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Measurement interval and team organization guide

**STEP 1:** Determine the usage and storage habits of the population you are working with. This can be done by means of a survey or simple focus group discussions with the population or other staff.

* Are people keeping water in the household for less than a day (<12hrs)? If yes, then is this for a period closer to 4 or 8 hours?
* If people keep water overnight, are they keeping it till the next morning (12-16hrs) or for longer, perhaps >24hrs?

**STEP 2:** Characterize this behaviour according to the table below, which helps determine the ideal spread of paired sample intervals:



**STEP 3:** Determine the ideal measurement intervals for the site you are working. These are worked out in the above table with various ‘factors’ applied to the typical storage time for the site.

Example: if people are typically keeping water in their household for <12 hours, we might assume that their storage is between 8 and 12 hours (red circle above). Ideally, we would then collect paired samples with intervals of 3,5,8 and 11 hours between measurements.

**STEP 4:** Determine how many paired samples can be collected by each team in a day – remember that 5 paired samples would mean 10 measurements in total. A team should be able to collect a minimum of 4 paired samples in a day and a maximum of 6.

**STEP 5:** Organize the teams to collect data according to the time intervals for the typical water storage behaviour. The table below can help with this.

To help achieve the desired measurement intervals, read the time of the initial measurement in either the ‘AM’ (upper blue box) or ‘PM’ (lower brown box) and then read across until you reach the cell with the time interval you are looking for. In the example below an initial measurement is made at 08:00AM and a follow-up at 17:00PM, after 9 hours (follow the red line).



In our example above with a typical household storage of 8 to 12 hours, time intervals between measurements should, ideally, be 3,5,8 and 11 hours. If one team can make four paired sample measurements in a day then we can try and apply these intervals to the table above. In practice, the 11-hour interval is going to be hard to achieve unless one of the measurements is made late in the evening or very early in the morning, so a compromise might be needed, so we might have to adjust this to 10 hours.

Applying these intervals, we can see from the above table that we would need to make initial and follow-up measurements at the following times:

|  |  |  |
| --- | --- | --- |
| Initial | Follow-up | Time difference |
| 07:00 | 17:00 | 10hrs |
| 08:00 | 16:00 | 8hrs |
| 09:00 | 14:00 | 5hrs |
| 10:00 | 13:00 | 3hrs |

This would be relatively simple to organize, teams need to start at 07:00 in the morning, working until around 10:30, then breaking to continue from 13:00 to 17:00.

**Users of the SWOT should note that these time intervals are ideal for given water storage scenarios and that the reality of field operations might necessitate a different work organization.**

The below chart serves as an example of how to organize the work pattern of 2 teams working across a site, each making 4 paired samples per day for a six-day working week, with one team making overnight follow-up measurements and the other making same day measurements.

This chart and those above are all available in the file embedded below, which can then be adapted by field teams for their use.

In this example;

* One team has been designated for same-day measurements (<8hr) and the other for overnight measurements (>8hr),
* Friday is a day off,
* Blank cells indicate times when a team should not make a measurement to ensure that the paired samples align with the working week – so a paired sample is completed prior to the day off and that the overnight team starts the working week with afternoon measurements (PM),
* Using this routine, 44 paired samples will be made in one working week and 176 in a month (4 weeks).



Please find this chart and the others in this document here;

