

GLD-IPOR Malawi and GLD-SAIPAR Covid-19 Surveys

Sampling Details

The following describes the sampling procedure in Malawi and Zambia, consent statements, and resultant samples.

Sampling Procedure

Malawi

The GLD-IPOR Malawi Covid-19 survey is a telephone survey. Respondents were drawn from three pools: 1) We re-contacted participants from the LGPI survey conducted in Malawi in 2019 (details below) who had expressed willingness to participate in future surveys and had provided phone numbers to do so. We obtained 5000 phone numbers through this process; 2) As the LGPI Malawi 2019 survey did not sample from the south of Malawi, we drew in additional participants by re-visiting villages from the LGPI Malawi 2016 survey (details below) and collected 4100 phone numbers; 3) In some instances, we could not contact the original respondent through the phone number(s) provided, but we found a new participant at the provided number willing to take the survey and administered it to him/her.

For the 2020 respondents who participated in the 2016 or 2019 LGPI surveys, we have a rich set of previously-collected data on both the individual respondent and their community. Both the 2016 and 2019 LGPI surveys were implemented to allow local-level indicators; the 2016 survey sample was drawn in villages, and the 2019 survey was drawn in 1 km² areas. Both surveys were also coupled with factual and local elite surveys, which provided additional information on the nature of the community and its leadership.

Locating 2019 participants

The sample included 5000 phone numbers that had been collected from participants in the 2019 LGPI survey (see below for sampling strategy). At the end of that survey, in preparation for a panel study, we asked individuals if they would be willing to participate in a follow-up survey.

We created a dataset that included the individual's name, telephone number(s), how long the individual had lived in the area, gender, age, and education. These questions were used to verify whether the individual answering the phone was the same respondent from 2019. Where the respondent existed but was not available, enumerators set a call-back time. Where the respondent was not available but the individual answering the phone was over 18 years of age, the individual was asked if s/he wanted to participate in the study. Where the individual was under 18 years of age and the initial respondent was not available, the enumerator asked if an adult was available. That adult was then given the chance to participate in the survey. Replacement individuals were asked at the end of the survey if they were willing to participate in future studies.

Revisiting 2016 villages

The phone numbers collected in the 2019 LGPI survey only included respondents in northern and central districts. Therefore, in order to incorporate southern districts, we sent teams to the southern region districts and to two southern-central region districts that had not been included in the 2019 LGPI survey. They were given and instructed to wear masks, use hand sanitizer, and maintain social distancing measures and were sent to the villages from the 2016 survey.

For each village, we gave the team a list that provided the names and ages of all adults (obtained from the Kish grid) as well as the name of the adult chosen to take the LGPI survey for each household. They met with the village head, who then helped them to contact and hire a person from the village. This person went to village houses to ask previous respondents if they would be willing to be contacted; telephone numbers were collected from those who were willing. Where an individual was not willing or available, another adult in the household was asked to participate and, if s/he agreed, demographic information and a phone number was collected. If no one existed in the original household (e.g. the family had moved or passed away) or if no one agreed to be contacted, the village contact was asked to find another household in the village willing to be contacted. Telephone numbers and demographics were entered into a database for use in the survey.

Figure 1. Sampling in 2019 Malawi LGPI



LGPI Malawi 2019 survey

This survey was carried out between May and October of 2019 in 2 regions of Malawi (Lust et al., 2019), where each region was an independent sample. The regions included the capital city and an area along the Malawi-Zambia border. Regions were then stratified. Border regions were divided into strata that were 0-50 km from the border and 50-100 km from the border, and each of these areas was divided into five subareas. Urban areas were divided into two concentric circles: 0-25 km from the urban center and 25-50 km from the urban center, and each was divided into four subareas. The goal was to evenly distribute respondents across the regions and strata, including both rural and urban areas, as well as communities located at different distances from the border.

Satellite imagery data was employed for selecting sampling units. To do so, we divided the regions into 1 km² areas, and selected these areas using a randomized probability proportionate to size (PPS) method, based on WorldPop estimates of population density. We then divided each chosen 1 km² area into a 100-hectare grid. Sufficiently populated hectares (determined by visual inspection) were randomly numbered, and enumerators were instructed to visit hectares in that order, as opposed to what might be most convenient geographically. They were asked to complete no more than 5 interviews per hectare before moving onto the next one, and to complete 30 interviews in each square kilometer. The aim of this strategy was to ensure that enumerators spread out across the 1 km² unit.

Enumerators were instructed to enter sampling units using tablets to track their locations and confirm they were in the correct area. They were asked to go to the center of each hectare and then move outward, in separate directions. Within each household, one participant was randomly selected using the Kish method.

Figure 2. Sampling in Malawi 2016 LGPI Used in Covid-19 Study



LGPI Malawi 2016 Survey

This survey was conducted in Malawi during March and April 2016, and was implemented using tablet computers. See [here](#) for more information on this survey.

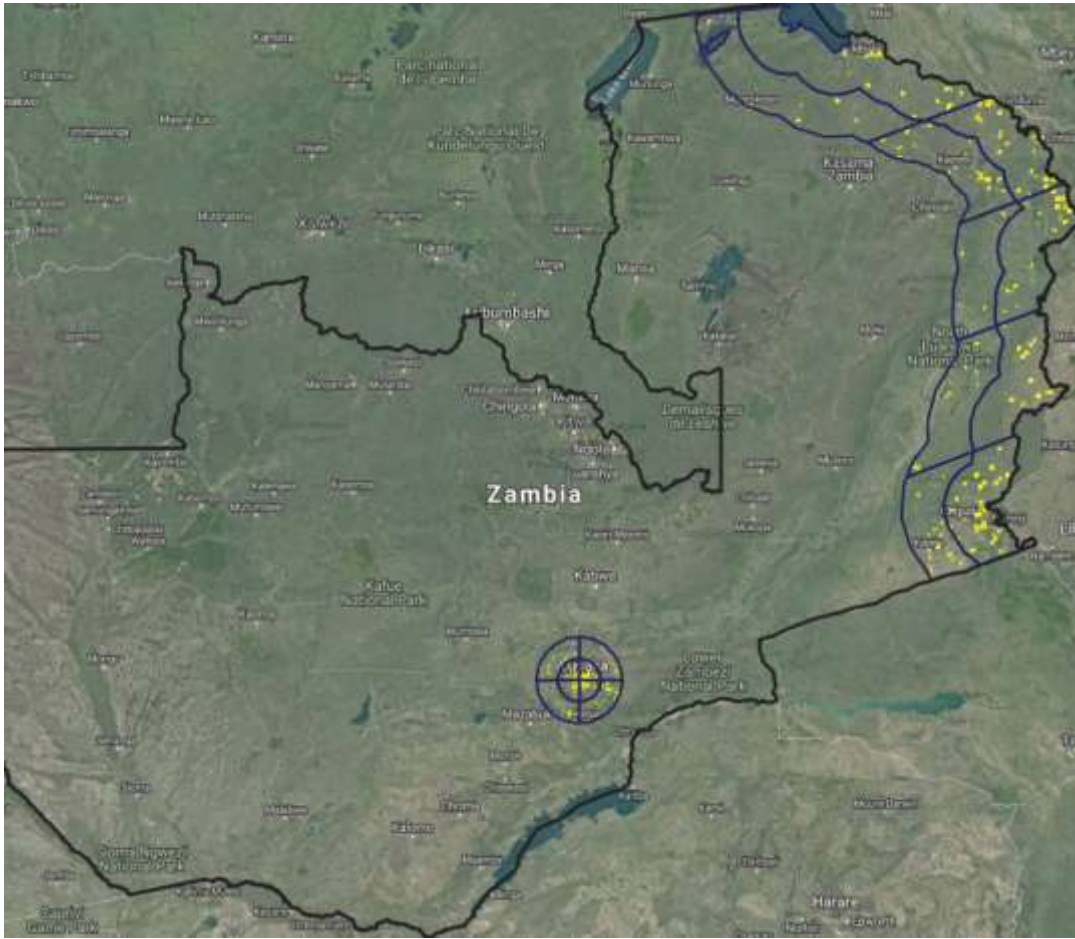
This survey sought to measure and better understand governance and service delivery at the local level. This is a highly clustered survey, which facilitates measurement and inference at the local (in this case, village) level. The survey covers: political participation, social norms and institutions, education, health, security, welfare, corruption, land, and dispute resolution.

The sample was stratified on: region (North, Central, South); the presence of matrilineal and patrilineal ethnic groups; and the urban/rural divide. Because patrilineal groups are rare in Malawi, and we wanted to maximize variation in matrilineal and patrilineal heritage, we oversampled Primary Sampling Units (PSUs) from the patrilineal stratum. We sampled 22 PSUs, namely 'Traditional Authorities' (TAs). These 22 sampled TAs are located in 15 of Malawi's 28 districts. Districts are the largest sub-national administrative units in Malawi. Within each TA (e.g. PSU), we randomly selected four enumeration areas (EAs) as Secondary Sampling Units (SSUs) – comparable to census tracts. Both PSUs and SSUs were selected without replacement, according to the principle of Probability of Selection Proportional to Measure of Size (PPMS). Within each EA, we sampled four villages, based on known geographical points on the maps of the EAs produced for Malawi's latest population census. Once in the village, enumerators followed a random walk pattern to select households. After they entered the household, the interviewer collected the necessary data about composition of the household. Both the contact and main questionnaires were programmed on digital tablets, including the selection of the final respondent in the household through a digital version of the Kish grid. The target was to interview 22 respondents in each village. This process produced a sample of 8,100 respondents.

While the sampling procedures were planned as presented above, this was not always the case in practice. In total, the research team had to draw 11 replacement EAs. One replacement EA was drawn because enumerators were chased out of a village and forced to withdraw from the EA. In the remaining 10 cases, EAs were not accessible (e.g. in one instance our team was unable to reach the designated EA because a bridge had washed away during heavy rains). In these instances, backup enumeration areas were randomly selected within the same EAs (excluding already selected and inaccessible zones) and were used as replacements. In total, only 11 of the 99 sampled EAs are replacement EAs. In addition, given

that multiple enumerators conducted surveys in the same village, the target number of 22 respondents per village (neighborhood in urban areas) was not always precisely reached. Additionally, the boundaries between villages and neighborhoods were not always clear, which also caused our teams to deviate from the target.

Figure 3. Sampling in 2019 Zambia LGPI



Zambia

The Covid-19 survey sample is based on the database of telephone numbers collected from the 2019 LGPI respondents who agreed to be contacted for a follow-up survey. Sampling for the 2019 LGPI in Zambia followed the same procedures as those for the 2019 LGPI in Malawi, outlined above. There are approximately 4500 available phone numbers, and we aim to reach at least 3650 respondents.

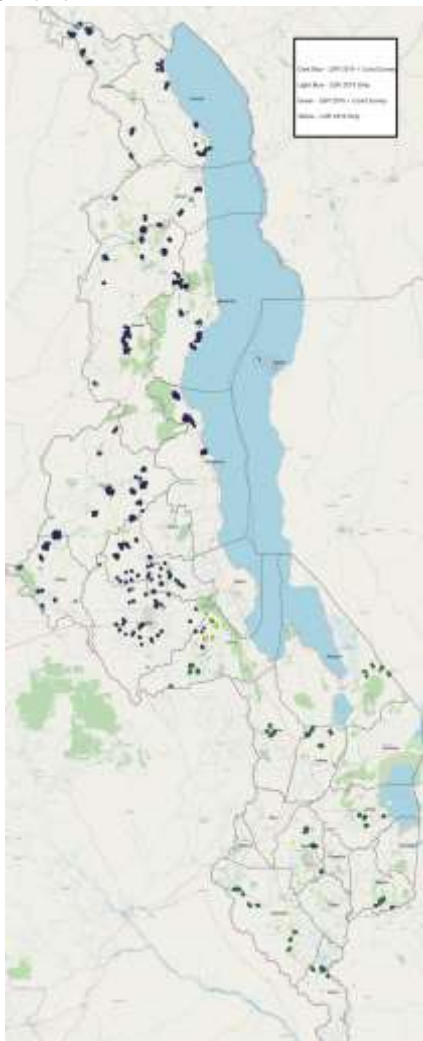
In the event that the original respondent cannot be reached, we will try to replace the respondent, either with the individual who answered the phone, provided they are at least 18 years old, or with someone else in the household who meets the age criteria. Replacement respondents will answer an additional set of demographic questions to make up for the fact that we do not have extant LGPI data for them.

The 2019 LGPI respondents lived either in the Lusaka area (within a 50 km radius of the city-centre) or the Zambia-Malawi and Zambia-Tanzania border areas (up to 100 km from the border). The 2019 sampling procedure was designed so these respondents were clustered within communities, allowing us to get community-level estimates of various outcomes. While this sample is not nationally representative, these particular regions are particularly significant, as they coincide with current Covid-19 hotspots, particularly in Lusaka and along the Tanzanian border.

Samples

The resulting samples are depicted below. (The Zambia survey is in-progress, and the sample yet to be determined.)

Malawi, June 2020



Ethics and Consent

This research seeks to maximize the benefits for Malawian and Zambian society, while minimizing risk to participants in the study. The project leaders are trained in courses on the ethical treatment of human research participants. All research activities comply with the Swedish Data Services regulations, as well as the guidelines for research ethics of the national data service regulatory body. All of the aforementioned research activities have been granted IRB approval. The IRB approval numbers for the currently ongoing Covid-19 surveys are: Pending number, approval granted (Malawi) and 970-2020 (Zambia).

We work hard to ensure the survey complies with high ethical standards. In Malawi, the numbers we called were of respondents from the 2019 LGPI Survey, conducted with Malawian Institutional Review Board approval. At the end of that survey, we asked respondents if they would be willing to be contacted again. We only interviewed respondents who are over 18 years of age, and for whom we had informed consent. If the respondent we reached was not the same as in the original survey, we asked the respondent's age and declined to interview if they were underage. In Zambia, we will follow the same procedure. All data collected will be kept anonymous and stored in encrypted files. We will not distribute anything with names or GPS coordinates, and all data will be

retained on encrypted University of Gothenburg servers. We understand that there is always risk when handling confidential data, and we have done all in our power to mitigate that risk by ensuring encrypted data storage and enforcing communication regulations. Additionally, all enumerators signed non-disclosure agreements and are subject to GDPR guidelines.

For all new respondents, we asked for consent (see below). Part of this consent section clearly explained that participation is voluntary and that the respondents have the right to seek clarification of their rights or to withdraw participation consent at any time without penalty. Each question also allowed for a do not know/refuse to answer response to mitigate discomfort for the participants. The consent scripts were as follows, changing slightly depending on the respondent type reached.

Covid-19 Malawi Survey Consent

CONSENT (New Respondent, First Person) We are currently conducting a survey on Covid-19 and would like to talk to you today. Your answers will be confidential. They will be put together with about 3500 other people we are talking to, to get an overall picture. It will be impossible to pick you out from what you say, so please feel free to tell us what you think. This interview will take about 15 minutes. There is no penalty for refusing to participate. We would like your opinion with the knowledge that there are no right or wrong answers to these questions and that you may stop the survey at any time. Are you willing to participate in this survey, either now or at another time?

Yes, now

Yes, at another time

No

Hello, my name is {0}. I am calling from the Institute of Public Opinion and Research, a research organization based in Zomba. Last year, we conducted a study looking at development and service provision and we also requested our participants to call them and discuss a few other issues this year. Do you remember to have talked to any of our survey team member between September and November last year?

Yes

No

CONSENT (Prior Respondent) We are currently conducting a survey on Covid-19 and would like to talk to you today. Your answers will be confidential. They will be put together with about 3500 other people we are talking to, to get an overall picture. It will be impossible to pick you out from what you say, so please feel free to tell us what you think. This interview will take about 15 minutes. There is no penalty for refusing to participate. We would like your opinion with the knowledge that there are no right or wrong answers to these questions and that you may stop the survey at any time. Are you willing to participate in this survey, either now or at another time?

Yes, now

Yes, at another time

No

CONSENT (New Respondent, Second Person) Hello, my name is {0}. I am calling from the Institute of Public Opinion and Research, a research organization based in Zomba. We are currently conducting a survey on Covid-19 and would like to talk to you today. Your answers will be confidential. They will be put together with about 3500 other people we are talking to, to get an overall picture. It will be impossible to pick you out from what you say, so please feel free to tell us what you think. This interview will take about 15 minutes. There is no penalty for refusing to participate. We would like your opinion with the knowledge that there are no right or wrong answers to these questions and that you may stop the survey at any time. Are you willing to participate in this survey, either now or at another time?

Yes, now

Yes, at another time

No

2020 Covid-19 Zambia Survey Consent

If the selected respondent is not the same person that you first met, repeat Introduction:

Hello, my name is {enumerator name}. I am calling from {survey agency}, a research organisation based in {location of research agency}.

To ALL respondents:

We are currently conducting a survey on Covid-19 and would like to talk to you today. Participation is voluntary, and your answers will be confidential. They will be put together with about {estimated sample size} other people we are talking to, to get an overall picture. It will be impossible to pick you out from what you say, so please feel free to tell us what you think. This interview will take about 30 minutes. There is no penalty for refusing to participate.

We are able to offer you 20 Kwacha in airtime for completing the survey.

We would like your opinion with the knowledge that there are no right or wrong answers to these questions and that you may ask for clarification or stop the survey at any time. You are also free to skip questions you consider personal or invasive without penalty.

If you have any questions, please contact:

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Are you willing to participate in this survey, either now or at another time?