions. We work alongside other experts in the field of gene drive research as well as risk assessment and regulatory science, to ensure that international policy makers have access to up-to-date information about the latest scientific developments in the field. International stakeholders not directly affected by the project's activities are engaged to ensure that their knowledge and perspectives are taken into account in the development of the technology and that their concerns are heard. This engagement includes meeting with many diverse individuals and organisations such as scientists, ethicists, regulators and malaria advocacy groups.

Stakeholder engagement and our project values

Our engagement strategy is deeply rooted in the project's values of:

- **Evidence-based approach:** Target Malaria is a not-for-profit research consortium, and the development of our new technology is carried out in university and public research facilities. Efficacy and safety of the technology is being assessed based on empirical evidence, led by a dedicated regulatory affairs team. This same evidence-based approach is taken through to our engagement activities at all levels, from local communities to international regulators. The project's social scientists document and continually assess their engagement activities. Our theoretical and practical stakeholder engagement experiences are published in peer-reviewed scientific journals and disseminated at conferences and workshops to contribute to a greater body of research in engagement.

- **Co-development:** The overall approach for stakeholder engagement in the countries where we work is based on the key principle and value of co-development. In practice, this means that the engagement approach is developed with stakeholders that are directly impacted, taking into consideration their preferences for engagement, and in particular for consultation; while ensuring that the project keeps to its values of excellence and being evidence-based, open, and accountable. In line with these values, the project ensures that stakeholders' perspectives are taken into consideration at different steps of the research development process. The stakeholder engagement activities in country are thus closely linked to the rest of the project's development, and concerns from stakeholders must be shared with the project.

- **Excellence:** We strive for excellence in all aspects of our project, including our engagement activities. This value is associated with rigorous research, both in the laboratory and in the communities and ecosystems where the research is conducted. For stakeholder engagement this means not only aligning with best practices and guidance currently available but contributing to evolving practices and literature concerning engagement for gene drive research.

- **Openness and accountability:** The project is committed to openness and accountability about its research and activities and making sure it is responsive to communities' concerns and complaints. For example, a grievance mechanism has been put in place in the villages and neighbourhoods where the project works. These mechanisms adhere to international guidance and best practice and are adapted to local contexts and include community representatives.

1 WHO 2020 Statement https://www.who.int/news/item/14-10-2020-who-takes-a-position-on-genetically-modified-mosquitoes

2 WHO. Guidance framework for testing genetically modified mosquitoes, Second edition, Geneva, World Health Organization, 2021. *https://www.who.int/publications/i/item/9789240025233*

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