NIHR GLOBAL HEALTH RESEARCH GROUP ON VACCINES FOR VULNERABLE PEOPLE IN AFRICA (VANGUARD)

STAKEHOLDER MAPPING AND NETWORK ANALYSIS REPORT:

WORK PACKAGE 5

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Acknowledgement

Our deepest gratitude and appreciation goes out to all our colleagues who contributed to the successful completion of the stakeholder mapping and network analysis. Their invaluable support, insights have contributed greatly in shaping the outcome of this exercise.

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We thank NIHR and the LSHTM for their oversight and immense support towards the VAnguard project. We hope that the findings and recommendations presented here will be of value to all the stakeholders involved.

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Acronyms

CABs	Community Advisory Board
CAO	Chief Administrative Officer
CGMRCCSC	Centre for Geographic Medicine Research, Coast Centre Scientific. Committee
DHO	District Health Office
FDA	Food and Drug Administration
GAVI	Global Alliance for Vaccines and Immunization
LSHTM	London School of Hygiene and Tropical Medicine
KEMRI	Kenya Medical Research Institute
MoE	Ministry of Education
MoH	Ministry of Health
MUK	Makerere University Kampala
MRC	Medical Research Council
NDA	National Drug Authority
NIHR	National Institute of Healthcare Research
PATH	Programme for Appropriate Technology for Health
RDC	Residence District Commissioner
REC	Research and Ethics Committtee
UCU	Uganda Christian University
UNICEF	United Nations Children's Fund
UNCST	Uganda National Council of Science and Technology
UVRI	Uganda Virus Research Institute
VHT	Village Health Team

1.0 Background to the VAnguard Study

Vaccines are extremely effective public health interventions. COVID-19 and recent Ebola outbreaks have brought this to public and political attention. But not everyone benefits equally (RemyV et al 20150. Structural factors (social, biological, geographical, or political circumstances that determine the benefits of vaccination) render some communities vulnerable, unable to secure optimal health benefits from vaccination programmes. This both drives health inequity and undermines wider vaccine impact by allowing persistence of non-immune communities as foci for recurrent disease outbreaks. We anticipate that our comprehensive, whole-system approach will propel an inclusive vaccine research culture in East Africa and provide a research and training model for the continent.

1.1 Aims and objectives

Our overall aim is to identify key structural, modifiable determinants of impaired vaccine impact in vulnerable communities to inform the development of integrated strategies to address them.
Our specific objectives are, in Uganda and Kenya, to
1. Investigate biological drivers and mechanisms of population differences in vaccine response
2. Understand how structural, social, and biological determinants of vaccine response interrelate to determine vaccine impact.
3. Identify and model integrated strategies to inform development of future interventions to optimize vaccine impact among vulnerable populations Integrated with our research programme we have two supporting objectives, to
4. Empower vulnerable communities to optimise vaccine impact for their people through a process of co-learning and co-creation between them and researchers, and
5. Build capacity for, and a culture of, consultative, collaborative multidisciplinary vaccine research in East Africa.

1.2 Research plan

Our work will comprise a preparatory phase (year 1), a VAnguard Community Study (WP4 year 2) and an analytic and intervention co-development phase (years 3 and 4). Our research cycle will fully integrate stakeholder and community engagement. During the preparatory phase, we shall undertake concurrent activities by multiple work packages (WP). We shall work with stakeholders (MoH's, immunisation programme partners, communities) to purposely select Ugandan and Kenyan communities that are vulnerable with regard to vaccine impact (based on vaccine coverage, and on hypothesized structural, social, and biological barriers to effective immunisation) and less vulnerable communities for comparison. At the same time, we shall review literature; and we shall use data and samples from previous studies to identify biological mechanisms of impaired vaccine response, and biomarkers that reflect them. The resulting information will be shared at a consultative meeting after the first year of the study, to co-design the protocol for a multidisciplinary VAnguard Community Study (year 2, detailed in WP4) among up to eight communities in Uganda and Kenya.

In each community we shall work closely with local stakeholders and community members. We shall invite randomly selected community members to participate in a survey, and to contribute samples to assess biomarkers associated with vaccine immunogenicity (objective 1), and biomarkers that are surrogates of vaccine uptake. We shall use mixed methods to explore the needs and challenges communities face in relation to vaccine programmes, and factors that influence their understanding of, and attitudes to, them (objective 2). We shall then undertake an integrated analysis of the data and use it to develop a model with which to test potential

intervention packages in silico, working with stakeholders and communities in an iterative process to co-develop strategies to optimize vaccine impact in vulnerable communities (years 3 and 4, objective 3). Drivers of vaccine-related vulnerability will differ between communities, and our model will accommodate this.

The proposed formative study will be undertaken in one community in Kilifi, Kenya and another in Koome Island. Kilifi is one of the 47 Counties of the devolved government system in Kenya. The County is situated on the coast of Kenya, 56 kilometres (35 mi) northeast of Mombasa. The town lies on the Kilifi Creek and sits on the estuary of the Goshi River. Kilifi town is the capital of the County. The County has a population of 1.4m people according to the 2019 census.
Kilifi County has mixed ethnic groups. The predominant inhabitants (about 80%) are from the Mijikenda groups (mainly Giriama and Chonyi). Other groups include the Swahili-Arab descendants, Barawas, Bajunis, Somalis as well as other groups from inland. Like every coastal town, fishing in Kilifi is one of the main economic activities. The Kilifi County Hospital, which is also a referral hospital, serves all of Kilifi County, and supports the KEMRI-Wellcome Trust Research Programme. Several other private clinics can be found here.

Koome Islands is one of the 13 sub-counties of Mukono district in Uganda. Koome Island is in the northwestern part of Lake Victoria. The island is separated from Ssese Islands by the Koome Channel. According to the National housing and population census 2014, the island has population of 19,808. The population is served by three government health facilities: health centre III and two health centre IIs. Not unique to other islands, fishing is the main economic activity in Koome island. It is therefore important to note that for the intial is the initial stakeholder engagement we focused on the above-mentioned communities. However, in the second year of the study, we shall involve other communities and we shall consult and involve the local and national stakeholders.

1.3 Stakeholder mapping and network analysis

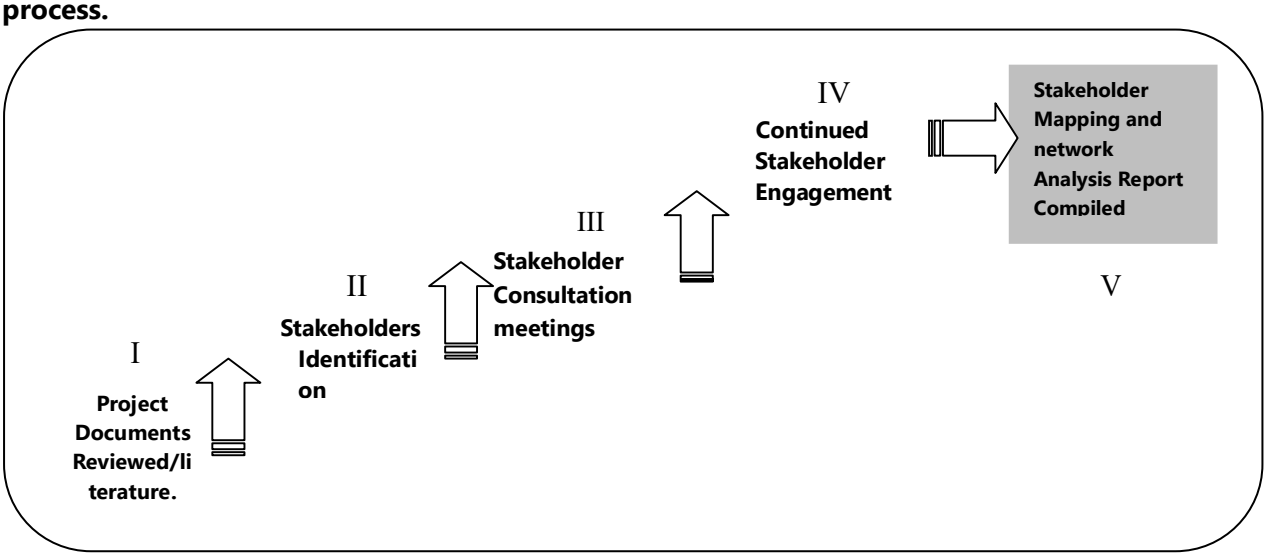
Effective stakeholder mapping and network analysis are vital for the success of vaccine programmes in Uganda and Kenya. Understanding the interests, priorities and influence of various stakeholders helps in developing strategies to engage and manage them effectively. By considering the needs and concerns of different stakeholders, vaccine programmes can be designed and implemented in a way that ensures equitable access, high coverage, and public acceptance of vaccines. Collaboration and partnerships among stakeholders are crucial for achieving the common goal of protecting public health and reducing the burden of infectious diseases. This report seeks to map key stakeholders in the Vanguard project, outlining their interests, priorities, relationships, and influence/power. It is a living document.

1.3 Methodology

The stakeholder analysis exercise utilized different approaches including review of literature, individual interviews, transect walks and group discussions with communities, district and county officials in order to profile the various stakeholders in Kenya and Uganda, their roles and responsibilities, interest, power dynamics and potential impact on vaccination programes. The stakeholder engagement activities were conduct from mid-November to mid-April. It is important to note that stakeholder engagement will be done throughout the study to co-develop strategies to optimize vaccine impact in vulnerable communities.

A situational analysis is underway in Kenya and Uganda which will supplement this report.

Figure 1: Methodology adopted for the stakeholder mapping and network analysis process.



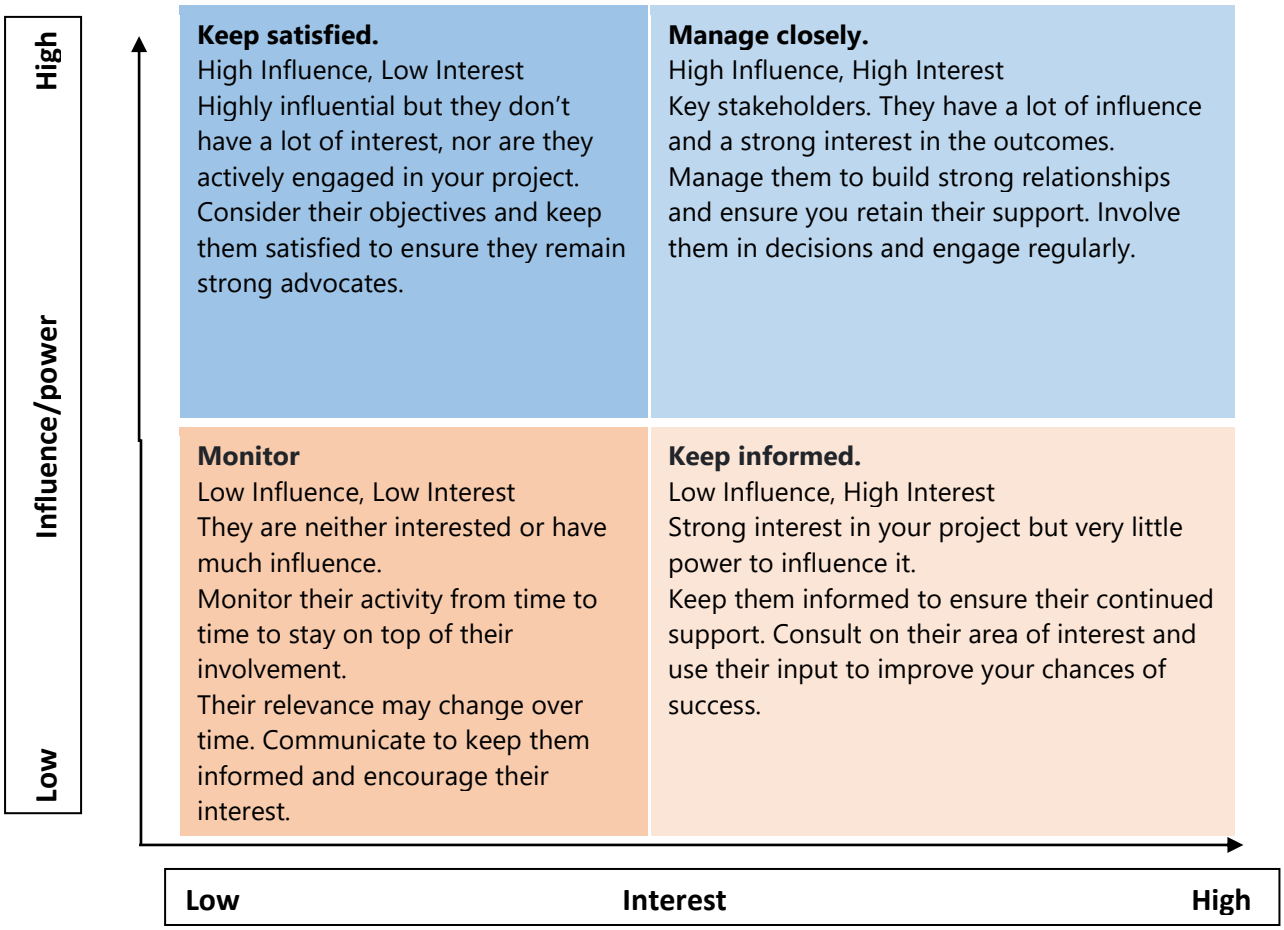
Detailed description of the Group map (Refer to appendix 1)

Stakeholders were identified based on their level of Interest (how much a stakeholder cares about the outcomes) and level of Influence (the degree in which a stakeholder can make or break the project) in the programme to support in developing strategies to engage and manage the stakeholders effectively for vaccine impact.

Stakeholder mapping exercise was conducted at the beginning of the VAnguard study, and this was facilitated by the Group Map. (https://www.groupmap.com/portfolio/stakeholder-analysis\). We developed the stakeholder map to create a shared understanding of the key people who can impact on the success of the project; critically assess their level of influence and other issues which may be important to them; and also discuss and understand the level at which each of the stakeholders will be engaged. The outcome of our discussion was a visual representation of the stakeholder analysis in GroupMap.

In the process of identifying the stakeholders for VAnguard in both Kenya and Uganda, we plotted the stakeholders against two variables, interest, and influence (Appendix 1). This indicates the key stakeholders who may have the greatest impact on the success of the project. This map will guide us in how to best allocate resources to the community engagement process and was a good basis for developing our communication and engagement plan. We shall regularly update our stakeholder profile throughout the study implementation to capture and inform us of any changes in stakeholder engagement.

Figure 2: The stakeholder analysis matrix



2.0 Stakeholder mapping and network analysis for stakeholders involved in vaccine programmes in Uganda and Kenya

The following section provides an analysis of the key stakeholders involved in vaccine programmes in Kenya and Uganda. Stakeholders interested in immunization of both children and adults can be found at the regional/county levels, district level, as well as national level.

Kenya devolved health prevention and promotion services to elected county governments in 2010, while policymaking was left at the national level, policies related to vaccines and vaccination are discussed and developed at the national level [with input from county level health managers] and implemented by county departments of health.

Uganda is stratified into administrative units namely, Districts, Counties, Constituencies, Sub-Counties, Parishes, and Villages. Each district is administered by an elected chairperson and a district council. A district is divided into a county, sub-county, parish and village each consisting of elected representatives with the power to manage local affairs, including health. Immunization services in Uganda are managed at national, regional, district and community levels through the National Expanded Programme for Immunization. The national level is responsible for development of policies and guidelines, resource mobilization, training and support supervision, The district local governments are responsible for the actual service delivery. Parliament is the legislative arm of government while the Ministry of Health (MoH) retains the overall responsibility for formulation of policy, setting standards, quality assurance, resource mobilization and capacity development and technical support. These roles are greatly subsidised by civil society which works in partnership with government at all levels.

The KEMRI Wellcome Trust Research Programme has over the last three decades, developed collaborations with vaccine stakeholders, owing to the several vaccine trials that have been conducted and are currently ongoing in Kenya. The stakeholder mapping is therefore drawn from the regular mapping exercise which is updated while conducting various research activities.

In Uganda the MRC/UVRI and LSHTM has previously worked on Koome Islands and continuously engaged with local communities and leaders. This has contributed to the stakeholder mapping at various levels. The most recent being the Population differences in Vaccines response (POPVAC A) study that aimed to investigate whether treating adolescents infected with schistosomiasis, a parasitic worm infection, before vaccination, will lead to a better immune response to vaccines. The study built a strong network with the communities where it worked closely with the village health team, head teachers, students, and parents/guardians in Koome islands of Lake Victoria, Mukono district, Uganda. The study has laid a foundation for the VAnguard study in terms of mobilization and continued engagement of the Community gate keepers like Local leaders and Village Health.

2.1 National level stakeholders

2.1.1 Ministry of Health, Kenya: The government of Kenya, through the Ministry of Health, has given mandate to Kenya Medical Research Institute, to carry out health/biomedical research, while the ministry provides oversight. Specific departments that are of interest to Vanguard project include:

- National Vaccines and Immunization Programme (NVIP)
- Kenya National Immunization Technical Working Group (KENITAG)

Power/Influence in relation to health/vaccines: High

Interest in health issues/vaccines: High

National and local Health Associations and Councils

During the COVID-19 pandemic, medical associations and councils were quite instrumental in debunking some of the myths surrounding COVID-19 disease and more specifically, vaccines. In Kilifi, we could not approach health care workers for example for COVID-19 trials before first engaging the Kenya Medical Association, National Nursing Council and the Kenya Medical and Dentists Practitioners Board leadership.

Power/Influence in relation to health/vaccines: High

Interest in health issues/vaccines: High

2.1.3 Ministry of Health, Uganda

The government is a critical stakeholder in vaccine programs in Uganda. The Ministry of Health implements immunization through the Uganda National Expanded Program on Immunization (UNEPI), which was officially launched in October 1983. Immunization services in Uganda are managed at national, regional, district and community levels; with different roles for all stakeholders. At national level, responsibilities include; development of policy, standards and guidelines, management of logistics and vaccine supply, technical support to; planning, budgeting, resource mobilization, advocacy and social mobilization, quality assurance, surveillance and research. Regional Referral Hospitals conduct immunization, co-ordinate Integrated Disease Surveillance and Response (IDSR), supportive supervision, Monitoring and evaluation, cold chain maintenance, and capacity building in the region.

The Uganda National Immunization Technical Advisory Groups (UNITAGs) provide evidence-based recommendations to the Ministry of Health, policy makers and program managers, to

guide policies and formulate strategies related to vaccines and immunization policy in Uganda. They promote the adoption of policies based on national priorities, help resist pressure from interest groups like pharmaceutical companies and funding agencies, reinforce the credibility of national vaccine and immunization strategies, and strengthen the ability to secure government or donor funding. UNITAGs consist of multidisciplinary independent experts and are chaired by an expert independent of the government Immunization Programme and are thus able to offer independent bias-free advice. Some of their roles are to:

- Ensure availability of funding for national stakeholders to conduct key activities to strengthen safety monitoring of vaccines.
- Establish a national coordination task force or working group consisting of multi-disciplinary and multi-agency representatives to ensure inter-stakeholder coordination and cooperation.
- Generate vaccine demand and ensure acceptability.
- Establish efficient communication mechanisms for vaccines between regulatory authorities, immunization programmes, Ministry of Education and other authorities.

Power/Influence in relation to health/vaccines: High

Interest: high

2.2 County/District level stakeholders

2.2.1 The Kilifi County Department of Health

This is the overall health management body in the County. The department is led by a County Executive Committee Member (CECM – same role as a national Cabinet Secretary), who oversees implementation of national ministry of health policies, while ensuring formulation and implementation of local health policies. Within the County Department of Health, key departments include:

- Division of Monitoring, Evaluation and Research: responsible for data collection, storage, and analysis, on all major health indicators, including vaccination and child immunization. This division is also responsible for approval of all research work being conducted within the County.
- Division of preventive and promotive services: is responsible for community level health programmes, health information and education for community members. Implementation of the Community Health Strategy falls under this division.
- Division of Health Services and Health Products: Vaccines acquisition and deployment is the responsibilities of this division at the County level in Kilifi. This team works closely with the Kenya Medical Supplies Agency (KEMSA) to stock the local warehouse and arrange deployment of vaccines to primary health care facilities across all of Kilifi County.
- The department of health is also structured in different management teams starting from the County level to sub-county and facility/hospital level. Their main roles are to implement policies, and health service provision.

Power/Influence in relation to health/vaccines: High

Interest in health/vaccines: High

2.2.2 Mukono District Health Office (DHO)

Uganda runs a decentralized health system with national and district levels. At the district level, immunization services are managed through the district health office, with different roles for the district, health sub-districts, health facilities and the community.

The roles of the DHO include to:

- Build the capacity of the communities through mobilization and sensitization to enable them actively to participate in vaccination programmes.
- Empower the marginalized and vulnerable groups through functional adult literacy to participate fully as equal partners in vaccination programmes.
- Network & coordinate with other government departments and NGOS engaged in vaccination programmes.

Power/Influence in relation to health/vaccines: High

Interest in health issues/vaccines: High

2.3 National leadership

2.3.1 Governors (Kenya) /Members of Parliament (Uganda): These discuss and pass bills that can impact on health matters in the country and at county level. As seen during the COVID-19 pandemic in Kenya, for instance, local members of parliament and the Governor's office led campaigns either promoting or discouraging uptake of vaccines, among their population. Similarly, Ugandan members of parliament are key in securing buy-in during vaccine campaigns.

Power/Influence in relation to health/vaccines: High

Interest in health issues/vaccines: Medium

2.4 Civil Society

2.4.1 Local NGOs/CBOs/FBOs*:* In both Kenya and Uganda, these are considered critical stakeholders in vaccine programmes as they provide support and services to communities and advocate for health-related issues as well as conduct vaccine related research. They are involved in major decisions related to health and vaccines and have had considerable instrumental in supporting county departments of health/district health offices realise some of their health targets, especially childhood immunization. NGOs interests include improving public health, reducing health disparities, and promoting social justice. The priorities of NGOs include supporting vaccination campaigns, providing health education, and empowering communities to demand better healthcare services. NGOs have a high level of influence as they work closely with communities and advocate for their needs.

Some of these key organizations with a base in Kilifi include: *Kenya Red Cross Society – Kilifi Branch; UNICEF; WHO; LVCT Health; Kenya AIDS NGOs Consortium*

In Uganda they include *Makerere University Walter Reed Project, Clinton Health Access Initiative (CHAI) and Programme for Appropriate Technology for Health (PATH)*

Power/Influence in relation to health/vaccines: Medium

Interest in health issues/vaccines: High

2.4.2 Community Health Volunteers: Community members who could be retirees, or members of community level self-help groups, trained to support health prevention and promotion at village/household level. They work directly under the county department of health. They advise

women to have their babies immunized, and recently promoting uptake of the COVID-19 vaccines.

In Uganda, Community Health workers are essential stakeholders in vaccine programs as they administer vaccines provide health education to the public. They also provide quality care to patients, reducing the incidence of infectious diseases, and improving the health of the population. They also contribute to training, and delivery of supplies and equipment in order to promote vaccination and improve access to healthcare. They interact directly with patients and are trusted sources of information.

Power/Influence in relation to health/vaccines: Low

Interest in health issues/vaccines: Medium

2.4.3 Community Advisory Board/Group: Community members in Kilifi have elected their fellow community members as their representatives to the research centre. Their main role is to share concerns from community members concerning KWTRP research and activities. They also give input into research planning and implementation through deliberative consultations and other qualitative research methods.

One of the ways researchers in Uganda engage with the communities is through the Community Advisory Boards (CABs) with one of the CABs hosted at the Uganda Virus Research Institute and members of the community belong to several CABs in the target districts.

Power/Influence in relation to health/vaccines: Low

Interest in health issues/vaccines: High

2.5 The Community

2.5.1 Community leaders

Religious leaders: KEMRI has worked closely with the County Inter-faith Council over a span of 10 years. These have large congregations in Mosques and Churches and wield considerable levels of power over their members. They can be an important conduit for messaging on vaccines.

In Uganda the leaders from the Anglican Church, Roman Catholic Church and Muslim Clerics play a crucial role in mobilizing people to take part in various government programmes including vaccination programmes.

Power/Influence in relation to health/vaccines: Medium

Interest in health issues/vaccines: Medium

Religious leaders: Locations/Local Councils are the lowest level of administration in the national government system in Kenya and are governed by a. Assistant Chiefs are administrators for a sub-location, which is made up of a number of villages. Chiefs are required by national government to oversee all activities taking place within their [sub]locations. The KEMRI Wellcome Trust Research Programme has a database of all Chiefs within the Kilifi Health and Demographic Surveillance System area. No community level activities can take place in a location without approval from a Chief. Chiefs also sit on primary health facility committees. They are responsible for ensuring that government policies are implemented at community level. In Uganda the equivalent Local administration structure consists of LC V Chairman at the District, LC IV at the county, LC III at the sub-county, LC II at the parish and LC I at the village level.

Power/Influence in relation to health/vaccines: Medium

Interest in health issues/vaccines: Medium

2.5.2 Community members: These take up (or reject) health services, including vaccinations for children and adults.

The community leaders and other stakeholders support them to promote understanding of the risks and benefits of vaccines and immunization; differentiate between genuine and false information; and to ensure that correct information is communicated, and the circulation of false information curbed.

They are encouraged to participate in public-health discussions and be involved in key decisions about immunization processes; participate and contribute to the immunization delivery process and to convey the needs and perspectives of their communities to policymakers.

Power/Influence in relation to health/vaccines: Medium

Interest in health issues/vaccines: High

2.6 Funders

These are crucial stakeholders in vaccine programmes as they provide funding and support for the implementation of vaccination programmes. The interests of donors include improving public health, reducing poverty, and achieving sustainable development goals. The priorities of donors include investing in research and development of new vaccines, improving vaccine coverage in underserved areas, and strengthening health systems. They provide resources and shape the agenda for vaccine programmes.

Power/Influence: high

Interest: high

2.7 Pharmaceutical companies

These are important stakeholders in vaccine programmes as they produce vaccines and related products. The interests of pharmaceutical companies include profitability, innovation, and regulatory compliance. The priorities of pharmaceutical companies include investing in research, ensuring quality and safety of vaccines, and meeting regulatory requirements. Pharmaceutical companies have control over the supply of vaccines and shape the market.

Power/Influencer: high

Interest: medium

2.8 Media

The media plays a crucial role in disseminating information and shaping public opinion on vaccination. The interests of the media include providing accurate and timely health information, promoting public health awareness, and ensuring transparency in vaccine programmes. The priorities of the media include covering vaccine-related news, addressing vaccine misinformation, and holding stakeholders accountable. The media can shape public perception and influence policy decisions.

Power/Influencer: moderate

Interest: low

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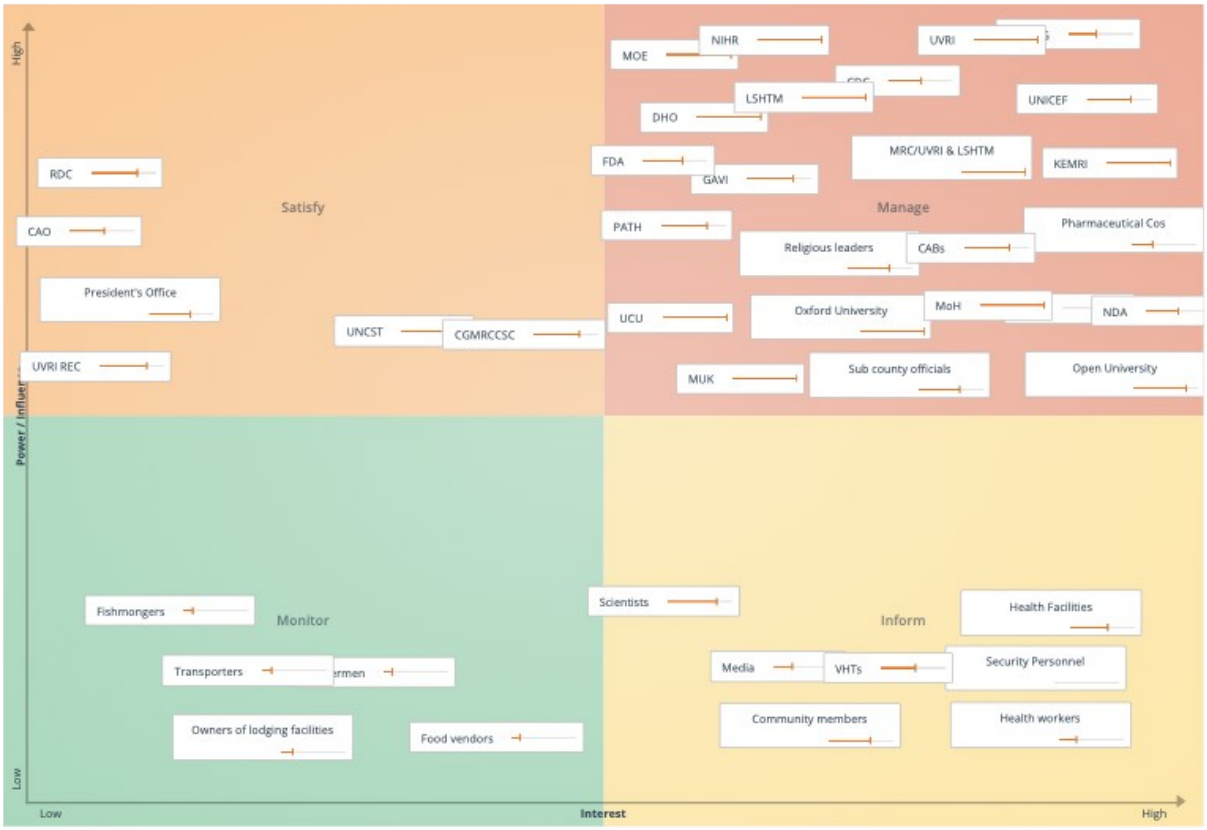
Appendix1 Diagrammatic representation of the Group Map



KEY:

1. Stakeholders on the upper left (Satisfy) have high influence/power and low interest.
2. Stakeholders on the lower left (monitor) have low influence/power and low interest.
3. Stakeholders on the upper right (Manage) have high influence/power and high interest.
4. Stakeholders on the lower right (inform) have low influence/power and high interest.

Appendix2 Some of the Project Team members during the Stakeholder classification exercise