

Scientific Research Tied With Social Science Research: Challenges to Expect and Ways to Overcome Them

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Abstract: This paper discusses the main common challenges faced by researchers involved with community participation. The challenges discussed in this paper are from experiences we lived during the data collection from Nyanga informal settlement in Cape Town. The research that got us involved with field work is basically on the use of different means of food and drinks preparation before selling them.

During our data collections at Nyanga transport interchange, some challenges were faced. Some of the challenges we faced are listed below and discussed afterwards: 1) locating the participants, 2) choosing meaningful information from them, 3) Language barriers, lack of trust and the researcher's security, 4) validating information, 5) time arrangements.

The methods used in this qualitative research were mainly, participants' observation, depth interviews/questionnaires and technical experiments. Of these, participants' observation is the typical qualitative method in that the subjects are studied in their environment.

It was seen that information given by the participants does not reflect actual status of the phenomenon; observation and experiments make a difference between real and verbal apparent.

Keywords: scientific research, community participation, challenges, observation.

I. INTRODUCTION

It was reported that researchers involved with qualitative research, rush to present their final finding without a note or a comment on how to proceed with data collection and how to relate to research participant. As a result there is a lack of information and understanding about the research progression for example, the main challenges that the researchers might face and what strategies to overcome that, and at the same time the researcher and the participants stay satisfied, [1], [2].

This paper discusses the main common challenges faced by researchers involved with community participation. The challenges discussed in this paper are from experiences we lived during the data collection from Nyanga informal settlement in Cape Town. The research that got us involved with field work is basically on the use of different means of food and drinks preparation before selling them. This paper speaks a bit about the strategies used for data collection (field work/questionnaire/interviews) and hence speaks about the nature of this type of data (Qualitative) and the way that the data are managed.

Qualitative research is a form of social inquiry that focuses on the way people interpret and make sense of their experiences and the world in which they live. A number of different approaches exist within the wider framework of this type of research, but most of these have the same aim: to understand the social reality of individuals, groups and cultures. Researchers use qualitative approaches to explore the behaviour, perspectives and experiences of the people they study. The basis of qualitative research lies in the interpretive approach to social reality." [3].

II. OBJECTIVES

This paper focuses on field work research with data collection from participant who are street meat vendors living in informal settlements and who do that job to survive. The vendors use wood (harvested/ waste) as a fuel in open fires to prepare what they sell (chicken in our case).

Therefore, the objective of this paper is to make awareness of what a researcher in the scientific field should be prepared for when conducting a community based study. This paper helps the researcher to allocate enough time due to the unexpected issues during the course of the whole study.

III. COMMUNITY PARTICIPATION IN A SCIENTIFIC RESEARCH

A scientific research is normally/commonly based on experimental research whether involved with laboratory work or field work. In most of the cases, it normally matches the planed time if no interruptions occurred. Social science which normally involves the community participation takes more time even more than planned due to the integration of a new part (the community) that don't have an idea of what you are trying to do. Here, the researcher needs to allocate time to spend trying to get familiar with the community particularly when community members are to jointly participate in shaping the research initiative. A scientific research involving the community, takes one side of a social science research thus can take a long time than what one can estimate when only experiment work is considered.

As in other research three phases were considered during our research: preliminary, principal and validation.

The first stage consists of formulation of concepts and clarifying objectives, and this leads to the decision of conducting the research [4]. In our case this started by visiting the site to explore the prospective participants and deciding on which ones to go with.

The visit started by talking to the community leader to ask permission to move around and speak to people. The leader led us to different corners/places to look for caterers who were involved in different types of cooking: sheep's heads, braai, chicken boilers and umquombothi caterers. At this stage the caterers were comfortable but expect something bigger from the researchers. Their expectations would be that whatever needed to be offered to them must be as soon as possible before even the research is carried out. This makes the researcher to feel like he/she always owes something to the participants.

This helped us to think of which way the research should be done to reach the objectives. This can seem invaluable at the early stage of concept of formulation with a view to understand social and cultural phenomena in natural sites in the light of experiences, meanings and views of the participants. Then as one gets to the principal stage, where they even quantify their data, it starts to make sense. The last stage consist s of checking, matching the conclusions to the objectives and testing the feasibility of policy recommendation. This stage in our study is not yet reach as the paper discusses only the procedures used up to the data collection stage. This last stage will come later in the course of the research.

As the main objective of a qualitative research is to put the investigator as close as possible to the community so the community participates and helps empirically in the study subject. This helps to gain access to the community/participants and describe personal experiences, this being said or shown by themselves [5]. Different studies reported that there is no specific hypothesis to the qualitative research but it only has the aims that try to match and support the hypotheses from the quantitative results (scientific experimental in our case) to the qualitative data [2], [4].

In this research type the role of the researcher/observer is important; it involves building up relationship with the study subject through social and physical closeness [4]. In deciding about what to observe and record, it was necessary for us to think and arrange all the elements needed to help us achieve our objectives; for examples:

- A. Who is present? On what is their membership of the group based? How did they enter the group?
- B. What is happening, what is the activity being done?
- C. When does the activity occur?
- D. What part do the physical surroundings contribute to what is happening and vice versa?
- E. Why is the activity happening? What pushed the activity even to the way it's done?

After analysing all the previous questions, the questionnaire was set and the observations were to focus on the same direction as the questions above.

It is not a green light to have a schedule of all the needs from the community and just go start with the data collection. During our data collections at Nyanga transport interchange, some challenges were faced. Some of the challenges we faced are listed below and discussed afterwards: 1) locating the participants, 2) choosing meaningful information from them, 3) Language barriers, lack of trust and the researcher's security, 4) validating information, 5) time arrangements.

A. Recruiting participants:

A critical first step in any research is to identify and recruit research participants, [2], [6]. Participants' choice would define at one point the meaning of the research. Hennink et al in 2010 confirmed that one needs to pay extra attention about whom they choose to participate in the study [7]. Such as following questions must stay in the researchers mind: Is this chosen community/participant really helping to achieve the objectives of the research?, Am I getting enough participants so that the hypotheses are verified?, Does this research really bring and contribute anything to such communities/ participants? Will this help to get the expected study outcomes? Communicating with participants directly about how they would like to benefit or how they think they could benefit from the research is crucial for the researcher to consider.

In our case we started with the idea in mind that our research is going to work for brewers. These boil huge quantity of water for Umquombothi using wood and this requires too much of energy input. After getting familiar with the production process of their product, it was noticed that the research can't really satisfy their need in terms of biogas energy demand. In this case a researcher needs to step back behind and re think of what type of participants to choose so that the research stays meaningful. After a further investigation and observations it was decided that the research would work better for the chicken vendors who don't require too much energy for their preparation process compared to the brewers. Shaw in 2012 suggests that to recruit participants, the researcher should survey the neighbourhood, tour the community, walk through neighbourhoods, and familiarize him or herself with major money-making, domestic, and service establishments in the area of interest [2]. This helps to choose community/participants that will suit the research.

B. Choosing meaningful information from participants:

A researcher must also use general knowledge to by making observations and notes, at the first chance to see the participant not waiting for the scheduled time. A researcher must try to adapt to the participant schedule [6].

In our case the information from the participants was followed by a scientific experiment to verify the exactitude of some technical questions. However observation and engaging in a conversation was the key to relevant and honest answers.

C. Languages barriers, lack of trust and researcher's security:

It was observed that in community-based research, trust is bi-directional and is based not only on authority but also on experience and relationship. Ahmed et al. in 2004 observed that spending time in a community and getting involved in non-research activities is a key to forming trusting relationships with community-based research and to acquiring a better picture of the community's strengths and limitations [8]. It is also personally rewarding. Researchers may get involved in community activities, such as health fairs, school physicals and youth programmes. The researcher may even interact directly with the group related to the focus of the research. It becomes easier for the researcher to learn about the community and vice versa [8].

With the first sampling trial, the researcher tried to speak to people in the community about the purpose of the study, explaining to them when you are doing, the reason you doing it, why you have chosen their side, and what they are going to get out of your research is important to them in order to establish a good relationship with the community. People didn't seem free to give us the information needed. The researcher sits back and decided of using a person from the community who speak both English and Xhosa as a link between the researcher and the community.

A typical example of the lack of trust, was observed where the researcher tried to explain the danger of the open fires burning, surprisingly they seemed keen to hear about it, the next day when the interpreter was with us the story was different, in their own language (Xhosa) they said that they believe in their processes (traditional method of cooking in open fires) they said that there is no health effect from any type of the wood used since they have been doing same thing since 30 years and no one is ill. Due to lack of trust and language barriers, it gave us the idea of what are the people views

on research done with them. It needs an interpreter from their community so that they feel safe with the information they are going to give. This shows that people tend to trust the ones they think are part of them. This helped us to understand the basis for the opinions that people have and to try to build on these opinions.

From our experience, we realised that all the above mentioned aspects (Language barriers, lack of trust and the researcher's security) are complementary in a way that if one is missing the other ones cannot be assured. Language being the most crucial tool, it helps to open up to each other (the researcher and the community), then trust comes from there as the feeling at ease follows. In contrary, if the language is not understood it results in disruptions, avoidance and suspect. It may also result in not understanding or respecting knowledge that resides within communities.

D. Validating the information:

It is very important to crosscheck the answers from participants. To validate the information from participants, notes have been taken and experimental side of the study has assisted. Some of the participants tend to lie or feel insecure with some questions. Putting some questions on hold until the normal mood of the participants is back helped. Delaney observed that getting information from other/ different sources is also a key to validated information [1].

E. Time arrangement:

There is a dependence on the schedule of the participants on the side of the researcher. After even building trust, it takes also enough time to help them engage with the work you do in their community. At many occasions we missed our sampling due to the lack of coincidence in our timing and theirs. I would call them a week before sampling for an appointment, they confirm it and the day of sampling, I call again to let them know that I will be there and suddenly, they may say that they changed, they are not working that day, and so and so. This is due to the fact that participants from the informal catering do not have a set agenda or a daily routine because they often work for themselves no one to control them or to give them fines or remarks when they are late. It all depends on the day whether it is close to a pay day then they expect a lot of customers and they work a bit earlier. This same behaviour was observed by Shaw (2012) in a research that involved informal participant who are homeless [2].

This affects the researcher's work in times of stay or keep lagging behind the schedule and being unable to attend effectively to other planned work. Some other times the traffic would make us late and the time we reach the site, they are already ahead, which means the experiment should not be performed.

IV. CONCLUSION: A SUMMARY OF LESSONS LEARNED

After that trust was built, security was assured, participants were chosen, we started by a theoretical sampling where the objectives were to explain our purposes to the community collect some preliminary data, 4 to 6 samples, to have an idea whether, it will be possible to reach our objectives, and see what it really takes. After that, and based on the first results, we were able to decide how and how much and what data to collect and from whom. As our research has a jointed objective to build a bio digester for brewers, after the preliminary results, it was decided to shift it to the chicken boilers alone due to the budget allocated to the project. The new round of data collection started guided by the preliminary.

The methods used in this qualitative research were mainly, participant's observation, depth interviews/questionnaires and technical experiments [4]. Of these, participant observation is the typical qualitative method in that the subjects are studied in their environment [1], [2], [4], [6], [9].

- During the participant observation stage, data are being collected in form of notes, where we record what people do and say and try to fit in that particular community's culture as a trained researcher from the other culture.
- The observation of the investigator is crucial and part of the phenomenon being studied because in order to understand personal meanings and subjective experiences one has to be involved with the lives of the people being studied [4].
- We also recap that this was done in simultaneously with a scientific quantitative method so as to see the exactitude of the information provided. But here the investigator's involvement in the lives of the informants with direct observation is considered as a primary data gathering device [4].

It was seen that information given by the participants does not reflect actual status of the phenomenon; observation makes a difference between real and verbal apparent. In the preliminary stage we also learned that it better when questions are

set in the local slang. During this field research it was noted that the dressing code of the investigator must not draw attention on the side of the participants. Clothes that are discrete and almost similar to theirs make it easier for them to reveal themselves to you. However they also know that you come from the other side and have different background and this makes them expect something different from you. For example a chicken boiler once asked me why I am putting on old shoes like hers and yet I say that I am from UCT. It is important to be careful about one's special skills and knowledge, being a good listener is not enough, reflecting back on what is heard and observed helps to draw meaningful interpretations; (Israel et al. confirmed that this helps to maintain the relationship, and sustain the research [9]).

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