Chapter 4
Materials & Methods
The main objective of the study was to assess the psychological resilience of people who lost their homes. In order to achieve this objective an area was selected where a population of displaced people was living. After a preliminary survey in the area and visit to the villages of displaced people a decision about the study sample was taken. The final measurements of psychological resilience were taken according to the design of the study described in the following section.

4.1 The study area

The field study was conducted in the Bilaspur district of the state of Himachal Pradesh in India located in the outer Himalayan region, the Shivalik Hills (Figure 4.1). Bilaspur at 673 meters elevation is about 90 km from the Shimla and its area of 1167 km² is further divided into Bilaspur Sadar, Ghumarwin and Jhanduta tehsils and a new Naina Devi sub-tehsil. According to the census of 2001, there were 318,934 rural people and 21,951 urban people in Bilaspur. In adults, 990 females were after thousand males but in the rural area the number of females was equal to males. Up to 1948 the Bilaspur (or Kahlur) was an independent hill state and Raja Anand Chand was the last ruler and in 1954 it was included in Himachal Pradesh.

Construction of Bhakra Dam was started in 1948 and was completed in 1963. The Bhakra Dam became the highest concrete gravity dam in Asia rising 225.55m above the lowest foundation creating a lake of 168 km² known as Gobind Sagar with gross storage capacity of 9340 million cubic meters. The project, through electricity and irrigation has made tremendous contribution in the uplift and welfare of northern region of India. However, a population of about ten thousand people was uprooted from 256 villages and from the old town of Bilaspur in this developmental process.
Figure 4.1 The study area and the Gobind Sagar.
During the preliminary survey the investigator has collected information about the oustees of Bhakra Dam from local people and administration in new Bilaspur town. A few acquaintances guided the investigator to some villages where oustees were living. After contacting some oustees in the villages further information was collected about the locations where other oustees had taken shelter. There were displaced persons who were allotted land in Haryana state, they either rejected the offer or returned to native state. The next step was to select villages in which people have not experienced displacement but these peasants were living in the nearby areas around Gobind Sagar so that the environmental factors did not differ from the displaced group. Selection of normal or comparison group subjects also involved other considerations related to age-sex class, social hierarchy, socio-economic status and culture. After these preliminary observations in the field, it was decided to base the fieldwork at Bilaspur town and study the villages of displaced and non-displaced in the fringes of Gobind Sagar.

The villages of displaced and normal subjects were located within the distance of few (e.g. Chhat) to about 50 kilometers (e.g. Bhakra Village) from the Bilaspur town. They were approached by boat in the Gobind Sagar or through public transport. Some of them were away from the main road or the boat station, and the investigator walked to such villages for the collection of data. Unfortunately the administration did not have reliable data about the location of the resettled oustees. These problems made it very difficult to draw a random sample. However, care was taken not to administer same measure twice in the same family. It is possible that different measures were administered in the same family but on the different subjects.
4.2 Subjects

In this study the participants were selected from the displaced as well as non-displaced families from the villages living at the outskirts of the Gobind Sagar, the artificial lake formed due to the construction of the Bhakra Dam. Equal number of men and women, from the age group of 55 years to 80 years, those who lost their homes after the construction of Bhakra Dam formed the displaced group. A comparable group of equal number of men and women living in the nearby area but whose homes were away from the submergence area formed the normal (non-displaced) group.

In this way the displaced and normal groups were from a culturally and socially homogeneous population. These people were more than ten year of age at the time of displacement, which started approximately in 1960 (though the legal process of acquisition of land has started a decade earlier). Although the displaced populations were given land for resettlement in Haryana, they preferred to stay in their native area. In all 200 participants who lost their home and a comparison group of 200 normal participants constituted the study sample. Equal numbers of participants from each of these two populations were assigned to the four groups—displaced women, displaced men, normal women and normal men. As there were four measures—mental health, well-being, neuroticism and state anxiety, each measure was assigned to a group of 100 subjects. These 100 subjects consisted of four subgroups: displaced female (n = 25), displaced male (n = 25), normal female (n = 25), and normal male (n = 25). To measure the intensity of negative valence associated with loss of home, half of the above population, displaced (n = 100) and normal (n = 100), was used for the data collection.
4.3 Design of the study

In this field study, a 2 X 2 factorial design was employed to study the effects of loss of home (displacement) and gender on various measures of psychological resilience. The total sample of 400 participants (200 displaced and 200 normal) was divided into four groups. Each group of 100 participants (Table 4.1) was assigned for measurement on one of the four indicators of psychological resilience—mental health (four measures), well-being, neuroticism or state anxiety.

Table 4.1

_The design of the study_

<table>
<thead>
<tr>
<th>LOSS OF HOME (DISPLACEMENT)</th>
<th>GENDER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females</td>
</tr>
<tr>
<td>Displaced</td>
<td>N= 25</td>
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<tr>
<td>Normal</td>
<td>N= 25</td>
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4.4 Measures

For the assessment of the psychological resilience of the Bhakra Dam oustees four measures were employed—EUROHIS: Common instruments for mental health (n=100), PGI General Well Being Measure (n=100), PGI Health Questionnaire N-1 (n=100), and Atam Moolyankan Prashnavali (n=100). These scales measured mental health, well-being, neuroticism, and state anxiety in displaced and normal groups of women and men. In addition, the intensity of negative valence associated
with the event *loss of home* was also evaluated on a 5-point scale. For this purpose 200 subjects were used from among the total sample.

### 4.4.1 Intensity of negative valence

In order to find out the perception of people about the valence (positive or negative) with the event of *loss of home*, the subjects (n=200) were asked a question about the nature of event, good or bad (see Box below). If it was a good/bad event, they were given a five-point scale to rate the intensity of the event. Higher the score, the greater the positive (good) or negative (bad) valence associated with the event. An individual’s score varied from one to five.

![Image of rating scale](image.png)

### 4.4.2 EUROHIS: Common instruments for mental health

In recent years forced displacement has attracted the attention of planners, policy makers and mental health personnel. Particularly, the report of World Health Organization on Mental Health (WHO, 2001a) has drawn the attention of academic community to this humanistic problem that is taking a mammoth dimension. In this report specific mention has been made about the plight of displaced populations in
various countries all over the world. Keeping in view the magnitude of displacement and migration from native areas and the negative consequences of this social change, the World Health Organization invited psychologists, psychiatrists and social workers from all over the world to develop a quick assessment tool to find out the general condition of such populations. The WHO has recommended four common instruments for measuring mental health developed in a EUROHIS (European Health Interview Survey) project (Meltzer, 2003).

A group of experts was invited by WHO to develop measures of mental health. After a series of discussions on concept of mental health, various measures available were scrutinized. It was agreed to select items or instruments those already in use. Finally, the experts reviewed the common instruments that could be derived from the existing instruments. The four recommend common instruments were then field tested in the European Union countries for evaluating their qualitative and quantitative characteristics. They have been derived from standardized tools, and Meltzer (2003) has given in his article their original sources. They are briefly mentioned here.

**Positive mental health**: Four items from SF (Short Form Health Survey)-36. They measure energy and vitality. There is a 6-point scale for each item, the higher the score the greater the vitality. The score ranges from 4 to 24.

**Psychological distress**: It is Mental Health Indicator-5 derived from SF-36 and consists of five items, each having a 6-point scale. The score ranges from 5 to 30, the higher the score the better the mental health.

**Role limitation**: It includes three questions regarding impairment in day-to-day activities as a result of emotional problems and are derived from SF-36. Each question has yes or no answer and is given score of 1 or 2, respectively. Thus the
total score ranges from 3 to 6, the greater the score the lesser the role limitation due to emotional problems.

**Perceived Social Support:** It is based on the social functioning that has two aspects, social support and social isolation. The instruments is 3-item Oslo Scale, which comprises items on primary support group, interest and concern shown by others, and ease of obtaining practical help. One item consists scores from 1 to 4 and the other items are scored from 1 to 5. The greater the score the more is the perceived social support. Score ranges from 3 to 14.

After examination it was found that these instruments can be used easily in the field and for the present study the investigator has translated them to Hindi language. Although the Hindi translation is yet not standardized, a specified procedure was followed to translate the scales. Two university professors from the Department of English were approached and they were briefed about the purpose of the translation of the scales into Hindi. After they independently translated the scales, they were later again given the Hindi version for translation into English. After a thorough scrutiny by two psychologists and two students, in few items the words were replaced by commonly spoken synonyms, the final Hindi version was prepared and used in the present study. In this way the EUROHIS recommended common instrument for mental health in Hindi consists of four instruments: positive mental health (items 1-4), psychological distress (items 5-9), role limitation (items 10-12), and perceived social support (items 13-15), and given in this order (Appendix I).

**4.4.3 PGI General Well Being Measure**

The authors who have developed the instrument subscribe to the two-factor theory of mental health, the absence of ill being/ill health and presence of psychological well-being. This scale, as the name suggests, measures one aspect of mental health,
the subjective sense of psychological well-being. This measure has clinical
importance since general well-being shows positive correlation with quality of life and
general satisfaction, and it is negatively correlated with neuroticism, psychoticism
and other such variables. The PGI General Well-being measure by Verma and Verma
(1989) is in Hindi language and consists 20 items related to subjective feelings of
contentment, happiness, satisfaction, sense of achievement, etc. The score ranges
from 0 to 20. The measure has been standardized and used on north Indian
population.

4.4.4 PGI Health Questionnaire N-1

Experienced clinical psychologists and psychiatrists of a premier medical institution of
India, Verma, Wig and Pershad (1985) have developed and standardized this tool.
The scale essentially measures neurotic tendencies, some personality characteristics
which actually differ significantly between clinically judged neurotics and normals.
The investigators report that in India some neurotic illnesses are expressed through
physical complaints while other through emotional/psychological complaints. Thus
the scale PGI Health Questionnaire N-1 has two areas: Area A—consists of items
(from 1 to 16) related to physical aspects of neuroticism; and, Area B—consists
items (from 17-38) related to psychological aspects of neuroticism. Finally, we get a
total score on neuroticism. The items are in Hindi language, simple and
comprehensible by the rural population. The data were analyzed separately for
physical aspect where a score ranges from 0 to 16 (Area A), psychological aspect
where a score ranges from 0 to 22 (Area B), and neuroticism where a score ranges
from 0 to 38 (Area A and Area B). The greater score shows a neurotic trend in the
person.
4.4.5 Atam Moolyankan Prashnawali (STAI- HX-1)

Based upon Spielberger's work on anxiety, Sharma (1988) has clarified that a temporal sequence was involved in the relationship between stress and anxiety, where stress denotes the stimulus properties of a situation, threat refers to an individual's perception of a situation as more or less dangerous or threatening to him. These temporal events give rise to an anxiety reaction, the increase in A-state, as shown in the following box.

| STRESS | PERCEPTION OF DANGER (THREAT) | INCREASE IN A - STATE |

The concept of state anxiety implies an intensity dimension with different qualitative characteristics of anxiety states at different levels of intensity. At low level of A-State intensity, it is assumed that people feel calm and secure, and that feelings of tension and nervousness are experienced as state anxiety increases, with feelings of extreme flight and panic at the highest levels (Spielberger & Sharma, 1976).

The tool of state anxiety used in the present study, Atam Moolyankan Prashnawali (STAI- HX-1) by Spielberger, Sharma and Singh (1972) consists of 20 items in Hindi language. Each item measures a response on 4-point scale. Half of the items are scored conventionally whereas item numbers 1, 2, 5, 8, 10, 11, 15, 16, 19, and 20 are scored in reverse direction. The score ranges from 20 to 80. It has been standardized on north Indian population and is simple to administer.
4.5 Procedure

In a preliminary study the investigator became acquainted himself with the surroundings of Bilaspur town. With help of local people the investigator searched the villages where the oustees of Bhakra Dam were living. These villages were in various sub-districts (tehsils) of Bilaspur, approximately within a reach of few kilometers to about 50 kilometer. They were approachable by local buses and boats. The subjects belonged to a number of villages located at various distances from the town of Bilaspur. The mode of travel during the final study included walking, boats and buses from the Bilaspur town where the investigator stayed during the course of study. On each day a particular village was selected and the investigator reached the destination as early as possible in the morning. Since it was a winter season, December and January 2005-2006, the area remained covered with thick layer of fog due to humidity by the artificial lake. He would start his journey around 8:00 a. m. and return when it was dark, around 5:00 p.m.

As soon as the investigator reached a particular village, his attempt was to approach the village head or an elderly member. After a brief introduction and explaining his purpose the investigator would collect necessary information about the village people. He would try to identify women and men in the age group of 55 to 80 years. Once a family was located, the investigator would start a conversation to gain rapport with his subject and in most of the cases other family members were also present. During this period some relevant qualitative information about the native area before displacement, the hardships after displacement and the coping process involve at the settlement site were noted down. After the investigator felt comfortable in his communication with the subject or the younger member volunteered to help, the investigator chose to one of the four tests—mental health, general well-being, health or state anxiety for administration. The items were spoken
to the subject and his/her responses were recorded on the answer sheet by the investigator. In one family or house only one scale was administered to a male or a female. On the completion of the task, the investigator thanked the family and selected another subject for assessment. It took about half an hour to make the assessment of a subject in a family.

In some cases, it is possible that a different scale was administered in the same family. Although most of the data were collected in the villages itself, due to distant and isolated locations of some of the oustees, they were intercepted at the small tea-shops on roadsides. Such localities included in Jagatkhana, Naina Devi Dhar and Kot Dhar areas. In general, the people were highly cooperative with the investigator in the villages of displaced as well as normal subjects. Although there was some problem when the communication started in local dialect, the investigator would speak in Hindi, which was easily understood by the local people. At times the younger members would help the subject and the investigator in making the dialogue meaningful. Except the mental health instrument consisting of four subtests, the other three scales had been used earlier also on the Bilaspur town population (Chandel, 2003; Sharma, 2005) and these investigators encountered no problem regarding the language and comprehension. Documents related to the land, compensation, and other issues related to oustees’ problems, if available were also collected for making the qualitative analysis.

The qualitative as well as quantitative procedures were used in the analysis and to present the final findings of the study on the displaced and the normal subjects on various indicators of the psychological resilience after loss of home.