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Chapter 5

Doing Sociology : Research Methods

I

Introduction

Have you ever wondered why a subject like sociology is called a social science? More than any other discipline, sociology deals with things that are already familiar to most people. All of us live in society, and we already know a lot about the subject matter of sociology — social groups, institutions, norms, relationships and so on— through our own experience. It seems fair, then, to ask what makes the sociologist different from other members of society. Why should s/he be called a social scientist?

As with all scientific disciplines, the crucial element here is method, or the procedures through which knowledge is gathered. For in the final analysis, sociologists can claim to be different from lay persons not because of how much they know or what they know, but because of how they acquire their knowledge. This is one reason for the special importance of method in sociology.

As you have seen in the previous chapters, sociology is deeply interested in the lived experience of people. For example, when studying social phenomena like friendship or religion or bargaining in markets, the sociologist wants to know not only what is observable by the bystander, but also the opinions and feelings of the people involved. Sociologists try to adopt the point of view of people they study, to see the world through their eyes. What does friendship mean to people in different cultures? What does a religious person think he/she is doing when performing a particular ritual? How do shopkeeper and customer interpret each other's words and gestures while bargaining for a better price? The answers to such questions are clearly part of the lived experience of actors involved, and they are of great interest to sociology. This need to understand both the outsider's and the insider's points of view is another reason why method is particularly important in sociology.

II

Some Methodological Issues

Although it is often used simply as a substitute for (or synonym of) 'method', the word 'methodology' actually refers to the study of method. Methodological issues or questions are thus about the general problems of scientific knowledge-gathering that go beyond any one particular method, technique or procedure. We begin by looking at the ways in which sociologists try to produce knowledge that can claim to be scientific.

Objectivity and Subjectivity in Sociology

In everyday language, the word 'objective' means unbiased, neutral, or based on facts alone. In order to be objective about something, we must ignore our own feelings or attitudes about that thing. On the other hand, the word 'subjective' means something that is based on individual values and preferences. As you will have learnt already, every science is expected to be 'objective', to produce unbiased knowledge based solely on facts. But this is much harder to do in the social sciences than in the natural sciences.

For example, when a geologist studies rocks, or a botanist studies plants, they must be careful not to let their personal biases or preferences affect their work. They must report the facts as they are; they must not (for example) let their liking for a particular scientific theory or theorist influence the results of their research. However, the geologist and the botanist are not themselves part of the world they study, i.e. the natural world of rocks or of plants. By contrast, social scientists study the world in which they themselves live — the social world of human relations. This creates special problems for objectivity in a social science like sociology.

First of all, there is the obvious problem of bias. Because sociologists are also members of society, they will also have all the normal likes and dislikes that people have. A sociologist studying family relations will herself be a member of a family, and her experiences are likely to influence her. Even when the sociologist has no direct personal experience of the group s/he is studying, there is still the possibility of being affected by the values and prejudices of one's own social context. For example, when studying a caste or religious community other than her own, the sociologist may be influenced by the attitudes about that community prevalent in her own past or present social environment. How do sociologists guard against these dangers?

One method is to rigorously and continuously examine one's own ideas and feelings about the subject of research. More generally, the sociologist tries to take an outsider's perspective on her/his own work — she/he tries to look at herself/himself and her/his research through the eyes of others. This technique is called 'self-reflexivity', or sometimes just 'reflexivity'. The sociologist constantly subjects her own

attitudes and opinions to self-examination. S/he tries to consciously adopt the point of view of others, specially those who are the subjects of her research.

One of the practical aspects of reflexivity is the importance of carefully documenting whatever one is doing. Part of the claims to superiority of research methods lies in the documentation of all procedures and the formal citing of all sources of evidence. This ensures that others can retrace the steps we have taken to arrive at a particular conclusion, and see for themselves if we are right. It also helps us to check and re-check our own thinking or line of argument.

But however, self-reflexive the sociologist tries to be, there is always the possibility of unconscious bias. To deal with this possibility, sociologists explicitly mention those features of their own social background that might be relevant as a possible source of bias on the topic being researched. This alerts readers to the possibility of bias and allows them to mentally 'compensate' for it when reading the research study. (You could go back to Chapter 1, and re-read the section (pp. 7-8) which talks about the difference between common sense and sociology).

Another problem with objectivity in sociology is the fact that, generally, there are many versions of the 'truth' in the social world. Things look different from different vantage points, and so the social world typically involves many competing versions or interpretations of reality. For example, a shopkeeper and a customer may have very different ideas about what is a 'good' price, a young person and an aged person may have very different notions of 'good food', and so on. There is no simple way of judging which particular interpretation is true or more correct, and often it is unhelpful to think in these terms. In fact, sociology tries not to judge in this way because it is really interested in what people think, and why they think what they think.

A further complication arises from the presence of multiple points of view in the social sciences themselves. Like its sister social sciences, sociology too is a 'multi-paradigmatic' science. This

Activity 1

Can you observe yourself as you observe others? Write a short description of yourself as seen from the perspective of: (i) your best friend; (ii) your rival; (iii) your teacher. You must imagine yourself to be these people and think about yourself from their point of view. Remember to describe yourself in the third person — as 'he' or 'she' rather than 'I' or 'me'. Afterwards, you can share similar descriptions written by your classmates. Discuss each others' descriptions — how accurate or interesting do you find them? Are there any surprising things in these descriptions?

means that competing and mutually incompatible schools of thought coexist within the discipline (Recall the discussion in Chapter 2 about conflicting theories of society).

All this makes objectivity a very difficult and complicated thing in sociology. In fact, the old notion of objectivity is widely considered to be an outdated perspective. Social scientists no longer believe that the traditional notion of an 'objective, disinterested' social science is attainable; in fact such an ideal can actually be misleading. This does not mean that there is no useful knowledge to be obtained via sociology, or that objectivity is a useless concept. It means that objectivity has to be thought of as the goal of a continuous, ongoing process rather than an already achieved end result.

Multiple Methods and Choice of Methods

Since there are multiple truths and multiple perspectives in sociology, it is hardly surprising that there are also multiple methods. There is no single unique road to sociological truth. Of course, different methods are more or less suited to tackle different types of research questions. Moreover, every method has its own strengths and weaknesses. It is thus futile to argue about the superiority or inferiority of different methods. It is more important to ask if the method chosen is the appropriate one for answering the question that is being asked.

For example, if one is interested in finding out whether most Indian families are still 'joint families', then a census or survey is the best method. However, if one wishes to compare the status of women in joint and nuclear families, then interviews, case studies or participant observation may all be appropriate methods.

There are different ways of classifying or categorising various methods commonly used by sociologists. It is conventional, for example, to distinguish between quantitative and qualitative methods: the former deals in countable or measurable variables (proportions, averages, and the like) while the latter deals with more abstract and hard to measure phenomena like attitudes, emotions and so on. A related distinction is between methods that study observable behaviour and those that study non-observable meanings, values and other interpretational things.

Another way of classifying methods is to distinguish the ones that rely on 'secondary' or already existing data (in the form of documents or other records and artefacts) from those that are designed to produce fresh or 'primary' data. Thus historical methods typically rely on secondary material found in archives, while interviews generate primary data, and so on.

Yet another way of categorisation is to separate 'micro' from 'macro' methods. The former are designed to work in small intimate settings usually with a single researcher; thus the interview and participant observation are thought of as micro methods. Macro methods are those that are able

to tackle large scale research involving large numbers of respondents and investigators. Survey research is the most common example of a 'macro' method, although some historical methods can also tackle macro phenomena.

Whatever the mode of classification, it is important to remember that it is a matter of convention. The dividing line between different kinds of methods need not be very sharp. It is often possible to convert one kind of method into another, or to supplement one with another.

The choice of method is usually dictated by the nature of the research question being addressed by the preferences of the researcher, and by the constraints of time and/or resources. The recent trend in social science is to advocate the use of multiple methods to bear on the same research problem from different vantage points. This is sometimes referred to as 'triangulation', that is, a process of reiterating or pinpointing something from different directions. In this way, different methods can be used to complement each other to produce a much better result than what might have been possible with each method by itself.

Because the methods most distinctive of sociology are those that are designed to produce 'primary' data, these are the ones stressed here. Even within the category of 'field work' based methods, we shall introduce you to only the most prominent, namely the survey, interview and participant observation.

Participant Observation

Popular in sociology and specially social anthropology, participant observation refers to a particular method by which sociologist learns about society, culture and people that h/she is studying (Recall the discussion on sociology and social anthropology from Chapter 1).

This method is different from others in many ways. Unlike other methods of primary data collection like surveys or interviews, field work involves a long period of interaction with the subjects of research. Typically, the sociologist or social anthropologist spends many months — usually about a year or sometimes more — living among the people being studied as one of them. As a non-native 'outsider', the anthropologist is supposed to immerse himself/herself in the culture of the 'natives' — by learning their language and participating intimately in their everyday life — in an effort to acquire all the explicit and implicit knowledge and skills of the 'insider'. Although the sociologist or anthropologist usually has specific areas of interest, the overall goal of 'participant observation' field work is to learn about the 'whole way of life' of a community. Indeed the model is that of the child: sociologists and anthropologists are supposed to learn everything about their adoptive communities in just the holistic way that small children learn about the world.

Participant observation is often called 'field work'. The term originated

in the natural sciences, specially those like botany, zoology, geology etc. In these disciplines, scientists could not only work in the laboratory, they had to go out into 'the field' to learn about their subjects (like rocks, insects or plants).

III

Field Work in Social Anthropology

Field work as a rigorous scientific method played a major role in establishing anthropology as a social science. The early anthropologists were amateur enthusiasts interested in exotic primitive cultures. They were 'armchair scholars' who collected and organised information about distant communities (which they had never themselves visited) available from the reports and descriptions written by travellers, missionaries, colonial administrators, soldiers and other 'men on the spot'. For example, James Frazer's famous book, *The Golden Bough,* which inspired many early anthropologists was based entirely on such second hand accounts, as was the work of Emile Durkheim on primitive religion. Towards the end of the 19th and in the first decade of the 20th century many early anthropologists, some of whom were natural scientists by profession, began to carry out systematic surveys and first hand observation of tribal languages, customs, rituals and beliefs. Reliance on second hand accounts began to be thought of as unscholarly, and the good results obtained from first hand work helped cement this growing prejudice (See Box on next page).

Since the 1920s, participant observation or field work has been considered an integral part of social anthropological training and the principal method through which knowledge is produced. Almost all of the influential scholars in the discipline have done such field work — in fact, many communities or geographical places have become famous in the discipline because of their association with classic instances of field work.

What did the social anthropologist actually do when doing fieldwork? Usually, s/he began by doing a census of the community s/he was studying. This involved making a detailed list of all the people who lived in a community, including information such as their sex, age group and family. This could be accompanied by an attempt to map the physical layout of the village or settlement, including the location of houses and other socially relevant sites. One of the important techniques anthropologists use, specially in the beginning stages of their field work is to construct a genealogy of the community. This may be based on the information obtained in the census, but extends much further since it involves creating a family tree for individual members, and extending the family tree as far back as possible. For example, the head of a particular household or family would be asked about his relatives — brothers, sisters, cousins — in his or her own generation;

Bronislaw Malinowski and the 'Invention' of Field Work

Although he was not the first to use this method — different versions of it had been tried out all over the world by other scholars — Bronislaw Malinowski, a Polish anthropologist settled in Britain, is widely believed to have established field work as the distinctive method of social anthropology. In 1914, when the First World War broke out in Europe, Malinowski was visiting Australia, which was a part of the British Empire at that time. Because Poland was annexed by Germany in the war, it was declared an enemy country by Britain, and Malinowski technically became an 'enemy alien' because of his Polish nationality. He was, of course, a respected professor at the London School of Economics and was on very good terms with the British and Australian authorities. But since he was technically an enemy alien, the law required that he be "interned" or confined to a specific place.

Malinowski had anyway wanted to visit several places in Australia and the islands of the South Pacific for his anthropological research, so he requested the authorities to allow him to serve his internment in the Trobriand Islands, a British-Australian possession in the South Pacific. This was agreed to — the Australian government even financed his trip and Malinowski spent a year and a half living in the Trobriand Islands. He lived in a tent in the native villages, learnt the local language, and interacted closely with the 'natives' in an effort to learn about their culture. He maintained careful and detailed records of his observations and also kept a daily diary. He later wrote books on Trobriand culture based on these field notes and diaries; these books quickly became famous and are considered classics even today.

Even before his Trobriand experience, Malinowski had been converted to the belief that the future of anthropology lay in direct and unmediated interaction between the anthropologist and the native culture. He was convinced that the discipline would not progress beyond the status of an intellectual hobby unless its practitioners engaged themselves in systematic first-hand observation preceded by intensive language learning. This observation had to be done in context — that is, the anthropologist had to live among the native people and observe life as it happened rather than interviewing individual natives summoned to the town or outpost for this purpose. The use of interpreters was also to be avoided — it was only when the anthropologist could interact directly with the natives that a true and authentic account of their culture could be produced.

His influential position at the London School of Economics and the reputation of his work in the Trobriand enabled Malinowski to campaign for the institutionalisation of field work as a mandatory part of the training imparted to students of anthropology. It also helped the discipline to gain acceptance as a rigorous science worthy of scholarly respect.

then about his/her parents' generations — father, mother, their brothers and sisters etc. — then about the grandparents and their brothers, sisters and so on. This would be done for as many generations as the person could remember. The information obtained from one person would be cross-checked by asking other relatives the same questions, and after confirmation, a very detailed family tree could be drawn up. This exercise helped the social anthropologist to understand the kinship system of the community — what kinds of roles different relatives played in a person's life and how these relations were maintained.

A genealogy would help acquaint the anthropologist with the structure of the community and in a practical sense would enable him or her to meet with people and become familiar with the way the community lives. Building on this base, the anthropologist would constantly be learning the language of the community. H/she would also be observing life in the community and making detailed notes in which the significant aspects of community life would be described. Festivals, religious or other collective events, modes of earning a living, family relations, modes of child rearing — these are examples of the kinds of topics that anthropologists would be specially interested in. Learning about these institutions and practices requires the anthropologist to ask endless questions about things that are taken for granted by members of the community. This is the sense in which the anthropologist would be like a child, always asking why, what and so on. In doing this, the anthropologist usually depends on one or two people for most of the information. Such people are called 'informants' or 'principal informants'; in the early days the term *native informant* was also used. Informants act as the anthropologist's teachers and are crucially important actors in the whole process of anthropological research. Equally important are the detailed field notes that the anthropologist keeps during field-work; these notes have to written up every day without fail, and can be supplemented by, or take the form of, a daily diary.

Activity 2

Some famous instances of field work include the following: Radcliffe-Brown on the Andaman Nicobar islands; Evans Pritchard on the Nuer in the Sudan; Franz Boas on various Native American tribes in the USA; Margaret Mead on Samoa; Clifford Geertz on Bali etc.

Locate these places on a map of the world. What do these places have in common? What would it have been like for an anthropologist to live in these places in a 'strange' culture? What could be some of the difficulties they faced?

IV

Field Work in Sociology

More or less the same techniques are used by sociologists when they do field work. Sociological field work differs not so much in its content — what is done during field-work — but in its context — where it is done — and in the distribution of emphasis across different areas or topics of research. Thus, a sociologist would also live among a community and attempt to become an 'insider'. However, unlike the anthropologist who typically went to a remote tribal community to do field work, sociologists did their field work among all sorts of communities. Moreover, sociological field work did not necessarily involve 'living in', although it did involve spending most of one's time with the members of the community.

For example, William Foote Whyte, an American sociologist, did his field work among members of a street 'gang' in an Italian-American slum in a large city and wrote a famous book *Street Corner Society*. He lived in the area for three and half years 'hanging out' — just spending time together — with members of the gang or group, who were mostly poor unemployed youth, the first American-born generation in a community of immigrants. While this example of sociological field work is very close to anthropological field work, there are important differences (See Box). But sociological field work need not only be this kind — it can take different forms, as in the work of Michael Burawoy, for example, another

Field Work in Sociology – Some Difficulties

Compared to the anthropologist who studies a primitive tribe in a remote part of the world, the student of a modern American community faces distinctly different problems. In the first place, he is dealing with a literate people. It is certain that some of these people, and perhaps many of them, will read his research report. If he disguises the name of the district as I have done, many outsiders apparently will not discover where the study was actually located... The people in the district, of course, know it is about them, and even the changed names do not disguise the individuals for them. They remember the researcher and know the people with whom he associated and know enough about the various groups to place the individuals with little chance of error.

In such a situation the researcher carries a heavy responsibility. He would like his book to be of some help to the people of the district; at least, he wants to take steps to minimise the chances of it doing any harm, fully recognising the possibility that certain individuals may suffer through the publication.

— William Foote Whyte, *Street Corner Society*, p.342

American sociologist who worked for several months as a machinist in a Chicago factory and wrote about the experience of work from the perspective of workers.

In Indian sociology, an important way in which fieldwork methods have been used is in village studies. In the 1950s, many anthropologists and sociologists, both Indian and foreign began working on village life and society. The village acted as the equivalent of the tribal community studied by the earlier anthropologists. It was also a 'bounded community', and was small enough to be studied by a single person — that is, the sociologist could get to know almost everyone in the village, and observe life there. Moreover, anthropology was not very popular with nationalists in colonial India because of its excessive concern with the primitive. Many educated Indians felt that disciplines like anthropology carried a colonial bias because they emphasised the non-modern aspects of colonised societies rather than their progressive or positive side. So, studying villages and villagers seemed much more acceptable and worthwhile for a sociologist than studying tribes only. Questions were also being asked about the links between early anthropology and colonialism. After all, the classic instances of field work like that of Malinowski, Evans Pritchard and countless others were made possible by the fact that the places and people where field work was done were part of colonial empires ruled by the countries from where the Western anthropologists came.

However, more than the methodological reasons, village studies were important because they provided Indian sociology with a subject that was of great interest in newly independent India. The government was interested in developing rural India. The national movement and specially Mahatma Gandhi had been actively involved in

Activity 3

If you live in a village: Try to describe your village to someone who has never been there. What would be the main features of your life in the village that you would want to emphasise? You must have seen villages as they are shown in films or on television. What do you think of these villages, and how do they differ from yours? Think also of the cities you have seen which are shown in film or on television: would you want to live in them? Give reasons for your answer.

If you live in a town or a city: Try to describe your neighbourhood to someone who has never been there. What would be the main features of your life in the neighbourhood that you would want to emphasise? How does your neighbourhood differ from (or resemble) city neighbourhoods as shown in film or on television? You must have seen villages being shown in film or on television: would you want to live in them? Give reasons for your answer.

what were called 'village uplift' programmes. And even urban educated Indians were interested in village life because most of them retained some family and recent historical links to villages. Above all, villages were the places where most Indians lived (and still do). For these reasons village studies became a very important part of Indian sociology, and field work methods were very well suited for studying village society.

Some Limitations of Participant Observation

You have already seen what participant observation can do — its main strength

Different Styles of Doing Village Studies

Village studies became the main preoccupation of Indian sociology during 1950s and 1960s. But long before this time, a very well known village study, *Behind Mud Walls*, was written by William and Charlotte Wiser, a missionary couple who lived for five years in a village in Uttar Pradesh. The Wisers' book emerged as a by-product of their missionary work, although William Wiser was trained as a sociologist and had earlier written an academic book on the *jajmani* system.

The village studies of the 1950s grew out of a very different context and were done in many different ways. The classical social anthropological style was prominent, with the village substituting for the 'tribe' or 'bounded community'. Perhaps the best known example of this kind of field work is reported in M.N. Srinivas's famous book, *The Remembered Village*. Srinivas spent a year in a village near Mysore that he named Rampura. The title of his book refers to the fact that Srinivas's field notes were destroyed in a fire, and he had to write about the village from memory.

Another famous village study of the 1950s was S.C. Dube's *Indian Village*. As a social anthropologist at Osmania University, Dube was part of a multi-disciplinary team — including the departments of agricultural sciences, economics, veterinary sciences and medicine — that studied a village called Shamirpet near Secunderabad. This large collective project was meant not only to study the village but also to develop it. In fact, Shamirpet was meant to be a sort of laboratory where experiments in designing rural development programmes could be carried out.

Yet another style of doing village studies is seen in the *Cornell Village Study Project* of the 1950s. Initiated by Cornell University, the project brought together a group of American social anthropologists, psychologists and linguists to study several villages in the same region of India, namely eastern Uttar Pradesh. This was an ambitious academic project to do multi-disciplinary studies of village society and culture. Some Indian scholars were also involved with this project, which helped train many Americans who later became well known scholars of Indian society.

is that it provides a very rich and detailed picture of life from the perspective of the 'insider'. It is this insider perspective that is the greatest return on the substantial investment of time and effort that field work demands. Most other research methods cannot claim to have a detailed knowledge of the 'field' over a fairly long period of time — they are usually based on a short and quick field visit. Field work allows for the correction of initial impressions, which may often be mistaken or biased. It also permits the researcher to track changes in the subject of interest, and also to see the impact of different situations or contexts. For example, different aspects of social structure or culture may be brought out in a good harvest year and in a bad harvest year; people could behave differently when employed or unemployed, and so on. Because s/he spends a long period in 'full time' engagement with the field, a participant observer can avoid many of the errors or biases that surveys, questionnaires or short term observation are inevitably subject to.

But like all research methods, field work also has some weaknesses — otherwise all social scientists would be using this method alone!

Field work by its very nature involves very long drawn out and intensive research usually by a single scholar working alone. As such, it can only cover a very small part of the world — generally a single village or small community. We can never be sure whether what the anthropologist or sociologist observed during fieldwork is really very common in the larger community (i.e. in other villages, region, or in the country) or whether it is exceptional. This is probably the biggest disadvantage of field work.

Another important limitation of field work method is that we are never sure whether it is the voice of the anthropologist we are hearing or that of the people being studied. Of course, the aim is to represent the views of the people being studied, but it is always possible that the anthropologist —whether consciously or unconsciously — is selecting what will be written down in his/her notes, and how it will be presented to the readers of his/her books or articles. Because there is no other version available to us except that of the anthropologist, there is always the chance of bias or error. However, this risk is present in most research methods.

More generally, field work methods are criticised because of the one-sided relationship they are based on. The anthropologist/sociologist asks the questions and presents the answers and speaks for 'the people'. To counter this, some scholars have suggested more 'dialogic' formats — that is, ways of presenting field work results where the respondents and people can be more directly involved. In concrete terms, this involves translating the work of the scholar into the language of the community, and asking their opinion of it, and recording their responses. As the social, economic and political distance or gap between the researcher and the researched becomes less wide, there is greater and greater

chance that the scholar's version will be questioned, qualified, or corrected by the people themselves. This will surely make sociological research more controversial and much more difficult. But in the long run this can only be a good thing because it will help to take social science forward and make it more democratic, thus allowing many more people to participate in producing and critically engaging with 'knowledge'.

Surveys

Survey is probably the best known sociological method, one that is now so much a part of modern public life that it has become commonplace. Today it is used all over the world in all sorts of contexts going well beyond the concerns of sociology alone. In India, too, we have seen the increasing use of surveys for various non-academic purposes, including the prediction of election results, devising of marketing strategies for selling products, and for eliciting popular opinions on a wide variety of subjects.

As the word itself suggests, a survey is an attempt to provide an overview. It is a comprehensive or wide-ranging perspective on some subject based on information obtained from a carefully chosen representative set of people. Such people are usually referred to as 'respondents' — they respond to questions asked of them by the researchers. Survey research is usually done by large teams consisting of those who plan and design the study (the researchers) and their associates and assistants (the latter are called 'investigators' or 'research assistants'). The survey questions may be asked and answered in various forms. Often, they are asked orally during personal visits by the investigator, and sometimes through telephone conversations. Responses may also be sought in writing, to 'questionnaires' brought by investigators or sent through the post. Finally, with the increasing presence of computers and telecommunication technology, these days it is also possible for surveys to be conducted electronically. In this format, the respondent receives and responds to questions by email, the Internet, or similar electronic medium.

Another way is to go to a internet website through links details and fill the format digitally available.

The survey's main advantage as a social scientific method is that it allows us to generalise results for a large population while actually studying only a small portion of this population. Thus a survey makes it possible to study large populations with a manageable investment of time, effort and money. That is why it is such a popular method in the social sciences and other fields.

The sample survey is able to provide a generalisable result despite being selective by taking advantage of the discoveries of a branch of statistics called sampling theory. The key element enabling this 'shortcut' is the representativeness of the sample. How do we go about selecting a representative sample from a given population? Broadly speaking, the sample selection

The Census and the National Statistical Organisation

The population census of India conducted every ten years is the largest such exercise in the world. (China, the only country with a larger population, does not conduct a regular census.) It involves literally lakhs of investigators and a stupendous amount of logistical organisation not to speak of the huge expenditure incurred by the Government of India. However, in return for this outlay, we get a genuinely comprehensive survey in which every household in India and every one of the more than one billion people living in India get included. Obviously, it is not possible to conduct such a gigantic survey very often; in fact, many developed countries no longer conduct a full census; instead they depend on sample surveys for their population data, because such surveys have been found to be very accurate. In India, the National Statistical Organisation (NSO) conducts sample surveys every year on the levels of family expenditure, employment and unemployment (and other subjects). Every five years it also conducts a bigger survey involving about 1.2 lakh households covering more than 6 lakh persons all over India. In absolute terms this is considered a large sample, and the NSO surveys are among the biggest regularly conducted surveys in the world. However, since the total population of India is over one billion you can see that the five-yearly survey of the NSO involves a sample that is only about 0.06 per cent or just over one twentieth of one per cent — of the Indian population! But because it is scientifically selected to be representative of the total population, the NSO sample is able to estimate population characteristics despite being based on such a tiny proportion.

process depends on two main principles.

The first principle is that all the relevant sub-groups in the population should be recognised and represented in the sample. Most large populations are not homogenous — they belong to distinct sub-categories. This is called stratification (Note that this is a statistical notion of stratification which is different from the sociological concept of stratification that you have studied in Chapter 4). For example, when considering the population of India, we must take account of the fact that this population is divided into rural and urban sectors which are very different from each other. When considering the rural population of any one state, we have to allow for the fact that this population lives in villages of different sizes. In the same way, the population of a single village may be stratified by class, caste, gender, age, religion or other criteria. In short, the notion of stratification tells us that the representativeness of a sample depends on its being able to reflect the characteristics of all the relevant strata in a given population. Which kinds of strata are considered relevant depends on the specific objectives of the research study. For example, when doing research on attitudes towards religion, it would be important to include members of all religions. When

researching attitudes towards trade unions it would be important to consider workers, managers and industrialists, and so on.

The second principle of sample selection is that the actual unit — i.e. person or village or household — should be based purely on chance. This is referred to as randomisation, which itself depends on the concept of probability. You may have come across the idea of probability in mathematics course. Probability refers to the chance (or the odds) of an event happening. For example, when we toss a coin, it can fall with the 'head' side up or the 'tail' side up. With normal coins, the chance — or probability — of heads or tails appearing is exactly the same, that is 50 per cent each. Which of the two events actually happens when you toss the coin — i.e. whether it comes up heads or tails — depends purely on chance and nothing else. Events like this are called random events.

We use the same idea in selecting a sample. We try to ensure that the actual person or household or village chosen to be part of the sample is chosen purely by chance and nothing else. Thus, being chosen in the sample is a matter of luck, like winning a lottery. It is only if this is true that the sample will be a representative sample. If a survey team chooses only villages that are near the main highway in their sample, then the sample is not a random or chance sample but a purposive one. Similarly, if we choose mostly middle class households, or households that we know, then the sample is again likely to be purposive. The point is that after the relevant strata in a population are identified, the actual choosing of sample households or respondents should be a matter of pure chance. This can be ensured in various ways. Different techniques are used to achieve this, the common ones being drawing of lots (or lottery), rolling of dice, the use of random number tables specially produced for this purpose, and more recently, random numbers generated by calculators or computers.

To understand how a survey sample is actually selected, let us take a concrete example. Suppose we wish to examine the hypothesis that living in smaller and more intimate communities produces greater intercommunity harmony than living in larger, more impersonal communities. For the sake of simplicity, let us suppose we are interested only in the rural sector of a single state in India. The simplest possible sample selection process would begin with a list of all villages in the state along with their population (Such a list could be obtained from the census data). Then we would decide on the criteria for defining 'small' and 'large' villages. From the original list of villages we now eliminate all the 'medium' villages, i.e. those that are neither small nor big. Now we have a revised list stratified by size of village. Given our research question, we want to give equal weightage to each of the strata, i.e. small and big villages, so we decide to select 10 villages from each. To do this, we number the list of small and

big villages, and randomly select 10 numbers from each list by drawing lots. We now have our sample, consisting of 10 big and 10 small villages from the state, and we can proceed to study those villages to see if our initial hypothesis was true or false.

Of course, this is an extremely simple design; actual research studies usually involve more complicated designs with the sample selection process being divided into many stages and incorporating many strata. But the basic principles remain the same — a small sample is carefully selected such that it is able to represent or stand for the entire population. Then the sample is studied and the results obtained for it are generalised to the entire population. The statistical properties of a scientifically selected sample ensure that the characteristics of the sample will closely resemble the characteristics of the population it is drawn from. There may be small differences, but the chance of such deviations occuring can be specified. This is known as the margin of error, or sampling error. It arises not due to any mistakes made by researchers but because we are using a small sample to stand for a large population. When reporting the results of sample surveys, researchers must specify the size and design of their sample and the margin of error.

The main strength of the survey method is that it is able to provide a broad overview representative of a large population with relatively small outlays of time and money. The bigger the sample the more chance it has of being truly representative; the extreme case here is that of the census, which includes the entire population. In practice, sample sizes may vary from 30-40 to many thousands. (See the box on the National Statistical Organisation). It is not only the size of the sample that matters; its mode of selection is even more important. Of course, decisions on sample selection can often be based on practical considerations.

In situations where a census is not feasible the survey becomes the only available means of studying the population as a whole. The unique advantage of the survey is that it

Activity 4

Discuss among yourselves some of the surveys you have come across. These may be election surveys, or other small surveys by newspapers or television channels. When the results of the survey were reported, was the margin of error also mentioned? Were you told about the size of the sample and how it was selected? You must always be suspicious of surveys where these aspects of the research method are not clearly specified, because without them, it is not possible to evaluate the findings. Survey methods are often misused in the popular media: big claims are made on the basis of biased and unrepresentative sample. You could discuss some specific surveys you have come across from this point of view.

Activity 5

How would you go about selecting a representative sample for a survey of all students in your school if the objective of the survey were to answer the following questions:

(i) Do students with many brothers and sisters do better or worse in studies compared to those with only one brother or sister (or none)?

(ii) What is the most popular break-time activity for students in the primary school (Classes I-V), middle school (Classes VI-VIII), secondary school (Classes IX-X) and senior secondary school (Classes XI-XII)?

(iii) Is a student's favourite subject likely to be the subject taught by the favourite teacher? Is there any difference between boys and girls in this regard?

(Note: Make different sample designs for each of these questions).

Aggregate Statistics: the Alarming Decline in the Sex Ratio

You have read about the sharp fall in the sex ratio in Chapter 3. In recent decades, fewer and fewer girls are being born relative to the number of boys, and the problem has reached worrying levels in states such as Punjab, Haryana, Delhi and Himachal Pradesh.

The (juvenile, or child) sex ratio is expressed as the number of girls per 1,000 boys in the age group of 0-6 years. This ratio has been falling steadily over the decades both for India as a whole and for many states in particular. Here are some of the average juvenile sex ratios for India and selected states as recorded in the Census of 1991, 2001 and 2011.

Number of girls per 1,000 boys in the age group of 0-6 years

	1991	*2001*	*2011*
India	945	927	914
Punjab	875	798	846
Haryana	879	819	830
Delhi	915	868	866
Gujarat	928	883	890
Himachal Pradesh	951	896	906

https://updateox.com/india/child-sex-ratio-in-india-state-wise-data/
(This source is secured)

The child sex ratio is an aggregate (or macro) variable that only becomes visible when you collate (or put together) statistics for large populations. We cannot tell by looking at individual families that there is such a severe problem. The relative proportion of boys and girls in any individual family could always be compensated by a different proportion in other families we have not looked at. It is only by using methods like a census or large scale survey that the overall ratio for the community as a whole can be calculated and the problem can be identified. Can you think of other social issues that can only be studied by surveys or censuses?

provides an aggregated picture, that is, a picture based on a collectivity rather than on single individuals taken separately. Many social problems and issues become visible only at this aggregative level — they cannot be identified at the more micro levels of investigation.

However, like all research methods, survey also has its disadvantages. Although it offers the possibility of wide coverage, this is at the cost of depth of coverage. It is usually not possible to get in-depth information from respondents as part of a large survey. Because of the large number of respondents, the time spent on each must be limited. Moreover, since the survey questionnaire is being taken around to respondents by a relatively large number of investigators, it becomes difficult to ensure that complicated questions or those requiring detailed prompting will be asked of all respondents in exactly the same way. Differences in the way questions are asked or answers recorded could introduce errors into the survey. That is why the questionnaire for a survey (sometimes called a 'survey instrument') has to be designed very carefully — since it will be handled by persons other than the researchers themselves, there is little chance of corrections or modifications in the course of its use.

Given that there is no long-term relationship between investigator and respondent and hence no familiarity or trust, questions that can be asked in a survey have to be of the kind that can be asked and answered between strangers. Questions of a personal or sensitive kind cannot be asked, or if asked are likely to be answered 'safely' rather than truthfully. These kinds of problems are sometimes refered to as 'non-sampling errors', that is, errors due not to the sampling process but to faults or shortcomings of the research design or the manner in which it was implemented. Unfortunately, some of these errors are difficult to foresee and guard against, so that it is possible for surveys to go wrong and produce misleading or false estimates of the characteristics of a population. Ultimately, the most important limitation of survey is that, in order to be successful, it must depend on a tightly structured inflexible questionnaire. Moreover, howsoever well designed the questionnaire might be, its success depends finally on the nature of the interactions between investigators and respondents, and specially on the goodwill and cooperation of the latter.

Interview

An interview is basically a guided conversation between the researcher and the respondent. Although it has few technicalities associated with it, the simplicity of the format can be deceptive because it actually takes a lot of practice and skill to become a good interviewer. Interview occupies the ground between a structured questionnaire of the type used in surveys, and the completely open-ended interactions typical of participant observation methods.

Its chief advantage is the extreme flexibility of the format. Questions can be re-phrased or even stated differently; the order of subjects or questions can be changed according to the progress (or lack of progress) in the conversation; subjects that are producing good material can be extended and built upon others that provoke unfavourable reactions can be cut short or postponed to a later occasion, and all this can be done during the course of the interview itself.

On the other hand, many of the disadvantages of the interview as a research method are also related to its advantages. The very same flexibility can also make interview vulnerable to changes of mood on the part of respondent, or to lapses of concentration on the part of interviewer. It is in this sense an unstable and unpredictable format — it works very well when it works, and fails miserably when it doesn't.

There are different styles of interviewing and opinions and experiences differ as to their relative advantages. Some prefer a very loosely structured format, with only a check-list of topics rather than actual questions; others like to have more structure, with specific questions to be asked of all respondents. How interview is recorded can also differ according to circumstances and preferences, ranging from actual video or audio recording, detailed note taking during interview, or relying on memory and writing up the interview after it is concluded. The introduction of equipment like recorders and so on frequently makes the respondent uneasy and introduces a degree of formality into the conversation. On the other hand, important information can sometimes go unnoticed or not be recorded at all when other less comprehensive methods of record keeping are being employed. Sometimes the physical or social circumstances in which the interview is being conducted determine the mode of recording. The way in which the interview is later written for publication or as part of a research report can also differ widely. Some researchers prefer to edit the transcript and present a 'cleaned up' continuous narrative; others wish to retain the flavour of the original conversation as much as possible and therefore include all the asides and digressions as well.

The interview is often used along with or as a supplement to other methods, specially participant observation and surveys. Long conversations with 'key informants' (the main informant in a participant observation study) can often provide a concentrated account that situates and clarifies the accompanying material. Similarly, intensive interviews can add depth and detail to the findings of a survey. However, as a method, the interview is dependent on personalised access and the degree of rapport or mutual trust between the respondent and the researcher.

Glossary

Census : A comprehensive survey covering every single member of a population.

Genealogy : An extended family tree outlining familial relations across generations.

Non-sampling Error : Errors in survey results due to mistakes in the design or application of methods.

Population : In the statistical sense, the larger body (of persons, villages, households, etc.) from which a sample is drawn.

Probability : The likelihood or odds of an event occuring (in the statistical sense).

Questionnaire : A written list of questions to be asked in a survey or interview.

Randomisation : Ensuring that an event (such as the selection of a particular item in the sample) depends purely on chance and nothing else.

Reflexivity : The researcher's ability to observe and analyse oneself.

Sample : A subset or selection (usually small) drawn from and representing a larger population.

Sampling Error : The unavoidable margin of error in the results of a survey because it is based on information from only a small sample rather than the entire population.

Stratification : According to the the statistical sense, the subdivision of a population into distinct groups based on relevant criteria such as gender, location, religion, age etc.

Exercises

1. Why is the question of a scientific method particularly important in sociology?
2. What are some of the reasons for 'objectivity' being more complicated in social sciences, particularly disciplines like sociology?
3. How do sociologists try to deal with difficulties in "objectivity" and strive for objectivity?
4. What is meant by 'reflexivity' and why is it important in sociology?
5. What are some of the things that ethnographers and sociologists do during participant observation?

6. What are the strengths and weaknesses of participant observation as a method?
7. What are the basic elements of the survey method? What is chief advantage of this method?
8. Describe some of the criteria involved in selecting a representative sample.
9. State some of the weaknesses of the survey method.
10. Describe main features of the interview as a research method.

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