Chapter 6
Discussion
This chapter has three sections. The first section presents the main qualitative and quantitative findings of the study on mental health of displaced and non-displaced rural population near Bilaspur town. In the second section the relationship between allostatic load and resilience has been considered. It is assumed that loss of home acts as chronic stressor and increases the allostatic load (wear and tear of body) in a person, which is reflected in his or her poor mental health. The final section reviews the theoretical evidence for an argument that loss of home is a painful event.

6.1 Psychological resilience of displaced people

In social cognitive theory (Bandura, 2001) human functioning is conceived as a dynamic interplay of person, behavior and environment. Self efficacy, a central concept of social cognitive theory, is conceived as an important inner resource, through which a person exercises some measure of control over one's own functioning and over environmental events. A weak sense of self-efficacy may reduce the resilience of people to adverse situations. There is ample qualitative evidence that indicates the lack of support for enhancement of self-efficacy among the people displaced after the construction of Bhakra Dam. These people are suffering since last 40 years. The utter neglect of the social aspects of loss of home and resettlement is an example of utter disregard for the foundations of a responsible social science as advocated by social psychologists like Bandura (2004). This has been realized by the social workers in the Himalaya, who on one hand are concerned with the grassroots problems and on the other hand, are keen to solve them using techniques developed by scientists (see Pirta, 2003a). This is also reflected in the concept of collective efficacy in Bandura's theory, where the objective is to improve social and political system to make change in people's lives. Moreover, the major objective of the mental health program in India for the new millennium is to monitor the health of
affected communities (Srinivasa Murthy, 2004). A considerable segment of these
affected communities include populations who have been displaced from their native
areas.

In a recent review, after screening about 600 articles in health psychology in India,
Dalal (2001) is optimistic about the growth of this new area. Although he noted that
major focus of health psychology had been on the adverse health consequences of
stressful life experiences, the social issues affecting the masses in India (Mehta,
2002) have been entirely ignored. In other words, there is no study on the health of
migrants, displaced and minority populations affected by social change processes.
The focus is still on the clinic, the individual who reports to a professional. There is
little attempt to look into the linkages between social change and health. As is the
case with health, a neglect of the problems faced by a large number of people
suffering under a few dominant ones, the same is the case with mental health.
Another review by Kapur (2001) did not mention a single study where eco-cultural
factors have been considered in relation with mental health having positive or
negative effects. While everyone is concerned with the developmental changes
affecting the eco-cultural environment, mental health professionals appear ignorant
to such socio-psychological changes. Suicides by farmers in various parts of India,
migration to urban areas, and displacement due to large dams and other
developmental projects have no mention in these reviews on health psychology and
mental health in India. Similarly, the main focus of the environmental psychology
research in India has been on human response to various physical stressors (Jain &
Palsane, 2004). They have entirely neglected the environment itself from the
research paradigm, and furthermore the effect of changes in environment on the
population at large is also not the focus of research. This has alienated psychologists
from the debate on environmental issues.
However, an alternative viewpoint is that human beings have enormous potential to meet the potentially disruptive events in life. For some psychologists there is an inborn ability (a trait) to cope up with the challenges in life (Klohnenn, 1996; Tugade & Fredrickson, 2004), whereas for the other psychologists, people develop an ability (through learning) to meet the challenging situations in life through encounters with adverse situations (Srivastava & Sinha, 2005). This ability is termed as resilience, maintaining a relatively stable, healthy level of psychological and physiological functioning in face of potentially disruptive events. There are others who follow an interactive approach, functioning of high or low resilience of individuals is dependent upon situational factors (Bonanno, Rennicke & Dekel, 2005; Graziano & Bryant, 1998). In the following part of this section the findings of the present study are presented briefly in view of the above perspectives and in the context of related research in the area.

Although theoretical and empirical evidence suggest that chronic stressors such as loss of home would make people vulnerable and have negative impact on the mental health, there are some studies that support the view that displaced people may learn various strategies to enhance their resilience and thus have a positive impact on mental health. For example, the polyvagal theory suggests that loss of home is a negative event and furthermore lack of basic facilities at resettlement sites would make the perception of environment more threatening. The stress research suggests that such life-threatening events (Porges, 2003) are likely to have more deleterious impact on men in comparison to women (Segerstrom & Miller, 2004). Whereas, the social workers in the Himalaya (Bahuguna, 1973) and the studies of economists (Aylward et al, 2005; Sen, 2006) suggest that displaced women are more likely to suffer than the men. As there is no clear cut evidence on gender difference with
regard to the effect of stressful events, in the present study the investigator starts with null hypotheses about the effects of ‘loss of home’ and ‘gender’ factors on the various measures of psychological resilience. The following are the main findings of the study on the oustees of the Bhakra Dam living in the rural areas near Bilaspur.

**Negative valence of loss of home:** All the two hundred subjects, displaced as well as normal perceived the event loss of home bad and associated it with negative valence. But the two groups differed significantly on the measure of intensity of negative valence (*Figure 6.1*). For the displaced group the perception of event,
loss of home, has greater intensity of negative valence than the normal group. But the women did not differ from men on the intensity of negative valence. Association of greater negative valence to loss of home might have had harmful effects on the mental health of displaced group.

**Mental health:** The WHO has recommended four common instruments for measuring positive mental health, psychological distress, role limitation, and perceived social support. They together measure mental health. On **positive mental health**, there was a significant difference between the displaced and normal subjects.
The mental health of people who lost their home was poorer than the comparison group. It was also found that women had lower score (Figure 6.3) on mental health from the men. The average scores of four groups were in this order from low to high: displaced female, displaced male, normal female, and normal male.

Figure 6.3 The average scores of females and males on positive mental health.

The scale on psychological distress is positively scored i.e. the higher the score, the better the mental health. There was much more psychological distress (Figure 6.4) among the displaced population than the non-displaced. The females and males felt almost equal psychological distress.
The role limitation consisted of three items related to cut down in time spent or impairment in other daily activities. Neither loss of home nor gender affected scores on role limitation.

On the fourth EUROHIS measure of mental health, the perceived social support, the score of displaced group was lower (Figure 6.5) than the score of the normal group. Females and males did not differ on the perceived social support.
Well-being: In the present study (n = 100) it was found that the average score on general well-being for persons who lost home was significantly smaller (Figure 6.6) than the normal group. From this it is clear that the people who lost home were vulnerable and it is reflected in their poor psychological well-being. There was gender difference also (Figure 6.7). The general well-being score of females was lower than the males. The average scores of four groups were in this order from low to high: displaced female, displaced male, normal female, and, normal male.
Figure 6.6 The average scores of displaced and normal subjects on general well-being.

Figure 6.7 The average scores of females and males on general well-being.
Psychologists face a peculiar dilemma, particularly in measuring concepts such as well-being. The person's health or well-being measures involve 'internal' views, his own perceptions, and 'external' views, the observations of psychotherapists (Sen, 2001). It is difficult to measure the 'internal' views or self-perception and thus the relationship with 'external' views or observed behavior become doubtful. For example, the external indicators may show high social equity among the people of Himachal Pradesh (Dreze & Sen, 2002) but it would be interesting to see if it is reflected in the 'internal' measures, such as enhanced positive mental well-being. This question has more relevance in the context of some socially deprived groups as their miseries are further aggravated by gender bias. They include populations of displaced people, such as, the people who lost home due to construction of Bhakra Dam. As there is no information on the psychological well-being of people displaced due to construction of large dams, these findings provide some basic data to formulate hypotheses.

**Neuroticism:** Health is a state of complete physical, social and mental well-being, however, the important question is how to integrate these three areas. The problem can be stated in terms of mind-body issue, as physical constitutes the body and social and psychological aspects relate to mental processes. The report on mental health by World Health Organization (Kumar, 2004; WHO, 2001a) considers the relationship between mind and body as mutual, mediated by complex physiological, neurological, and behavioral processes. This mutual relationship of mind and body is basis of health psychology. Advances taking place in physiological systems such as neuro-endocrine systems and psychoimmunological researches show that the chronic stressors (such as displacement) alter immunological functioning and increase vulnerability of subjects (Segerstrom & Miller, 2004). However, these investigators emphasize the role of behavioral pathways during these changes.
A clinical measure that is sensitive to negative changes in personality in stress is neuroticism ([Verma, Wig & Pershad, 1985]). It is indicated by subject's own perceptions through some physical (e.g. lack of sleep) and psychological (e.g. feeling of hopelessness) perceptions, which psychiatrists recognize as symptoms of personality maladjustment. Neuroticism is considered a precursor to other mental and behavioral dysfunctions. The scores of neuroticism obtained in the present study were analyzed separately for physical aspect (Area A), psychological aspect (Area B), and neuroticism (Area A and Area B), the greater score showing a neurotic trend. The **physical** aspect of neuroticism (Area A) was greater among people who lost home than the normal people *(Figure 6.8)*.

*Figure 6.8* The average scores of displaced and normal subjects on physical aspect of neuroticism (Area A).
In Area B or **psychological** aspect of neuroticism (**Figure 6.9**), the average score of displaced group was significantly higher than the normal group, indicating an increase in neuroticism among people after loss of home. The women had greater

![Figure 6.9 The average scores of displaced and normal subjects on psychological aspect of neuroticism (Area B).](image)

neuroticism (**Figure 6.10**) than the men. The average score of the four groups were in this order from low to high: normal male, normal female, displaced male, and, displaced female.
The total score on neuroticism (Area A and Area B) showed a similar trend indicating a deterioration of health among people who lost home (Figure 6.11). The average score on neuroticism for displaced group was significantly higher than the normal group. There was a significant difference between women and men (Figure 6.12); the interaction of gender with displacement was not significant. However the average score of the four groups was in this order from low to high: normal male, normal female, displaced male, and, displaced female.

Figure 6.10 The average scores of females and males on psychological aspect of neuroticism (Area B).
Figure 6.11 The average scores of displaced and normal subjects on neuroticism (Area A and Area B).

Figure 6.12 The average scores of females and males on neuroticism (Area A and Area B).
The mind-body has direct relevance in the area of health and behavior. This branch, the health psychology has four goals: to promote and maintain health, the prevention and treatment of illness, the causes and detection of illness, and to improve the health care system and health policy. All the four goals has significance for the displaced populations. In the present study, investigator’s primary concern is to assess the health of such populations suffering from two traumas—the loss of home and forced resettlement in an alien environment. They are likely to act as chronic stressors and affect health. In health psychology the illness/wellness is considered on a single continuum starting from death on the one hand and optimum wellness on the other end of continuum. They prescribes bio-psycho-social approach to health (Sa-afino, 1998; Taylor, 1999).

State anxiety: In India and other parts of world, there is an alarming increase in the oustees of big dams and irrigation projects (WCD, 2000), and the conflicts enhance the numbers of displaced people many times (WHO, 2001a). These populations, displaced from their native villages, are thrown in alien areas where they have to restart their living as minority communities. They undergo acculturation and there is possibility of suffering from acculturative stress (Mishra, Sinha & Berry, 1996). Such conceptualization has its roots in Gestalt viewpoints on ecology, where ‘behaviour settings’ were considered important determinants of behavior (Barker, 1968; Wicker, 1979). People encountering insecure behavior settings are likely to show patterns of behavior that are not normal. In a thought provoking analysis of identity, Sen (2006) suggests that while people share their world-views with others there is a sense of affiliation based on common history, but if the others are indifferent to common racial roots people show anxiety and disquiet.
From ecological psychology view it is expected that displacement of people from native areas may reduce the resilience of such populations. Insecurity due to loss of home and in addition due to adjustment with alien population may result in a state of anxiety. However, due to lack of studies on populations affected by loss of home, the investigator formulated null hypothesis to test the significance of difference on state anxiety between displaced and normal subjects. In the present study it was found that the state anxiety was greater among the population that has lost its home more than 40 years ago (Figure 6.13). The score of the displaced group was significantly greater from the score of the normal group. Women and men did not differ on state anxiety.

Figure 6.13 The average scores of displaced and normal subjects on state anxiety.
It is important to understand the relationship between stress and anxiety, particularly the state anxiety (A – State), which is a dependent variable in the present study. Based upon Spielberger's work on anxiety, Sharma (1988) has clarified that a temporal sequence where stress is an external event in which subject perceives a danger or threat, the latter increases A – State in the individual. 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).

To summarize, the investigator's assumption was that poor mental health signified vulnerability, and better mental health signified resilience due to displacement. The displaced subjects, as compared to normal, had lower positive mental health, greater psychological distress, lower social support, poor general well-being, higher neuroticism, and greater state anxiety. Women as compared to men had significantly lower positive mental health, poor well-being, and higher neuroticism.

In India the national policy is to enhance the positive mental health of people (Srinivasa Murthy, 2004). In order to achieve this objective psychologists have to understand factors that make individuals vulnerable to psychological stress or decrease their resilience. The response to unsafe environment or life threatening environment that results in extreme psychological stress is of two kinds. First, it changes human psychological response necessary for survival, which is allostasis. If such changes occur frequently and are intense enough, there is increase in allostatic load (Charney, 2004). They are adaptive and maladaptive responses to unsafe and life-threatening environments. It is assumed that the nervous system of the organism continuously evaluates risk in the environment through an unconscious
process known as neuroception. From a clinical perspective it would be the inability to inhibit defense systems in safe environments and may lead to anxiety disorders or reactive attachment disorders (Porges, 2003).

Therefore it is reasonable to assume that the displaced populations are likely to perceive resettlement environments as unsafe and life threatening and thus the physiological response to it is prolonged leading into greater allostatic load. This may also occur due to various acculturative processes (Berry & Kim, 1988; Mishra, Sinha & Berry, 1996) that displaced populations face. They are already suffering the trauma of loss of home, the loss of social identity and lack of social support network may further increase the psychological distress and in turn result in greater allostatic load. In such cases there may occur episodes of posttraumatic stress disorder or major depression. And continuous challenge to an individual or group has deleterious effects. But these effects depend upon the allostatic response (actions taken by the body) and experience felt by the individual (Ray, 2004). These experiences felt by individuals or populations are further related to the coping skills necessary to meet the environmental demand and include knowledge, inner resources, social support, and spirituality. Besides these psychosocial factors some basic, economic and political institutional support is also important to overcome the helplessness and hopelessness faced by displaced people. If such supportive environment were lacking in case of displaced populations, perhaps it would have weakening effect on their resilience and would be reflected in poor mental health. The results of present study support this thesis.

6.2 Allostatic load and resilience

The Gandhians working in the Himalaya have believed in the resilience of the local people as a peculiar biological and cultural adaptation to the mountainous
environment (Bahuguna, 1968; 1973; Bhatt, 1992; Kunwar, 1982; Mira Behn, 1993; Sarala Devi, 1978; 1980). It is further assumed that various factors operate at individual and group level but finally it is the cognition (or self) where the integration of the whole person occurs involving head, heart and hands (see Figure 2.4). The latter three processes signify the intellect, feelings and behavior. The balance among head, heart and hands (more accurately gyan, bhakti and karm) is an essential nature of the person. However, any conflict among these three is assumed to increase imbalance and make people vulnerable. Such understanding of native people has some similarity to the Gestalt principles of balance and cognitive dissonance familiar among social psychologists (Rock & Palmer, 1990). Heider in his principle of balance, proposes that individuals prefer harmonious cognitive relations. On similar lines, Festinger’s cognitive dissonance model hypothesizes that people seek to reduce inconsistencies in their beliefs, feelings and behavior. Gestalt psychologists opine that we were taking interest in environmental psychology as our surroundings have become threatening for our survival and therefore we were searching ways to live in harmony with nature (Ittelson, Proshansky, Rivlin & Winkel, 1974).

In this way the native model suggests that individual takes a holistic view of his environment and perceives it safe, unsafe or life threatening accordingly. The typical response to unsafe and life threatening environment may take place through individual (coping mechanisms) and/or group (social movements) strategies. In the present study, the attempt of the investigator was to assess the consequences of environmental change, the submergence of home (by the construction of a dam), which may have been perceived by the individual as unsafe or emotionally negative. For this, some physiological mechanisms and theoretical explanations developed by psychologists and psychiatrists (Charney, 2004; McEwen, 1998; Porges, 2001;
Segerstrom & Miller, 2004) have been incorporated in the native model. Such mechanisms are depicted in the lower part of the native model (see Figure 3.3).

Some social psychologists may argue whether it is at all necessary to bring in physiological theory (mechanisms or explanations) to understand the resilience of people, for example, after the loss of home? There are psychologists who think that physiological explanations are not necessary (Misra, Jain & Singh, 1995; Varma, 2002). However, this argument seems unwarranted, for example, to understand the conscious phenomena of sensation and perception of color and brightness of a light stimulus, the eminent physicist and Nobel Laureate Raman (1968) considered it necessary to incorporate the physiological processes taking place at the retinal and brain level. Not only that, in psychology, while giving his neuropsychological theory for understanding the organization of behavior, Hebb (1959) has dealt with this question. According to Hebb the incorporation of physiological mechanism would enhance our understanding of behavior rather than impoverish it. More recently, Das, Parrila & Kar (1996) have convincingly employed neuropsychological mechanisms in developing the PASS (Planning, Attention-Arousal, Simultaneous, and Successive) model of cognitive processing. However, the pathway is from psychology to physiology. Perhaps the cognitive science has been strengthened not only by neuroscience but by the scientists from computer sciences. Consider for example, the cognitive basis of a sequence of social behavior (Bapi, Pammi, Miyapurum & Ahmed, 2005). We can understand it from various perspectives genetic, learning, neurological and abstract. This integrative approach, followed in the present study, may help us arrive at a better understanding of the effects of loss of home, rather than adopting some specific effects of loss of home, rather than adopting a particular viewpoint.
It has been observed that the burden of mental disorders is tremendously increasing in individuals, communities and health services globally. The developing countries, India and Pakistan are not exception to this (Chisholm, James, Sekar, Kumar, Srinivasa Murthy, Saeed & Mubbashar, 2000). In these low income countries the problem is further complicated due to demographic, cultural and socio-economic factors with regard to health seeking behavior and making provisions for mental health care. Although there are suggestions for community psychiatry or community mental health programs, some trials have already been made in India and Pakistan, along the lines of United States, investigators are not confident about its success on large scale. In these Asian countries almost 70% population live in rural areas where the existence of assumed community institutions is doubtful. Moreover, it is these populations, which are most vulnerable to development interventions causing displacement and migration. Such populations need preventive as well as psychiatric mental health care (Farooq & Minhas; 2001). Furthermore, there is relationship between income inequality and various health measures, those with higher income have better health and those with low income have poor health. The various measures of health include mortality, self-rated health, health behaviors and depressive symptoms (Subramanian, Delgado, Jadue, Vega & Kawachi, 2003).

As far as the present study is concerned, from the mental health viewpoint, there are two important points that we have to keep in mind. The first one is related to how well an individual adapts to life’s circumstances. The second point is that people differ in how supportive their environment is in helping them to adjust to adversity. The terms adaptation and adjustment have different meanings, the first refers to biological processes associated with individual’s survival whereas the second refers to his/her mastery over the environment through learned behaviors. For example, two individuals or groups are similar in biological factors, they may however differ
with regard to environment where he/she has been brought up. But it is also possible that both the processes, biological as well as learned, increase individual's adaptation to environment. We may use instead terms that are more inclusive and less controversial. They are biological evolution and cultural evolution. These two processes usually follow same direction in the lifetime of the individual; they enhance the survival of the individual or group. But it is possible that certain technological interventions modifies the course of cultural evolution in a direction that conflicts with the biological evolutionary processes and reduce the chances of survival of certain individuals, groups or populations. Perhaps the developmental interventions causing displacement of groups or populations from their native habitats come in the category of such cultural evolutionary processes that are in direct conflict with the biological evolutionary process.

Not only that, people displaced from their native habitats as a consequence of certain developmental interventions are condemned to live under environmental situations (the resettlement sites) where their survival is at stake. Such changes are likely to affect the biological, social and psychological aspects of people living in these impoverished situations. However, an important question is how displacement from the native habitat affects the survival of these individuals, groups and populations. In Chapter 2, the investigator has reviewed some evidence suggesting links between displacement and poor mental health. Furthermore, the current developments in attachment theory have strengthened this hypothesis. This evidence will be discussed in the end of this chapter. Still, an alternative argument is, for which there is little support, that individual's encounters with adverse life situations increase his coping ability or resilience. On this basis we can assume that there would be a positive relationship between displacement and mental health. In other words the displacement would increase the resilience of individuals.
In either case, psychologists can improve the rehabilitation of the people who have lost their homes due to construction of large dams. It is an important applied area in India. However, in the beginning some research work is imperative because studies on the mental health of these people are rare (Aylward et al., 2005; Singh & Banerji, 2002; WCD, 2000). But there is good amount of evidence collected by social psychiatrists from other parts of world engaged in community mental health, especially with the lost homes. Many of them have applied the biological model based upon the separation studies on non-human primates to understand the effects of displacement in human beings (Shalev, 2000). This approach has also been used in the survey to assess the negative consequences of displacement on the mental health of people ousted by the construction of the Tehri Dam (Pirta, 2003a; Pirta & Agrawal, 2003). These field surveys suggest that faulty development paradigm; equating social relations with physical relations; insecure physical settings; acculturation stress; and, separation from place of attachment affect social and psychological well-being of the ousted persons.

The assumption in the present study was that resilience would be reflected in positive mental health as measured by various tools. But the findings, in brief, suggest that the displacement and resettlement did not enhance the resilience of the rural populations living in the outskirts of Gobind Sagar. Various approaches may be followed to explain the decrease in the psychological resilience of the displaced populations, however, it would require an integration where the ideas from native cognitive model, attachment theory and allostatic load are combined (Pirta, in press; see Figure 3.3). A look into acculturation and place attachment may also be instructive.
In the eco-cultural framework, acculturation refers to the processes that are caused by contact with cultures external to the concerned cultural group (Mishra, Sinha & Berry, 1996). There may occur population-level changes as well as individual-level changes. The latter are known as indicators of psychological acculturation, which may result in behavioral shifts and acculturative stress. It has been argued that the frequency of dissociative phenomena and mental problems in West Bengal and the neighboring areas may have some association with the deep-rooted social changes that are taking place there (Chowdhury, Chowdhury & Chakraborty, 1999; Chowdhury, Nath & Chakraborti, 1993). The dissociative states occurred more frequently in times of social turmoil. This phenomenon may also be occurring in other parts of India.

Some social scientists believe that human well-being is embedded in place. As there are a variety of ways of looking at human well-being, and it is increasingly evident that well-being requires and is shaped by engagements in culture-specific ways of how to be well (Plaut, Markus & Lachman, 2002). Perhaps well-being involves a dynamic finely tailored attachment to the ideas and practices of one's various socio-cultural contexts. It is justifiable to assume that displacement entirely disturbs the socio-cultural context and thus affect the well-being of such populations. But it is possible that human beings have capabilities to cope up with such disturbances. This again needs social support, failing which the displaced populations would continue to suffer at the resettlement sites.

While following this approach to mental health, the investigator's objective was to assess the mental distress that is felt by the people ousted due to Bhakra Dam. These people lost their homes in the 1960s, however the threat has been there since 1940s when the proposal of the Bhakra Dam came into existence. The need of
energy and water to alleviate poverty of the masses after the independence of India speeded up the idea of construction of the big dams. The investigator’s intention was not to question the claims of the benefits of derived from these projects but this study has attempted to explore the cognitions of those who lost (or 'sacrificed') their homes for a greater cause. Specifically, the objective was to study the mental health of these populations since there were reports of extreme disgruntlement among them. A fact evident from the findings of the Millennium Ecosystem Assessment:

“The benefits attributed to large dams include water supply to growing populations; increased food production; electric power for domestic, industrial, and other uses, as well as navigation and flood control. However, the environmental and social impacts of large dams are also well-known and have led to the very controversy and stalemate that resulted in the call by different parties to the debate over dams for an independent commission.” (Aylward et al., 2005; Page 249)

The cognitions of affected natives may have some universal nature but the present study considers contextual factors important in the development of beliefs, attitudes and the overall world-view. Particularly the native cognitive model (see Section 2.2.3; Figure 2.4) has relevance to this problem, since these ideas have developed over a long period of time along with the interaction of environmental and cultural variables. In other words, some large-scale environmental interventions such as the construction of large dams pose formidable humanistic problems. They are displacement and poor rehabilitation, which threaten the survival of rural populations in the developing countries. In addition, such interventions involve some other
individual and group factors, biological and psychosocial, that were likely to increase the vulnerability of the affected populations.

However, the long-term consequences of loss of attachment are little understood. Studies indicate that attachment contributes to individual differences in physiological stress response. It is also reported that insecure attachment contributes to more frequent risk behaviors and symptom reporting. Furthermore, loss of attachment means the breakdown of highly predictable social support systems for an individual. In its current version, attachment theory proposes cognitive schemas based on early experiences with caregivers. These cognitive schemas or internal working models are important in health care utilization (Ciechanoski, Walker, Katon & Russ, 2002).

There is evidence from environmental psychologists and geographers on the affective place attachment and place dependence in human beings (Bonnes & Secchiaroli, 1995). Thus people who are rooted to their places are negatively affected when forced to leave it. Norbu (2001) has highlighted the rather unknown part of the Tibetan refugees that the rehabilitation was more successful in South Asian countries like India. He pointed out that irrespective of the host country, the common problem that has troubled the Tibetan refugees were: the psychological fear and physical exhaustion involved in the process of flight; and, difficulties of physiological and linguistic nature. For example, adjusting to the hot Indian plains.

While the native view-point is extremely important in understanding the consequences of large scale developmental interventions, it does not suggest the mechanisms that provide a linkage between the traumatic events such as loss of home and the deterioration of mental health. An important problem thus is to understand mechanisms that mediate the relationship between displacement and
mental health. It is not very clear what is the nature of this relationship. One way to understand this relationship is in terms of resilience or vulnerability. Despite individual differences in coping up with the problem faced in environment, various situations consist of risk and protective factors. It is possible that risk factors lead to vulnerability whereas protective factors increase resiliency of individuals and groups. Vulnerability refers to the likelihood of maladaptive response to situations while a resilient individual face adverse situation effectively. Sarason and Sarason (1998) have pioneered this approach for understanding abnormal behavior. These investigators use terms like adaptation and stress, which are difficult to define and measure. However, they help us in understanding the relationship between displacement and mental health. Since displacement is stressful experience, it is possible that over a period it makes individuals or groups vulnerable and consequently affects their mental health negatively.

There is impeccable evidence that people have strongly resisted displacement. The famous Chipko movement slowly gave way to Save Himalaya Movement (see Section 2.2.3 and Section 3.2). In the latter case people protested for some decades against the construction of Tehri Dam (Pirta, 2003a; 2003b; 2005). Such social protests have taken place in various parts of the world (WCD, 2000). It suggests that the cognition of loss of home is perceived as an extremely threatful event. It arouses the allostatic responses that have biological and psychological components to get rid of the conflicting situation. While the decision to implement large scale interventions where displacement of large scale interventions where displacement is imminent dissociates the biological and cultural components and threatens the functioning of survival mechanisms, the resistance to such decision integrates the biological and cultural components of human evolution. In such cases the perception of threat to safety arouses these evolutionary mechanisms. Recent theories support such
viewpoint, for example, the polyvagal theory of Porges (2001; 2003). Such events constitute a chronic stressor and affect the immune system (see Section 3.2).

In the remaining part of this concluding section the investigator's attempt would be to provide more evidence on this issue. More specifically an answer to a question—is loss of home painful? In other words, to provide evidence that identical physiological mechanisms are involved in physical pain and pain felt due to social isolation. Our assumption in the present study was that loss of home is an extremely painful social event and may thus severely affect mental health. Before considering the theoretical evidence on this issue it will be appropriate to look into the scenario that existed in Bilaspur after people in more than 256 villages and in the town of Bilaspur left their homes. These observations were made during the field study along with quantitative assessment of the displaced people.

Qualitative notes taken during the field study show that narratives of the displaced persons would switch between physical, social and psychological factors that implied a deep pain and suffering due to loss of home. Soon after displacement, they labored to construct houses in isolated areas and earn living by cultivating barren land. Lack of communication would force them to carry building material on their back. Situated on the rim of Gobind Sagar, water was a scarce commodity as the rights to use it had been snatched by powerful minority. Though survival under such harsh conditions was a reflection of the resilience of these people, it would be difficult to conclude that the cost of wear and tear of body under such chronic stressful conditions was not detrimental to their health. Many of these conditions would act as physical stimuli to arouse the trauma of displacement in minds of oustees, as psychiatrists report among refugees undergoing post-traumatic stress disorders.
Problems faced by the displaced persons are also related to social and political issues. An issue that had been agitating the minds of these people was the territorial ownership of the Gobind Sagar and the Bhakra Dam. Physical resources were snatched from the natives by disowning them. They had no rights to bore tube well or lift water from the lake at the doorstep, though the same was used in some plain area for irrigation. Narratives of oustees from lower social strata were filled with extreme pain as the generations of disempowerment was not enough and they had to face more.

There was extreme resentment, besides the feeling of loss of home, in the minds of displaced persons due to strong pressure exerted upon them to take a decision to leave homes. The oustees expressed a strong feeling of betrayal by the state and its leaders, the past as well as present. Their dreams of prosperity after the construction of Bhakra Dam were shattered; moreover, nobody recalls their sacrifice. Feelings of insecurity and helplessness were prominent, as they do not see any hope in future.

Rehabilitation of the oustees from Bhakra Dam and their welfare did not figure at all in the tall claims of the project. It is difficult to understand this indifference towards this group while the most significant consideration for a major revision in the Bhakra Dam proposal (increase in height and immediate implementation) was the displacement of large number of people from the Western Pakistan in the 1947 partition (Raj, 1960). Ironically, it was to benefit another group of displaced people. Such discrimination has become deep rooted in the psyche of displaced people. These proud Kahlurians also felt a loss of identity. Sen (2006), a welfare economist, has made a very serious comment in his recent book on Identity and Violence that "the memory of destitution and devastation tends to generate rebellion and violence." (p. 143) Earlier, Kakar (1995), a psychoanalyst, has also arrived at a
similar thesis in his book the Colours of Violence (see Section 2.1). Incidentally, the ideas of Sen have reference to riots in Bengal and Kakar has analyzed riots in Punjab. Both of them were referring to incidents that had occurred before the partition of India causing most inhumanly managed displacement of human beings.

6.3 Is loss of home painful?

The interest in the psychological impact of separation trauma became particularly evident during and after World War-II in the twentieth century. This was known as physioneurosis or traumatic neurosis. These people reported intrusive thoughts and images, nightmares, social withdrawal, numbed beliefs, hyper-vigilance, and paranoia regarding the government. More recently, the studies in the area of trauma have largely involved interpersonal violence, which is correlated with severe mental illness (Museser et al, 1998). In a meta-analytic study on post-traumatic stress disorder (PTSD), it was found that there was a common thread between exposure to traumatic stressors, family history of psychopathology and the exposed person's own psychological difficulties as predictors of PTSD symptoms.

On the whole it was observed that psychological difficulties, such as the poor social support, play role in development of PTSD after exposure to traumatic stressors. However, there are other factors, which make people vulnerable to PTSD and other stress disorders. But there is little evidence to show what makes people resilient to traumatic events (Ozer, Best, Lipsey & Weiss, 2003).

Separation from the object of attachment (e.g., loss of home) is a traumatic event. Largely the association of early attachment experience and its relationship with psychological problems (Drayton, Birchwood & Trower, 1998) has a major area of research. A recent meta-analysis of parental sensitivity in enhancing infant
attachment security indicates the role of sensitivity in shaping attachment
(Bakermans-Kranenberg, van Ijzendoorn & Juffer, 2003). In general, attachment
insecurity is more difficult to change than maternal insensitivity.

In some recent studies the focus has been on adult attachments, which was a
neglected area. Even among adults, the study of attachment relations has mainly
focused upon imaginary scenarios of young and adult subjects visualizing others as
attachment figures in various contexts. According to Bowlby’s (1969, 1973)
attachment theory, though the attachment system is most critical during the early
stages of life, this system is active over entire life span and is manifested in thoughts
and behaviors related to attachment figures.

In a number of studies on heterosexual attachment relations among adults had been
the focus of research. These studies have explored three tenets of Bowlby’s
attachment theory: the proximity maintenance, a safe haven, and a secure base.
According to proximity maintenance, people tend to seek and enjoy proximity to
their partner in times of need and to actively resist separations. The second tenet
assumes that a relationship partner should function as a safe haven in times of need.
He/she facilitates distress alleviation and is a source of support and comfort.
According to third tenet a relationship partner should function as a secure base from
which people can engage in non-attachment behavior, for example, exploration of
environment and development of autonomous personality (Cooper, Shaver & Collins,
1998; Davila, Karney & Bradbury, 1999; Fraley & Shaver, 1997; Mikulincer, 1998a,
1998b).

One of the important paradigm shifts in using Bowlby’s theory of attachment among
adults is to explore attachment as a personality characteristic or studies on the
attachment styles of people. The adult attachment styles are assumed as stable patterns of relational cognition and behavior and shows continuity during life span (Mikulincer & Arad, 1999). In a series of experiments these two investigators explored the effects of chronic and temporary accessibility of attachment working model as cognitive openness. Secure persons were more likely than insecure persons to change their cognitive structures and incorporate new information.

In another study, Mikulincer, Gillath and Shaver (2002) looked into the effects of subliminal threat on the activation of representation of attachment figures. The attachment figures are important elements of person’s attachment system. One of the assumptions of attachment theory is that physical or psychological threats such as the appearance of a predator or the departure of an attachment figure automatically activate the attachment system. It is a kind of motivational system whose goal is maintenance of proximity to the attachment figure. Thus an important function of the arousal of attachment system is defense from external threats. Extending the conceptualization of Bowlby, social psychologists have currently studies adult attachment relationship in context of adult friendship and romantic love. But these studies provide contexts, which are not real threats to the participants, thus there is need to test these hypotheses under real life situations. Further evidence on this issue has been provided by the present study where loss of home is assumed to activate the attachment systems. And the unsafe environment at resettlement sites further aggravates the situation.

In a recent study, Mikulincer, Shaver, Gillath and Nitzberg (2005) explore the possibility that attachment theory provide an important basis to explore altruism. They suggested a link between attachment security and compassion and helping. Bowlby has proposed a care giving behavioral system, in which there is an innate
behavioral predisposition built in the system to respond to the needs of the dependent others. Although this system is more evident during infancy and childhood, it continues through the life. The care giving system is assumed to provide protection and support to others who are either chronically dependent or temporarily in need of support. Further, it is assumed to be altruistic in nature, and can be explained according to Hamilton's inclusive fitness theory. However, these investigators have extended attachment theory to explain the egoistic and altruistic tendencies of people. In other words, attachment security is assumed to predict compassionate and care giving responses towards needy relationship partner or strangers. In a series of experiments replicated in Israel and United States, it was found that increase in attachment security facilitated compassion, personal distress and altruistic behavior. One can assume that displacement from one's native place may lower secure attachment and thus make people prone to the negative consequences of attachment insecurity.

There are attempts to conceptualize a security motive by integrating attachment theory and terror management theory (TMT). It is assumed that attachment theory and TMT conceptualize human beings as vulnerable and they need protection, support, and encouragement (Phillip, Shaver & Goldberg, 2005). There is evidence that attachment motive functions for the defense of the individual. On the other hand, self-esteem or feeling good about oneself is a kind of protection against threats and feelings of vulnerability. It is also assumed that people are motivated to uphold their world-views and feel discomfort when their worldviews are challenged. In this way, attachment, self-esteem and cultural world-views are the central pathways for a sense of felt security. Therefore the emphasis on explanation based on native cognitive model is justified in the present study as it gives the world-view of displaced persons. The integration of attachment theory provides insight into
motivational factors that function differently under secure and insecure environmental situations. And finally the integration of physiological processes provides mechanisms that link displacement and mental health.

An important aspect of attachment theory is the relationship of people with their country where they are brought up. This is known as place attachment, it has remained largely untouched from social psychologists. A recent paper by Plaut, Markus and Lachman (2002) reports the findings that well-being and self are closely associated with the place. They conceptualized that well-being is a multifaceted concept that includes health-focused, autonomy-focused, self-focused, emotion-focused and other-focused well-being. An important assumption of this conceptualization of well-being and sense of self is that they are constituted in cultural contexts. They assumed that these contexts are associated with the place and have distinct explicit and implicit ideas, images, messages and social representations, which contribute to the sense of well-being. On this basis Plaut, Markus and Lachman tested a hypothesis that different socio-cultural environments based on different regions of the United States (differing in ecology, history, socio-political circumstances, economic position and ethnic background of inhabitants) were associated with differences in distributions of ideas and practices about well-being and self. The results indicated that the physical landscape not only differ in the socio-cultural environments, they are conducive for the development of distinctive mental landscapes. This is a new way of looking at well-being of the people which is embedded in one's ideas and practices associated with particular socio-cultural contexts and the displacement is likely to affect it negatively.

The preceding studies, based on the various paradigm shifts in attachment theory, emphasize several socio-psychologically important concepts having implications for
the present study. First, when the population is displaced from its socio-cultural environment, the attachments are broken, which is physical, social as well as psychological in nature. Second, the displaced people lose their social identity and they have to accept a lower position in a new place. Although they help from caregivers during this process, the apathetic attitude of the State and helplessness of the community further makes them insecure. Third, and most important, is a lack of understanding about the conceptualization and consequences of the social pain resulting from the process of displacement. The last issue has been explored in the following review study that integrates information from diverse areas and supports the hypothesis that loss of home is a painful event involving mechanisms similar to physical pain.

The review by MacDonald and Leary (2005) explores evidence from a wide range of scientific disciplines to understand the mechanisms of physical and social pain. It is possible that like the physical pain, the social pain also promotes the survival of social animals by guiding them away from threats and at the same time making them approach helpful others. Furthermore, both types of pain perhaps share common psychological correlates and physiological pathways. The social pain refers to specific emotional reaction in the perception that one is being excluded from desired relationships or being devalued by desired relationship partners or groups. The exclusion involves a number of factors including rejection, death of loved one, or forced separation. These factors are likely to cause social pain, which may be manifested in acute emotional distress. It may also be accompanied by other affective states such as embarrassment, shame, guilt, or jealousy. Furthermore, it is important to note that the concept of social pain suggested by Panksepp was based on the evidence that the social attachment system was built up from more primitive regulation systems such as those involved in place attachment, thermoregulation,
and physical pain. In other words the theory that physical pain and social pain are similar is based upon the research findings that separation distress involves nerve pathways (endorphin pathways), which are also used in physical pain. Thus we find that the idea of social pain has arisen from the findings based on social exclusion, and the loss of home is an example of social situation that may give rise to extreme social pain. The social pain theory is based on the idea that the possibility of being separated from important social entities posed a critical challenge to the survival of individuals or groups. There is enormous evidence from the societies of animals, which support this social pain theory. In addition, they have included Bowlby’s theory of attachment, for which we have enormous evidence from animal and human groups, to support the above social pain hypothesis.

MacDonald and Leary, in their review, besides providing evidence that loss of social support is painful, there is evidence on the consequences of social pain. Social pain may result in aggression, depression, seeking social support, engaging in defensive aggression, and feeling of anxiety and fear. There is also evidence that social pain share physiological mechanism with physical pain, which may include the brain areas, neuroendocrine systems, and neurotransmitters. Thus, there is strong evidence to suggest that loss is likely to induce physiological and psychological systems associated with pain and many have deleterious consequences upon health. The latter issue is associated with the concepts of resilience and vulnerability as conceptualized in the native cognitive model. Thus there is a compelling theoretical background for the linkage between loss of home and poor mental health proposed in the present study.
6.4 Summary

The main objective of the field study was to assess the psychological resilience in aged women and men, displaced from the rural areas of Bilaspur in Himachal Pradesh, by the erection of Bhakra Dam about forty years ago. Four scales, 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), were employed to assess mental health, well-being, neuroticism, and state anxiety, respectively, in displaced and normal groups of women and men. In addition, the estimation of negative valence associated with loss of home and qualitative observations were also part of the fieldwork. Scores on each measure were analyzed by performing two-way analysis of variance, the first factor being loss of home (displaced and normal) and the second factor, gender (female and male).

Qualitative observations suggest a deep pain and suffering due to loss of home among the displaced rural people. Soon after displacement, they labored to construct houses in isolated areas and earn a living by cultivating barren land. Lack of transportation would force them to carry building material on their back. Though living on the rim of Gobind Sagar, water was a scarce commodity for oustees as the rights to use it had gone to the powerful minority. Problems faced by the displaced persons are also related to social and political issues. An issue that had been agitating the minds of these people was the territorial ownership of the Gobind Sagar and the Bhakra Dam; these physical resources were snatched from the natives by disowning them. They had no rights to bore tube wells or lift water from the lake at their doorstep, though the same water was used in some plain area for irrigation. Narratives of oustees from lower social strata were filled with extreme pain as though the generations of disempowerment was not enough and they had yet to face
more. A major psychological issue in the minds of displaced persons, besides loss of home, was the harshness of the administration. The oustees expressed a strong feeling of betrayal by the state and its leaders, in the past as well as present. Their dreams of prosperity, which the construction of Bhakra Dam would bring were shattered; moreover, nobody recalled their sacrifice. Though survival under such harsh conditions was a reflection of the resilience of these people, it would be difficult to conclude that the cost of wear and tear of body under such chronic stressful conditions was not detrimental to their health.

Quantitative findings show that the loss of home has a statistically significant effect on all the four measures, whereas, gender affected positive mental health, well-being and neuroticism. In comparison to the normal group (non-displaced), the displaced (oustees) group attached greater negative valence to loss of home. Among the common measures for mental health recommended by the World Health Organization, the displaced group had lower positive mental health, greater psychological distress, and lower perceived social support. On the other measures, oustees showed lower well-being, greater neuroticism, and higher state anxiety, in comparison to the normal group subjects. As far as gender differences are concerned, in this rural population females were poor in positive mental health and well-being and showed higher neuroticism in comparison to the males. This effect enhanced due to displacement. Thus the findings of the present study indicate psychological vulnerability among the rural oustees of Bhakra Dam living on the fringes of Gobind Sagar.

These findings were explained following the attachment theory and the native cognitive model. Above evidence suggests that loss of home is painful and its negative consequences are further enhanced due to poor resettlement conditions.
They may act as chronic stressors causing increase in allostatic load, the increase in wear and tear of body and mind, as reflected by the poor mental health of the Bhakra Dam oustees.

A caution is needed to generalize the findings of the study on the Bhakra Dam oustees living in the rural area surrounding the Gobind Sagar. Since some of the oustees have resettled in other states as well, they might have faced different environmental stressors. Secondly, the study focused upon one project, the Bhakra Dam, it is possible that the conditions in the implementation of other projects were different. Third, and most significant point is related to the assumption made in explaining the effect of the *loss of home*. It has been assumed that the effects of *loss of home* are best explained in terms of attachment theory having wide generalizability. However, the confounding factor was the nature of environmental stressors encountered by the oustees after the traumatic event where the native cognitive model has significance. Lastly, some errors are possible in the findings due to nonrandom selection of subjects and lack of uniformity in the testing conditions.

Future studies are needed that focus on samples of the oustee populations living in different habitats, belonging to same or different projects. There is scope for using different criteria of resilience and also to use more structured methods of collecting the coping experiences of the displaced persons. The intention of the study was not to question the benefits of Bhakra Dam, but the study explored certain avoidable socio-psychological costs of such projects.