Brief sampling guidance[[1]](#footnote-1)

This tool provides general guidance on how to select a sample to conduct post-distribution monitoring. In most cases is not possible to survey every beneficiary during a monitoring exercise because it is too costly and time consuming. Therefore a sample has to be established. Sampling means collecting data from a group in the population that is representative of the whole (e.g. a few beneficiaries from an area, village or location).

Post-distribution monitoring (PDM) is meant to give an idea of what happened after the cash distribution. Therefore, the sample must be of a **sufficient size** to satisfy the assumption of the statistical techniques, and to be **representative** of the characteristics of the total number of beneficiaries. We describe how to conduct simple random sampling (taking a representative sample within an interval of confidence) and non-probability sampling.

The circumstances (access to information and locations) will determine which approaches should be used.

## Simple random sampling

Simple random sampling is applicable when a list of beneficiaries is available and beneficiaries and their whereabouts are known and easily accessible.

Before randomly selecting beneficiaries from the list you should determine the sample size. The required size depends on how accurate indicators need to be. For PDM purposes, a 90 per cent confidence level with +/- 10 per cent confidence intervals is acceptable. The easiest way to calculate the required sample size is to use sample size calculators, which are available on the web[[2]](#footnote-2). In this case, all you have to do is decide on the confidence level (90 per cent or 95 per cent) and interval (5 per cent to 10 per cent) and the calculator gives you the required sample size according to the population size.

Once calculated, the sample size should be increased by 20 per cent. This is done as it is likely that some of the randomly selected beneficiaries either will not be found or will not be available. This means that without increasing the number of respondents it is unlikely that the required sample size will be achieved.

The table below provides examples of required sample sizes.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Total number of beneficiaries (pop frame)** | **Less precise sample size confidence level 90%, confidence interval +/- 10%** | | **More precise sample size confidence level 95% confidence interval +/- 10%** | |
| **Required** | **Increased by 20%** | **Sample size** | **Increased by 20%** |
| 100 | 41 | 49 | 49 | 59 |
| 300 | 56 | 637 | 73 | 88 |
| 500 | 60 | 72 | 81 | 97 |
| 700 | 62 | 74 | 84 | 101 |
| 1,000 | 64 | 77 | 88 | 106 |
| 5,000 | 67 | 80 | 94 | 113 |

To select randomly the beneficiaries from the list, you should determine a sampling interval base on the required sample size (e.g. one of every seven, if your sample size is 100 on a total population frame of 700) and select the first respondent randomly from the list with the others following the established interval.

You can mix random and purposive sampling when soliciting information from respondents within the operation areas.

Random sampling ensures reduced bias on information obtained within the purposively targeted areas.

Purposive sampling ensures that specific conditions that are important to shape the findings are considered. For example: the focus could be on households that received cash under the cash programme, on those living in different livelihoods zones, or on those receiving cash through a specific delivery mechanism, etc.

## Non-probability sampling

Non-probability sampling is used when each individual in the sampling frame does not have an equal chance of being selected. This can happen when all beneficiaries are not contained in a list and/or when beneficiaries and their whereabouts are not well known and easily accessible. With non-probability sampling it is not possible to assign a level of scientific confidence to indicators even though the results maybe accurate. Therefore, it is not possible to compare indicators across different monitoring areas / phases with scientific confidence.

The required sample size is the same as it is for simple random sampling. To reduce the bias in the selection of households, a proportional quota sampling should be used:

* Draft a map of all the locations where beneficiaries are thought to be located (involve local community members)
* Use proportional piling[[3]](#footnote-3) to understand what proportion of households that received assistance is living in which area.
* Decide the geographical distribution of the required sample size based on the proportional piling.
* In each location, enumerators should use snowball sampling[[4]](#footnote-4) to reach the required sample size.

In these situations another approach is to conduct **cluster sampling**, which is used often for health and nutrition surveys. Cluster sampling is just a way to randomly choose smaller and smaller geographical areas (clusters) until you have a small enough area that you can find or create a list of all households in order to carry out simple random sampling. A problem with cluster surveys is that households adjacent to each other are more likely to be similar than are those located further away from one another. To compensate for this ‘clustering effect’ (sometimes called the *design effect*), the number of households or persons in a cluster sample is increased over that of a simple random sample in order to provide adequate precision.

1. Adapted from: IOM (2012) ‘Non-food items and emergency shelter cluster guidelines on post-distribution monitoring’. [↑](#footnote-ref-1)
2. [www.macorr.com/sample-size-calculator.htm](http://www.macorr.com/sample-size-calculator.htm) or <http://www.raosoft.com/samplesize.html> [↑](#footnote-ref-2)
3. Proportional piling is an interactive method of employing 'visuals and tangible' to generate discussion, disagreement and eventually consensus. It does not require participants to be numerate. In this situation, you can, for instance, make 100 stones or equivalent available and ask participants to distribute the stones according to the estimated number of beneficiary households in each location. [↑](#footnote-ref-3)
4. Interviewed households should appoint other beneficiary households from among their acquaintances. [↑](#footnote-ref-4)