

**Vaccination coverage of measles after a mass measles vaccination campaign among children aged 6 to 59 months, Kule refugee camp, Gambella, November 2023.**

 **STUDY PROTOCOL**

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 **November 2023**

 **GAMBELLA ETHIOPIA**

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**First review:**

**Study design: Cross-sectional community-based survey**

**Study type: Observational study**

**Study participants: Children aged 6-59 months**

**Study period: Nov 2023**

**Study site: Kule camp**

**Study team**

|  |  |  |
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# LIST OF ABREVATIONS

ARs Area of Responsibilities

CI Confidence interval

EPI Extended Program of Immunization

ERB Ethics Review Board

95% CI 95% confidence interval

MOH Ministry of Health

MSF Médecines Sans Frontières

MSF-OCA Médecines Sans Frontières Operational Centre Amsterdam

RRS Refugee Return Service

UNHCR United Nation High Commission for Refugees

WHO World Health Organization

# **1. CONTENT**

## **1.1 COUNTRY INFORMATION**

Ethiopia is located in the Horn of Africa and has an estimated population of 127 million as of 2023, making it the second most populous nation in Africa after Nigeria [1]. Ethiopia has experienced rapid economic expansion and improvements in social development indicators over the past decade, becoming one of the fastest growing economies globally. However, it remains one of the poorest countries in the world, with a per capita income of $850 [2]. Food insecurity and malnutrition remain persistent concerns, with an estimated 22 million Ethiopians requiring food assistance in 2021 [3]. Significant progress has been made in improving child and maternal health, but there are still gaps in access to quality health services, clean water, and sanitation [4].

The Gambella Region, located in southwestern Ethiopia, covers a land area of 25,800 sq. km (figure 1). As of 2007, its population was estimated at 307,000, comprised predominantly of ethnic Nuer, Anuak, and other marginalized groups [5]. The region has a historically volatile political climate fueled by ethnic tensions. Gambella also hosts a significant refugee population including large camps housing South Sudanese refugees fleeing conflict and food insecurity in their country [6]. Persistent issues in Gambella include high rates of malnutrition, inadequate access to education and health services, poor transportation networks, and lack of economic opportunities outside of subsistence farming [7].



Figure 1: Map of Gambella

## **1.2 MSF PRESENCE**

Médecines Sans Frontières (MSF) has been providing a range of essential services to refugees in the Kule camp in Gambella, Ethiopia, since 2014. These services include emergency medical care, maternal and child health services, mental health support, latrine construction, clean water distribution, and hygiene education.

In addition to these essential services, MSF also advocates for the rights of refugees in Kule. The organization has called for increased support from the international community to ensure that refugees have access to the resources they need to survive and thrive. MSF also works to raise awareness about the experiences of refugees in the camp, drawing attention to the challenges they face and the resilience they demonstrate in the face of adversity.

## **1.3 MEASLES OUTBREAK IN GAMBELLA**

In July 2023, Kule Health Center received the first case of measles for the year. The patient was a 2-year-old unvaccinated malnourished boy from Terkidi. He presented with fever, rash, and cough. He was admitted to the General Isolation Ward and considered a suspected case of measles pending confirmation with testing.

WHO and Regional Health Bureau (RHB) teams were immediately notified and began collecting blood samples. The medical team developed a case definition for suspected measles, and screening was done at the triage area. More suspected cases with complications were admitted in the same week, and samples were collected to send to the RHB laboratory. However, due to the security situation, samples were not shipped via MSF vehicles and the confirmation process was pending. Eventually, 11 samples had to be discarded because they exceeded the maximum storage time of 72 hours.

In the first week of August, the Gambella Regional Health Bureau for confirmatory tests for measles took five samples from the newly admitted cases. All samples yielded positive results and the measles outbreak was declared on August 7, 2023.

MSF is operating only life-saving emergencies focusing on Emergency Room, Inpatient Department, Maternal and childcare and sexual and gender based-violence. Since 12 July, due to the security constraints, the facility has been operating with the skeleton team in which there are only 34 staff and each duty shift lasts 12 hours. With a minimal number of staff, all OPD services had to be suspended as well as EPI services, but now re-opened since 13 September 2023.

To date 26 October 2023, MSF has received and treated 290 cases of measles with a case fatality rate of 6.3 %. Currently there are 18 active cases admitted in the isolation ward. Of the cases received, 61% of the cases are unvaccinated children, despite the vaccination campaign done last December 2022 that yielded a vaccination rate of 95%. Sixty-five percent (i.e. 79/121) are from Kule camp as per the line list. This increase in population movement can be attributed to the recent cessation of food distribution in the camp.

Regional Health Bureau is planning to conduct a mass vaccination campaign in collaboration with RRS, RCC, and all other Health and Nutrition actors in the greater Gambella region, in response to this outbreak in region.

## **1.4 RATIONALE OF STUDY**

Measles is a highly contagious disease that can cause serious complications, including pneumonia, encephalitis, and death. The measles vaccine (MCV) is very effective at preventing measles, but it is important to ensure that a high proportion of the population is vaccinated in order to achieve herd immunity and protect those who cannot be vaccinated, such as young infants and people with immunodeficiency disorders.

A measles vaccination coverage survey is a valuable tool for assessing the effectiveness of a measles vaccination campaign.

# **2. OBJECTIVE**

## **2.1 GENERAL OBJECTIVE**

* To estimate measles vaccination coverage among children 6 months to 59 months of age following a mass vaccination campaign in Kule refugee camp, Gambella, Ethiopia, October 2023.

## **2.2 SPECIFIC OBJECTIVE**

* To describe the reasons for non-vaccination during the measles mass vaccination campaign
* To provide recommendations for vaccination strategies and surveillance in this context and similar ones.

# **3. METHOD**

## **3.1 STUDY AREA**

This survey will be conducted in MSF-OCA catchment area of Kule refugee camp in Gambella region, Ethiopia. There are seven zones in the camp.

## **3.2 TARGET POPULATION**

All children between 6 -59 months of age living in Gambella Kule camp during the time of the survey will be candidates to be included.

## **3.3 STUDY DESIGN AND PERIOD**

To estimate measles vaccination coverage, a simple random spatial sampling technique will be utilized. The study period will be in November 2023, following completion of the mass vaccination campaign against measles conducted by the MSF team in the Kule refugee camp.

## **3.4 INCLUSION AND EXCLUSION CRITERIA**

### **3.4.1 INCLUSION**

Children will be included in the survey if they satisfy the following criteria:

* Be between 6 months and 59 month old at the time of the vaccination campaign
* Reside in Gambella Kule camp during the vaccination campaign
* Belong to randomly selected households
* Have the free and informed oral consent of the parent or legal guardian of the child aged at least 18 years

### **3.4.2 EXCLUSION CRITERIA**

Participant will be excluded from the survey:

* Children belonging to a household not drawn by random selection
* Any child aged under 6 months and over 59 months old at the time of the vaccination campaign
* Households in which the parents or legal guardian (at least 18 years old) of the children will be absent on the day of the survey
* Refusal of the parents or legal guardian of the child to participate in the survey

## **3.5 DEFINITIONS**

**1. HOUSE HOLD**

* A household is defined as a group of people who are under the responsibility of one person or head of household.

**2. HEAD OF HOUSEHOLD/ CARE TAKER**

The head of household is defined as follows:

* Adult household member ≥ 18 years, and
* Has authority on the household (husband or the oldest family member)
* Can give accurate information on all demographic issues in his/her household, and
* Self-identified as the head of household/caretaker

If the official head of household was absent at the time of the survey, study interviewers will inquire if any other caretaker in the HH, present at the time of the survey and is able to provide consent for the household and give accurate information. A household will be excluded from the survey if none of the household members fulfils all these criteria.

**3. VACCINATION**

**MVC (Mass Vaccination Campaign)**

MVC-Vaccinated by card

* + An individual who received one dose of measles containing vaccine during the MVC. This is confirmed on interview by a marked finger or presentation of a vaccination card

MVC-Vaccinated by verbal confirmation

* + An individual who received one dose of measles containing vaccine during the MVC. This is confirmed on interview by verbal history of the participant or his/her pparents/guardians/caretakers, but without verification using marked finger or vaccination card.

 MVC-Not vaccinated

* + An individual who had no written vaccination record. This is confirmed on interview by the participant or his/her parents/guardians/caretakers stating that no measles vaccination was received.

MVC-Unknown

* + An individual or his/her parents/guardians/caretakers do not recall if the survey subject was vaccinated during the MVC AND there is no marking of the finger suggesting that the vaccination took place nor any other available proof.

**Routine Vaccination**

Routine vaccination by card

* + An individual with vaccination registered on a routine vaccination card.

Routine vaccination by verbal confirmation

* + An individual who him/herself or his/her parents/guardians/caretakers reported that the child received the “9 months vaccine” by verbal history only.

Routine vaccination not done

* + An individual without vaccination registered on a routine vaccination card. This is confirmed on interview by the participant or his/her parents/guardians/ caretakers stating that the “9 months vaccine” was not received.

Routine vaccination –Unknown

* + An individual or his/her parents/guardians/caretakers do not recall if the survey subject was routinely vaccinated AND there is no proof suggesting that routine vaccination took place (i.e. vaccination card).

## **3.6 SAMPLE SIZE AND SAMPLING**

Sample size estimation: sample size calculation was done by using ENA SMART software (SMART, 2020).

We will consider the following parameters for the sample size calculation

* Predicted 85% vaccine coverage post campaign
* Confidence level of 95%
* 1 as the design effect (simple random sampling),
* 16% of children aged 6-59 months,
* average household size of 5.2,
* desired precision 5%,
* and 10% non-response rate,

Our minimum sample size will be 196 children from a total of 291 households.

## **3.7 SAMPLING PROCEDURE**

We will use simple random spatial sampling (SRS) to select participants in Kule camp. This method is appropriate because it ensures that all households have an equal chance of being selected in the sample. The number of points will be proportional to zone populations. GPS points will be randomly generated in the polygons of the seven zones of the camp (see annex for the number of points to be dropped per zone). 320 GPS points will be allocated with probability proportional to population size of the zones. The additional GPS points will serve as back up in case there are any difficulties in accessing pre-selected points or if any need to be removed if the points do not correspond to households and need to be eliminated (this will checked before on Google Earth).

# **4. DATA COLLECTION**

In each zone, the survey team will inform the community elders. They will explain the purpose of the survey. It will be clearly explained to the heads of the neighborhood/block leader the purpose of the survey.

In the households selected, the interviewer team will explain the purpose of the survey to the head of the household/survey participant or the parents/guardians/caretakers in the language he or she is familiar with and verbal consent obtained to conduct the interviews and documented on the questionnaire. All refusals will be recorded, and those forms retained to document participation rate.

KoBoToolbox and OsmAnd tools will be used by data collection teams to collect data more efficiently and effectively and to help guide the teams to their respective GPS points.

A standardized pre-piloted questionnaire will be used to collect the following data for each child of the cohort:

* Demographic data: age, sex, number of children aged 6 months to 9 years in the household.
* Vaccination status: verbal and card confirmation
* Reasons for non-vaccination

## **4.1 DATA COLLECTION AND ANALYSIS**

Data will be collected using KoboCollect on tablets. Data from the tablets will be uploaded to the server nightly. All databases will be automatically generated from the data entry in the tablets at the time of the interview. All data will be anonymous in nature and electronic files stored password-protected by MSF-OCA. The electronic database will be stored on the Kule Operational research SharePoint folder for 5 years after the survey. Data monitoring will be conducted to check for inconsistencies in data entry and responses. The epidemiologist will review data quality each evening after synchronization. Data cleaning and analysis will be conducted using R.

The main outcome of the analysis will be the overall vaccination coverage. Secondary outcomes will be the percentage of people in the target age group vaccinated by each vaccination campaign and reasons for non-vaccination. All indicators (i.e. sex and age of the survey population) will be calculated as proportions with 95% confidence intervals (95%CI). Estimates of actual design effect will also be calculated for each variable and those with effects greater than 1 will be reported.

The Refugee Camp Committee (RCC) chairman and zonal leaders will be informed before data collection commences. They will be asked to inform block representatives so that they can facilitate the smooth data collection.

# **5. ETHICAL ISSUES**

The survey will be conducted in accordance with the Council for International Organizations of Medical Sciences (CIOMS) International Ethical Guidelines for Biomedical Research Involving Human Subjects and International Ethical Guidelines for Epidemiological Studies.

The MSF Ethics Review Board (ERB) approved the standardized survey protocol used in this study. The MSF-OCA Medical Director determined that this particular survey met the ERB’s criteria exempting it from further review by the ERB. Mettu University approved this survey.

The survey protocol will be submitted to the OCA research committee. Mettu University approved this survey.

The Refugee Camp Committee chairperson and zonal chairpersons in each camp will be informed of the purpose of the survey. The field team will provide a short information sheet for their endorsement. The field team will also post this information sheet in trafficked areas of the camp, such as markets, and near MSF structures.

The MSF medical responsible in the field will advise the data collection team on the referral practices when finding sick people in the survey areas as well as procedure regarding psychosocial issues or victims of violence. [8, 9]

## **5.1. VERBAL CONSENT**

Verbal informed consent will be obtained from the designated head of each randomly sampled household prior to conducting the survey. The head of household will have the option to delegate questionnaire responses to another appropriate adult household member, or to have individual household members directly answer regarding their own vaccination status.

Strict measures will be enforced throughout the survey to maintain participants' privacy and ensure confidentiality of collected data. No personal identifiers, such as names, will be recorded on survey questionnaires. Individual records will only be linked to an anonymous household code during data entry and analysis. Any potentially identifiable data will be restricted internally and omitted from external distribution or reporting.

The survey activity and purpose will be clearly explained to all participants in their preferred language. Participation is entirely voluntary, and everyone will have the opportunity to decline or withdraw from the survey at any time without adverse consequences. No incentives will be offered for participation. Through these protocols, the survey will be conducted in an ethical manner that promotes respondents' full autonomy and protects personal information.

## **5.2. RISK AND BENEFIT OF THE STUDY AND CONTINGENCY PLAN**

**Benefits:**

Assessing measles vaccination coverage in the Kule camp population is essential for MSF to take appropriate action in terms of outbreak prevention, surveillance, immunization modifications, and medical interventions.

* The survey will provide valuable information about vaccination coverage ratios and causes of non-vaccination in the refugee camp.
* This information can be used to develop better tailored programming and make more efficient use of resources.
* Accurate data on vaccination status is also important for advocacy on national and international levels.

**Risks:**

The survey does not cause any physical harm to participants, but asking interviewees about personal information may feel intrusive. This risk can be mitigated by using local staff and providing careful training on interview techniques.

There are no direct immediate benefits from the survey for individual participants. However, the information collected will benefit the entire community by helping to improve vaccination coverage and protect everyone from measles.

There are risks that the study may need to be postponed or stopped if the security situation changes in the area during the implementation period. Conduct of a survey during a period of insecurity would pose an unnecessary security risk to MSF staff. The survey would likely need to be postponed until the period of insecurity has come to an end.

# **6. COLLABORATION TEAM**

This survey will be carried out in collaboration between MSF-OCA, RRS and UNHCR. MSF-OCA is the study sponsor and is responsible for the funding. It is in charge of the field part of the survey, the data analysis and report writing.

The survey report will be shared with Mettu University.

# **7. IMPLEMENTATION OF THE SURVEY IN THE FIELD**

## **7.1 SELECTION AND TASKS OF THE SURVEY TEAMS**

The task of the interviewers will be to collect the necessary data for the measles vaccination coverage survey in the Kule refugee camp. Each survey team will be composed of two interviewers. One interviewer will be responsible for asking the questions and recording the responses, while the other interviewer will be responsible for taking notes and providing support.

To finalize the field part of the survey in a reasonable time, we will need six survey teams of two persons. This will allow us to cover the entire refugee camp and collect data from a representative sample of the population.

General selection criteria for all interviewers:

* **Essential:**
	+ Fluent in English and the local language (Nuer)
	+ Available for the entire duration of the survey (training and interview days)
	+ Willing and able to work on Saturdays during the survey period (see Chapter 11.5 for a possible timeframe in the field)
	+ Motivated to participate in the survey
	+ Have no known conflict of interest
* **Desirable:**
	+ Experience with interviews in difficult settings and survey populations

## **7.2. SUPERVISION**

Summary of the principal investigator's (PI) responsibilities for the measles vaccination coverage survey:

**Overall responsibility:**

* The PI is the overall responsible person for the final version of the protocol, the quality of the research, the data analysis, and the report writing.

**Specific tasks:**

* The PI will ensure that the following tasks are performed:
	+ Preparation of all necessary documents (protocol, questionnaires) for the survey
	+ Securing the necessary local approvals (including that of the local ethics committee if needed)
	+ Preparing the field component of the survey (training of the study teams, logistics, materials) together with the MSF team in the field
	+ Following up on the field component of the survey
	+ Data entry or training of a data entry clerk
	+ Data quality checking and analysis
	+ Report writing
	+ Ensuring ethical compliance during implementation of the study through supervision and training

## **7.3 SUGGESTED MSF SUPPORT IN THE FIELD**

Summary of administrative, human resources, and logistic support for the measles vaccination coverage survey:

**Administrative support:**

* Payment of survey teams
* Booking accommodation arranging per diem for surveyors traveling from a distance

**Human resources support:**

* Hiring survey team members

**Logistic support:**

* Organizing sufficient cars and drivers for the field part of the survey
* Providing communication tools for the teams
* Providing stationery, printing the questionnaires
* Providing facilities for training days
* Arranging water and lunch if relevant

## **7.4. TRAINING OF THE SURVEY TEAM AND PRE-TESTING OF THE QUESTIONNAIRES**

Data collectors will receive three days of training before beginning the measles vaccination coverage survey. The training will cover the survey methodology, how to use the tablets, OSMand and questionnaires, and how to obtain informed consent from participants. The training will also be an opportunity for the team to discuss the survey and agree upon the correct wording for each question in Nuer.

On the third day of training, data collectors will conduct pilot surveys at points accessible by foot. The principal investigator will supervise all data collection teams at least once during the pilot. The piloting will allow data collectors to practice their skills in real-world conditions and identify any potential problems with the survey. If no major issues are noted during the pilot, and no changes to the survey are made, the pilot surveys will be included in the final data analysis.

This careful training and piloting process will help to ensure that the measles vaccination coverage survey is conducted smoothly and efficiently, and that the data collected is accurate and reliable.

A meeting will be held with associated staff such as logisticians, community liaisons, drivers and data clerks to explain the overall study and their roles and expectations.

## **7.5 TIMEFRAME IN THE FIELD**

Timeline for the measles vaccination coverage survey:

**October 2023**

* Protocol development (3 working days)
* Study preparation

**November 2023**

* Data collection
* Data analysis
* Report writing

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tasks** | **22/10** | **23/10** | **24/10** | **25/10** | **26/10** | **30/10** | **31/10** | **1/11** | **2/11** | **3/11** | **6/11** | **7/11** | **8/11** | **9/11** | **10/11** | **11/11** | **1211** | **13/11** | **15/11** | **16/11** | **17/11** | **18/11** | **20/11** | **21/11** | **23-28/11** |
| **Protocol development** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Study preparation** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Training of surveyors** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Pilot Survey day** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Data collection** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Data analysis** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Reporting** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Table 1. Preliminary plan of the field part of the vaccination coverage survey, MSF OCA Kule Project, 2023**

## **7.6. LOGISTIC**

## **7.7. SUPPLY NEEDED**

The survey team will need a variety of supplies and materials to conduct the measles vaccination coverage survey. These supplies will be purchased through log team by the logistician. A list of required supplies is provided in below Table.

The principal investigator will develop the vaccination coverage questionnaires. All necessary documents will be photocopied in Kule MSF office. The principal investigator will also prepare a computer data entry form.

These supplies and materials are essential for ensuring the smooth and efficient implementation of the survey.

|  |  |  |
| --- | --- | --- |
| **Item** | **# per team** | **Total** |
| Smartphone/ Tablets | 1 | 5 + 2 reserve |
| Power bank | 1 | 5 |
| Clipboard or folder | 2 | 10 |
| Notebook (for training) | 2 | 10 |
| Pen | 2 | 10 |
| MSF identification (arm band, vest, etc.) | 2 | 10 |
| Bottles of Water | 24 | 144 |
| Lunch for the team  | 1 | 144 |
| Back pack/shoulder bag |  | 2 |
| GPS receivers |  | 1 |

## **7.8. TRANSPORT NEEDED**

The number of vehicles required and their logistical deployment will adhere closely to existing operational regulations and constraints within the project site.

Optimally, in the absence of limitations, two to three survey teams assigned to proximal geographic areas could utilize the same vehicle for transportation each day. The proposed schedule would involve dropping off the teams in their respective zones each morning for the day's survey activities. The same car would then pick up the groups for lunch and finally at the end of the workday.

However, in alignment with local protocols, movement of the survey teams by vehicle will be planned in a manner that meets any transportation restrictions. The number of cars needed, and the exact routing will be determined accordingly, in coordination with field management. The survey schedule and flow will be designed to maximize efficiency while maintaining compliance with project transport rules and other applicable limitations.

# **8. DISSEMINATION OF RESULTS**

A comprehensive report detailing the survey methodology, results, and key findings will be generated upon study completion. This final report will be shared with the research team, the wider mission, Médecines Sans Frontières (MSF) organization, Regional of Health Bureau, Mettu University, RRS, and UNHCR.

Results will be returned to the local community through zonal meetings and posters that will be placed in the MSF structures. The HP team will also present the key findings and share the information with community members as part of their sensitization activities.

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# **Annex**

## **GPS POINTS**

Total population: 37,339

Zone A population %: 2891/37339 = 7.7%
Zone B population %: 3005/37339 = 8.1% Zone C population %: 5585/37339 = 15.0% Zone D population %: 6578/37339 = 17.6% Zone E population %: 6962/37339 = 18.7% Zone F population %: 5153/37339 = 13.8% Zone G population %: 7165/37339 = 19.2%

**Total GPS points = 320**

|  |  |  |  |
| --- | --- | --- | --- |
| **Zone** | **Total number of households** | **Estimated number of population** | **Number of GPS points** |
| A | 556 | 2891 | 25 |
| B | 578 | 3005 | 28 |
| C | 1074 | 5585 | 48 |
| D | 1265 | 6578 | 56 |
| E | 1339 | 6962 | 59 |
| F | 991 | 5153 | 44 |
| G | 1378 | 7165 | 60 |
| **Total** | **7181** | **37339** | **320** |

## **INFORMATION SHEET FOR HOUSEHOLDS**

*Measles vaccination coverage survey in Kule, camps, Gambella region, Ethiopia*

Thank you for taking the time to listen to our information about this study!

As you may know, Médecines Sans Frontières (MSF) is running health facilities in this camp. Today we are carrying out a survey about measles vaccination. We want to improve our medical work by learning from you. We also want to use this information to raise awareness about the situation in your community. MSF has been given permission to conduct this survey by the Refugee Returnee Service, UNHCR and Refugee Camp Committee leaders.

We are visiting households in the camp randomly. That means we do not need to go to every household. Your household was selected by chance to participate.

We would like to ask you some questions about measles vaccination status of your children’s.

The information you give will be kept confidential. We will use it only for the purpose of the study. This means we will not ask you for any names, and we will not write down your address. We will not give your information to anyone else outside the survey. No one will know who answered the survey. We will not share anything you tell us. None of this information will be shared with other groups in the camps. The information you give us will not change the services and items you receive.

We want you to answer honestly and tell us what you feel comfortable. We want to ask you these questions, so we are better able to improve our work. After the field part of the study, we’ll lock the information in a safe place in Europe.

Your participation in this study is voluntary. This means you can choose to do the survey or to not do the survey. If you choose to do the survey, you can say that you don’t want to answer a question. You can also stop the survey if you want. If you don’t want to participate, or want to stop, you can stop and there will be no problems. You can still come to our health facilities whenever you need care.

There are no risks to taking part in the survey. Some questions may make you feel uncomfortable, but you can refuse to answer any question. We will not give you anything to answer the questions. We are not giving bed nets as part of this survey. We ask you to participate to help improve our work and help your community. The survey will take approximately 15 minutes to complete.

If there is somebody sick in your household, they will be referred for free treatment to one of our health centers.

Once we have the results of this survey, we will put up posters with information at MSF health clinics summarizing the key information collected such as the most common views about malaria amongst all people who participated. We will also have a meeting to tell you and your community about the results.

Do you have any questions? Please feel free to ask us, we are happy to answer all your questions.

You can contact the study supervisor, Yigremachew Girma, (0912765259) at any time after the survey, if you have any questions, or you can ask to contact him at MSF Kule health center.

Thank you for your time and participation.

## **QUESTIONNAIRE**

***Measles Vaccination Coverage Survey in Kule IDP camp, Gambella Ethiopia***

**Date** ¦\_\_\_\_¦\_\_\_\_¦\_\_\_\_ *DD* / *MM* / *YY*

**Sector name** \_\_\_\_\_\_\_\_\_ Block Name : \_\_\_\_\_\_\_\_\_\_

**Team no.** ¦\_\_¦

**Household number :** \_\_\_\_\_\_\_\_

CONSENT :

Do you consent to take part in this survey?

YES \_\_\_ NO\_\_\_\_\_

If NO, an you please let me know why you do not want to participate?:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **QUESTIONNAIRE**

1. HOUSEHOLD INFORMATION :
	1. How many children between 6 -59 months are in the household?

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. How many households are in this building/compound? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
1. CHILD DEMOGRAPHICS :
	1. Child number : \_\_\_\_\_\_\_\_\_\_\_\_\_
	2. Sex : \_\_\_\_\_\_\_\_\_\_\_\_\_
	3. Age in years : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	4. If less than 1 year old, put the age in months:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. IMMUNISATION HISTORY :

**Routine vaccination**

* 1. Child vaccinated through Routine Vaccination – at 9 months vaccine :

 YES: \_\_\_\_ NO: \_\_\_\_\_

* 1. Age of child at the time of vaccination (months) : \_\_\_\_\_\_\_\_\_\_\_
	2. Place of routine vaccination : \_\_\_\_\_\_\_\_\_\_\_\_
	3. IF NO : Reason for non-routine vaccination :

Vaccines dangerous for child

Previous bad experience with vaccination

Vaccines are not beneficial

Vaccination is painful for the child

Father did not allow mother to vaccinate the child

Religious beliefs

Child was too young

Child was too old

Child was already vaccinated

Other

**MSF vaccination**

* 1. MSF Vaccination Campaign - 6 months to 59 months : YES : \_\_\_\_ NO : \_\_\_\_\_
	2. Age of child at the time of vaccination (months) :\_\_\_\_\_\_\_\_\_
	3. Place of MSF vaccination :\_\_\_\_\_\_\_\_\_
	4. IF NO, Reason for non MSF vaccination :

Vaccines dangerous for child

Previous bad experience with vaccination

Vaccines are not beneficial

Vaccination is painful for the child

Father did not allow mother to vaccinate the child

Religious beliefs

Child was too young

Child was too old

Child was already vaccinated

Other

1. PREVIOUS ILLNESS WITH MEASLES
	1. Did the child previously have measles? YES :\_\_\_\_ NO :\_\_\_\_\_
	2. If YES, please provide the age of child when they had measles (months)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Thank you for participating in this survey.*