How to Collect Data

How to Conduct a Household Survey

Household surveys are administered to one individual representing the household, usually the head of household, or in this case, given the importance of women in WaSH, potentially the female head of households. The household survey is based on a semi-structured interview approach. It combines questions which collect quantitative and qualitative data. The quantitative data are collected through questions, which constrain responses to those provided (e.g. Yes/No; option A, B or C). The qualitative data are collected through open-ended questions to encourage participants to provide deeper insight or reflection on a certain topic. While the quantitative data can be used to draw general conclusions and compare responses between different community groups (or different communities), the qualitative data provide the reasoning behind these results.

Sometimes survey respondents will tell you a story that is different from the truth because they feel uncomfortable and want to give answers, which they think are socially acceptable. In order to overcome this natural response you can perform a visual household assessment. This is an important method because assessing observed practices and behaviors may indicate if people have tried to mask the truth in their answers. Observing family dynamics and relations in the household will also inform you about social patterns in the community, which are important for understanding the roles people play and whether the community is ready for change. This method can also reveal differences in resources and capacity between households and neighborhoods in the community.

The process for administering household surveys involves:
1. Sampling strategy;
2. Recruiting participants;
3. Obtaining consent;
4. Administering the survey; and,
5. Analysing the results.

SAMPLING STRATEGY

The sampling strategy should reflect the type of people you are looking to recruit. This can, and should, be based on maximising the diversity of respondents. This diversity can be geographic, cultural, religious, socio-economic or demographic, or a combination of these factors. For example, a sampling strategy could be to recruit old and young female participants with and without children from different parts of a rural community. Sampling can be stratified, meaning that it follows a regular pattern (e.g. every 4th house along

a road) or random, meaning that you don't use a pattern to select who you survey (e.g. people at a community event). A stratified random sample is used to ensure representation from different groups (stratified), while not being concerned with who you survey within that group (random).

RECRUITMENT

In order to ensure that you find enough participants, there are several recruitment tools that you can use. The first is to seek the support of community leaders, the second is to put posters up in community places, and the third is to go to places where specific groups meet and ask them in person (e.g. women at a water collection point). When asking in person, it is important to provide a contact so that the individuals can follow up with the recruiter at a later time and not feel pressured to participate.

ADMINISTERING THE SURVEY

Anyone can administer a survey provided that they: a) can speak the language or have a translator; b) have been trained in survey techniques; and, c) have had supervised practice surveying. It should be noted that people from outside the community may face issues of mistrust, or misunderstanding, particularly if they do not speak the local language. Hiring and training community members has the advantage of building local capacity, increasing their knowledge of positive water-environment-health relationships, contributing to the local economy and overcoming potential barriers of having a non-community member administer the survey. However, community members can be so familiar with the respondents that they either answer for the respondent or, the respondent is hesitant to share certain information.

The questionnaire can be completed using a pen/pencil and paper or on a tablet loaded with the surveys developed using QuestionPro© software.

ADDITIONAL RESOURCES

ACF International. 2013. *Conducting KAP Surveys: A Learning Document Based on KAP Failures.* http://dd0jh6c2fb2ci.cloudfront.net/sites/default/files/publications/ACF_Conducting_KAP_Surveys_Jan13.pdf

Deaton, A. (1997). *The Analysis of Household Surveys: A Microeconometric Approach to Development Policy.* World Bank Publications. http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/1997/07/01/000009265_3980420172958/Rendered/PDF/multi_page.pdf

Groves R.M., Fowler Jr F.J., Couper M.P., Lepkowski J.M., Singer E. and Tourangeau R. 2011. *Survey methodology* (Vol. 561). John Wiley & Sons.

Lynn P. and Kaminska O. 2012. The impact of mobile phones on survey measurement error. *Public Opinion Quarterly*, nfs046.

U.S. Centers for Disease Control and Prevention (CDC). 2008. A Guide to Conducting Household Surveys for Water Safety Plans. Atlanta: U. S. Department of Health and Human Services. http://www.cdc.gov/nceh/ehs/gwash/Publications/Guide_Conducting_Household_Surveys_for_Water_Safety_Plans.pdf

Community Toolbox— Section 13. Conducting Surveys: http://ctb.ku.edu/en/table-of-contents/assessment/assessing-community-needs-and-resources/conduct-surveys/main

Living Standards Measurement Study Surveys Distance Learning Course: http://lsms.adeptanalytics.org/course/Home_eng.html

How to Conduct Focus Groups

A focus group collects information from a group of participants, rather than one person at a time. Focus groups are a useful strategy for collecting information about KAP because they allow for dialogue to occur. The schedules in the W:ISE toolkit collect similar information about interests, perspectives, beliefs, and attitudes around important water, sanitation, environment, and health issues, such as the use of latrines or water collection practices. This tool provides you with an opportunity to observe community relations during group discussions. One of the main goals of a focus group is to create a space for dialogue between participants so that a variety of perspectives on water and health can surface, potentially providing more information than a one-on-one interview would. A focus group can also allow you to witness similarities and differences in opinions among community members, allowing you to observe in advance where problems may arise during project planning or implementation. If conducted in a safe environment, focus groups can empower community members as they take on an active role in assessing their KAP and brainstorming goals for the future. Most importantly, it can become a motivational session that can lead to new ideas for addressing community gaps in WaSH.

The process for focus groups follows the same steps as for household surveys, although recruitment involves a smaller number of participants. It is also important to ensure that focus groups do not include participants who hold different amounts of power in the community, as this can lead to intimidation on behalf of some participants. Usually this means that focus groups recruit participants of similar age, gender, and socio-economic status.

The focus group should be hosted at a time and place that is convenient for participants and where they feel comfortable sharing their experiences. Focus groups do not have a set length of time that they should last, but it is important to be sensitive to participants, their comfort, needs, and the burden of time. It is crucial to create a safe environment, both for the comfort and wellbeing of the participants and for the quality of data collected, as people are more likely to share their knowledge and attitudes when they are at ease. One way to set your participants at ease may be to offer them a choice of what language the groups use for discussion. It is important that you have translators available for this purpose.

ADDITIONAL RESOURCES

Blank G. n.d. *Conducting A Focus Group. http://www.cse.lehigh.edu/~glennb/mm/FocusGroups.htm*

Community Toolbox — Section 6. Conducting Focus Groups: *http://ctb.ku.edu/en/table-of-contents/assessment/assessing-community-needs-and-resources/conduct-focus-groups/main*

Lamb D. 2012. Establishing and Maintaining Focus in Your Research: Promoting the use and Effective Implementation of Focus Group Methodology in a 'Real-Life' Research Study. In *Proceedings of the 11th European Conference on Research Methods* (p. 215). Academic Conferences Limited.

Liamputtong P. 2011. *Focus group methodology: Principle and practice*. Sage.

Massey O.T. 2011. A proposed model for the analysis and interpretation of focus groups in evaluation research. *Evaluation and program planning*, **34**(1):21-28.

OMNI (*http://www.omni.org*) *Toolkit for Conducting Focus Groups:* *http://www.rowan.edu/colleges/chss/facultystaff/focusgroup-toolkit.pdf*

Stewart D.W. and Shamdasani P.N. 2014. *Focus groups: Theory and practice* (Vol. 20). Sage Publications.

Focus Group — Participant Characteristics

These characteristics were originally used by Levison[1] and have been adapted for general use. Make sure that you include questions at the start of the data collection process so that you will be able to group the responses according to the pre-determined characteristics when you start the data analysis. The following table gives some examples of the types of criteria you may apply to stratify your data and some examples of criteria by which to differentiate them. It may be useful to adapt some of these characteristics to best capture the important demographics in your community based on the question(s) you are asking.

SOCIO-ECONOMIC CRITERIA						ROLES AND RESPONSIBILITIES	LOCATION
Age	Marital Status	Children	Grandchildren	Level of Education	Employment Sector	Community	Community
Younger Women				Primary		Faith Based	Pre-determined sample area e.g. quadrant
Older Women				Secondary			
Younger Men							
Older Men							

1   Levison M.M. 2010. "Diseases are a must. Human beings must get sick": A Rural Community's Knowledge, Attitudes and Practices towards Water, Sanitation and Health. Open Access Dissertations and Theses. Paper 4240. http://digitalcommons.mcmaster.ca/opendissertations/4240

How to Conduct Photo Voice

Photo voice is a unique activity that engages community members in showing, as well as learning about, relationships between water, sanitation, environment, and health. Participants are taught how to use a camera and take photographs, given a disposable camera, and asked to go out into the community and take pictures related to a topic while they go about their daily lives.[1] It is a method that can provide strong visual snapshots of each participant's interaction with WaSH on a daily basis, and may illustrate some of the problems that your community is facing. It engages community members in the process of collecting data, enabling them to frame the water issues at hand. Participants come back together in a focus group setting to share their pictures as a basis for dialogue. The discussions which follow provide a different perspective to be incorporated into the overall analysis.

Through this method participants are able to express their perceptions of WaSH in a way that is inclusive, as it does not rely on literacy rates or social status. This method allows community members to take control of the project and fully contribute to its direction while learning about safe WaSH practices. Previous experiences show that this type of consultation is an effective way to build a strong partnership between your team and the community.

Recruitment for photo voice tends to piggyback on other methods. For example, a group of people who participated in household surveys could be asked to continue their participation through photo voice. Alternatively, photo voice can be incorporated as an additional focus group activity. In the W:ISE toolkit context, the latter approach has been most widely used. Rather than taking a random approach to photo voice participants, it can be useful to ask specific people who seem most engaged in and enthusiastic about the process in order to ensure follow through with the photography. There should be fewer participants engaged in this method of data collection than the number that participated in the focus groups.

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1   Levison M.M., Elliott S.J., Schuster-Wallace C.J. and Karanja D.M.S. 2012. Using mixed methods to visualise the water-health nexus: identifying problems, searching for solutions. African Geographical Review. DOI:10.1080/19376812.2012.728489.
Bisung E., Elliott S.J., Abudho B., Karanja D.M. and Schuster-Wallace C.J. 2015. Using photovoice as a community based participatory research (CBPR) tool for changing water, sanitation and hygiene behaviours in Usoma, Kenya. BioMed Research International. Article ID 903025.
Bisung E., Elliott S.J., Abudho B., Schuster-Wallace C.J. and Karanja D.M. 2015. Dreaming of toilets: Using photovoice to explore knowledge, attitudes and practices around water-health linkages in rural Kenya. Health and Place. 31:208 – 15. doi:10.1016/j.healthplace.2014.12.007.
Bisung E., Elliott S.J., Schuster-Wallace C.J., Karanja D.M. and Bernard A. 2014. Social capital, collective action and access to water in rural Kenya. Social Science & Medicine, 119, 147-154.
Bisung E. and Elliott S.J. 2014. Toward a social capital based framework for understanding the water-health nexus. Social Science & Medicine, 108, 194-200.
Bisung E., Elliott S.J., Abudho B., Schuster-Wallace C.J., Karanja D.M. One community's journey to lobby for water in an environment of privatized water: Is Usoma too poor for the pro-poor program? African Geographical Review, Accepted August 2015.

TRAINING

You should first provide photo voice participants with some training that explains the significance of the activity and what they should be aiming to capture when taking photos. The training should take place at a mutually agreed-upon time and the importance of asking for consent to photograph another person should be discussed. You must also ensure that participants are fully trained in using a disposable camera. Over a short period of time (between one and two weeks is optimum), community members will document social and environmental experiences in their community.

DISCUSSION

Once the cameras have been handed in, the photographs need to be developed in duplicate (one for the database and one for the participant). Participants should reconvene to view the photographs they have taken and discuss them. This should follow the principles laid out for focus groups. Each photographer should select three photographs that they think best convey the message they are trying to explain. You and the photographers should facilitate a discussion around the photographs to discover where and why they were taken and what they represent to the photographer. This activity provides community members with an opportunity to express their experiences, knowledge, and preferences. Following this discussion the community can decide what they would like to do with the photographs. One suggestion for their use is to contribute to an education campaign that teaches about safe WaSH practices.

ADDITIONAL RESOURCES

Walton, G., Schleien, S. J., Brake, L. R., Trovato, C., & Oakes, T. (2012). Photovoice: A collaborative methodology giving voice to underserved populations seeking community inclusion. *Therapeutic Recreation Journal*, 46(3), 168.

Wang C. and Burris M.A. 1997. Photovoice: concept, methodology, and use for participatory needs assessment. *Health Educ. Behav.* **24**(3):369-87

Community Tool Box - Section 20. Implementing Photovoice in Your Community: *http://ctb.ku.edu/en/table-of-contents/assessment/assessing-community-needs-and-resources/photovoice/main*

How to Conduct Key Informant Interviews

In addition to collecting information from community members, it is important to understand the broader context within which community perceptions, knowledge, attitudes, and practices are being shaped and formed. Key Informants are individuals who have a leadership role, either within the community, or the broader area and/or are technical experts. Ideally, between six and ten interviews will be conducted with people who hold different views and roles. Unlike community methods, these informants are targeted, so sampling and recruitment strategies are different. Typically participants are identified through snowball sampling — one or two key people are identified and, during their interviews, are asked who else should be spoken to. Once the same key messages and themes are being shared, and/or, a broad representation has been achieved, the snowball sampling can be stopped.

Interviews should be held in the participant's place of work, at a time that is convenient for them, and in the language which they prefer. Research suggests that you should begin the interview with some general discussion and questions; you should attempt to create a dialogue and environment where the participant feels comfortable so that they are able to address more difficult or sensitive questions later on (Levison, 2010). You should record the interviews, either digitally or manually, with the permission of the participant, so that you can review them at a later date.

ADDITIONAL RESOURCES

UCLA Center for Health Policy Research. n.d. *Section 4: Key Informant Interviews*. Health DATA Program — Data, Advocacy and Technical Assistance. *http://healthpolicy.ucla.edu/programs/health-data/trainings/documents/tw_cba23.pdf*

USAID Centre for Development Information and Evaluation. 1996. *Conducting Key Informant Interviews*. TIPS, Number 2. Performance Monitoring and Evaluation. *http://pdf.usaid.gov/pdf_docs/PNABS541.pdf*

How to Conduct Community Meetings

Community meetings are an important vehicle for maximising the number of community members reached. Typically these are regular and familiar events where findings can be reported back to community members; members can be taught about aspects of water, sanitation, environment, and health; and, more information can be solicited from members. This method allows for overlooked or undiscovered themes and problems to emerge. Additionally, this method can increase community cohesion and empowerment through dialogue. Meetings can enable communities to work together and reconcile differences. They can be empowering and can develop sustainable, long-term solutions.

This is an important method, as it is not always feasible to survey every community member through household surveys or focus groups. Holding community meetings provides community members with an opportunity to voice their opinion or ask questions. It can be a learning opportunity for those who have questions about WaSH and it can be an opportunity for you and your team to learn about information that has not been provided by other participants. Additionally, this is a method that allows the community to come together to discuss and determine issues that require attention.

There may be some disagreement about WaSH issues among community members but it is important for this tension to be dealt with in advance of implementing a project. In this way, it can be identified and hopefully resolved, instead of potentially derailing future projects where it may act as a barrier to development. Community meetings allow the community to take ownership of any problems and solutions they come up with, which is an important part of the W:ISE objectives.

It is important to find a time and location to hold community meetings that is convenient for community members so that as many people as possible may attend. You should be aware of which groups or individuals are able to attend a meeting during certain times, and which may not, so that you can plan for a variety of groups to be represented during meetings. You should discuss your plans with community leaders to ensure that you select an appropriate time and location. You should plan your meeting ahead of time with an understanding of what you and your team will say and what you will not; the types of questions you anticipate or could ask community members; and set a time for discussion and questions at the end of the meeting. This is an opportunity to learn more about linkages in the community and you should have a team member record the proceedings, after disclosing this information with the group, so that you can review it later. You may have to have more than one community meeting to reach an adequate number of community participants. You can ask community leaders to act as liaisons and spread the word about community meetings. During meetings it is important that you use the preferred language of the majority of people when discussing your findings so far, which may require a translator. Through this method, community members can take ownership of the WaSH problems they have in their community. This may also be a time for community members to develop ideas for future action and to begin an educational campaign, if one had not previously been implemented, so that community members can continue to learn more about safe WaSH practices.

ADDITIONAL RESOURCES

Breda K.L. 2014. Participatory action research. *Nursing research using participatory action research.* New York: Springer, 1-11.

Community Tool Box - Section 1. Conducting Effective Meetings: *http://ctb.ku.edu/en/table-of-contents/leadership/group-facilitation/main*

Thomas Tufte T. and Mefalopulos P. 2009. Participatory Communication A Practical Guide. World Bank Working Paper No. 170. *http://siteresources.worldbank.org/EXTDEVCOMMENG/Resources/Participatorycommunication.pdf*

Wiggins N. 2011. Popular education for health promotion and community empowerment: a review of the literature. *Health Promotion International*, dar046.

Participatory Community Mapping

Community mapping is a technique that allows individuals to share knowledge of their community, environment, and social patterns with you through their drawing of maps. Community mapping further allows participants to teach you about their perceptions of community space. This method also acts as a form of empowerment for participants as they are able to contribute to the intervention. It involves having community members physically highlight important areas related to WaSH and social activities on a map of their community, or to draw a map of their community for you. There are many types of participatory community mapping, as shown in Table A.VI.1.

In order for the community to develop a full understanding of the relationship between water, sanitation, the environment, and health, they must be aware of how their actions and practices interact with water resources. Participatory community mapping empowers community members by allowing them to determine the important locations for water and health in the community. Participatory community mapping can be complimented by ground truthing or community walkabouts using global positioning system (GPS) mapping. Utilising a GPS, you and your team can map key water and sanitation sites and important community areas. Having community members train with GPS and map important features also contributes to capacity development. The map that you produce could aid future WaSH projects and research in the community.

Similar to recruiting procedures used in the other tools and methods in this handbook, participants should be selected for this activity based on their socioeconomic and geographic positions in the community. Community mapping involves community members highlighting areas that are important to them, such as latrines or water sources, on a map. It is best to conduct this activity wherever the participants feel most comfortable so that they are able to provide many details about important community and water and sanitation sites. In order to do this, pencil crayons, pens, and a pencil sharpener should be provided to the participants. You may ask them to draw how they perceive their community and encourage them that there is no wrong answer. Have them focus on areas where they interact with water or conduct sanitary practices (e.g. Box A.VI.1). It is important to show your appreciation for their assistance and you can do this by leaving behind the supplies that you brought with you.

> **BOX A.VI.1. WHAT COULD GO ON THE MAP?**
>
> » Latrines and water sources
> » Houses
> » Community boundaries
> » Drainage systems
> » Status of land
> » Locations of small businesses
> » Infrastructure like schools and health clinics
> » Other important sites to the participant

You and your team can use a GPS to collect and map all of the field sites that you visit, including water collection points, latrines, and households. During the process of collecting GPS coordinates you should record longitudinal and latitudinal coordinates and elevations.

ADDITIONAL RESOURCES

Fiorini, S. (2013). Change in Natural Resource Management: An Experiment with "Participatory GIS". In Human-Environment Interactions (pp. 97-112). Springer Netherlands.

TABLE A.VI.1: DIFFERENT COMMUNITY MAPPING TYPES[1]

TYPE OF MAP	DESCRIPTION	RESOURCES	STRENGTHS	WEAKNESSES
GROUND	Community members draw maps on the ground from memory using natural resources.	Raw material • Open space • Paper to draw finished map • Camera (if available to photograph the map)	• Low cost • Simple to complete • Members can interact with the product	• Cannot reproduce • Impermanent • Not to scale
SKETCH (Explained in this handbook)	These maps are drawn on large pieces of paper from memory. Community members draw important features on the map.	• Large sized paper • Pens, coloured pens, pencils	• If multiple demographic groups participate (related to age, gender, education, etc.) this can be telling of different experiences in the community • Low cost • Easy to complete	• Inaccurate often • Not to scale • Lack of accuracy can undermine credibility
TRANSECT	A map that involves important community features (churches, schools, etc.) and geophysical features (types of land, etc.) along an imaginary line that you will walk with community members.	• Paper and coloured pencils	• Involves as many ecological, production and social groups along the route as possible • Stimulates community discussions • Low cost • Easy to replicate • Tracks participant's everyday movements	• Does not promote geographic or locational accuracy • Limited perspective of the landscape • Lacks credibility with government officials
SCALE	A map that is geographically accurate to the community. Distance between objects can be measured on this map and the measurement will be the same in the community.	• Scale maps (that show where key features of the community and its environment are) • Large sheets of mylar (transparent plastic sheets) • Pencils and/or coloured pens	• Understandable and accurate representation of the community • Fast so long as resources are available and training is not required • Low cost	• Access to scale maps can be difficult • Lack of accuracy • Training is required • Harder to understand this procedure, compared to sketch, transect and ground mapping

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1   Adapted from: International Fund for Agricultural Development. 2009. Good Practices in Participatory Mapping. IFAD. http://www.ifad.org/pub/map/pm_web.pdf