CHAPTER I

INTRODUCTION

> 'We should be good guests on our earth, neither too demanding nor disturbing its delicate balance. We should allow it to renew itself for those who are to follow ... The conservation of energy for a better future for humankind must be the concern of your conference and of policy-makers everywhere.'

Speaking thus, the late Prime Minister, Mrs. Indira Gandhi inaugurated the twelveth Congress of the World Energy Conference (1983), at New Delhi. These words reflect the critical role of the inhabitants of this world in utilizing the earth's natural energy resources which can no more be undermined. With the rapid depletion of these resources, the phenomenon of 'Energy Crisis' has become a burning issue of contemporary life. Today this situation is of crucial concern to both the developed and the developing countries of the world as energy resources are indispensable for important economic and social functions. With its increased consumption, resulting in scarcity and price hikes of energy, the family has been experiencing economic and emotional stress. Under such stressful conditions, the family's managerial behaviour for coping with the situation becomes significant.

In countries with large population and less resources of coal, petroleum and power, the problem of energy supplies for domestic use shall be more critical in the years to come. Both commercial and non-commercial sources of energy are equally important for the economic development of the country and for the upliftment of the standard of living of the people. The growth in the consumption of commercial forms of energy in India has increased because of modernisation of the industries and agriculture. The consumption of commercial energy has increased from 60.1 million tonnes of coal replacement (MTCR) in 1953-54 to 249.3 MTCR in 1978-79 giving an average growth rate of 6 percent (CASE, 1981). During the last three decades, electricity has grown at an average annual compound rate of about 10 percent and oil by 8.5 percent average annual rate (Indian National Committee, 1983). The proportion of non-commercial energy showed progressive decline from 67 percent to 40 percent in 1980. This is the result of progressive replacement of non-commercial energy by commercial ones (CASE, 1981). The demand for total energy - commercial and non-commercial, is influenced by growth in National Income and pressure of population.

In the household sector, the share of commercial sources of energy is increasing in fulfilling the household energy needs and improving the quality of life of the family. The

percentage of total commercial energy consumption in the household sector was 13.7 percent in 1978-79 (CASE, 1981). The relative share of coal was 10 percent; oil 71.2 percent and electricity 18.2 percent in 1978-79.

The fuel consumption for lighting and cooking show that in rural areas, 84 percent lighting is through the use of kerosene while 94.5 percent cooking is through non-commercial fuel. The corresponding figures in urban sector are : lighting 53 percent from electricity and 45.2 percent from kerosene; and cooking 58.1 percent through non-commercial and 26.5 percent through kerosene (ABE, 1985). As oil products and electricity play a vital role in urban household sectors, the need to use these scarce resources more judiciously becomes imperative. As Hayes (1978) reiterates about the present energy situation :

> 'We are not running out of energy, but we are running out of cheap oil and gas. We are running out of money to pay for doubling and redoubling an already vast energy supply system. We are running out of political willingness to accept the social costs of continued rapid energy expansion. We are running out of the environmental capacity needed to handle the waste generated in energy production. And we are running out of time to adjust to these new realities.' (p.22)

In response to the massive increase in oil prices during the last decade and a half, the industrial countries being the largest energy consumers, have become far more

aware about the need to conserve energy. For a vast majority of people the shortage of fuel wood is their energy problem as they will continue to burn wood for time to come. There is still ample scope for energy conservation by all sectors. Learning how to use energy resources more economically requires the application of modern technology. The energy saving measures might require drastic changes in the present lifestyle which would be particularly challenging for the family.

From the ecological perspective, family is an energy-driven open eco-system. Families are dependent on the natural environment for most of their energy requirements, but majority of them are unaware of this fact. Moreover, the general mass of people have little understanding of the energy crisis situation. The Government of India has been making some concerted efforts to educate the people through mass media regarding the energy situation of the country. Some of its programmes have focused on popularising the use of solar and biogas energy through subsidised schemes; giving energy-saving tips to people through radio, television programmes, newspaper advertisements, etc. A study revealed that fifty-four percent urban housewives were aware of the energy crisis but they considered it as a passing phase (George and Ogale, 1983). They received

information on energy from various sources; mass media, husband, friends and relatives being the prominent ones. Now an increasing number of people are becoming aware of and concerned in some way about the limited supply of fossil fuels.

Family level studies are being conducted to identify what happens to households managing their lives with limited energy resources. Hogan (1976) identified eco-consciousness as a value accompanying household energy conservation behaviour among American families. She found that when husband and wife were both highly committed to this value - which reflects concern of people's dependency on their environment - they were most likely to conserve household energy. Eco-consciousness as a family value may have developed as a result of perceived resource scarcities in the environment. George (1984) observed that though urban families in India set up energy conservation-oriented goals, they were not consistent in their commitment to these goals and lack of eco-consciousness was one of the constraints. These studies indicate that there are differences in the energy-related values between American and Indian homemakers due to cultural differences.

With the existence of limited energy resources and the increasing demand on these resources, many families face stressful situations as they attempt to cope with rapidly rising energy cost and energy shortage. Most of these families belong to the low and middle income groups. Despite the stressful situations, the families have to cope with the crisis situation by bringing about a change in their managerial behaviour.

In the coping mechanism, management becomes a vital force crucially affecting choice of alternatives and action. The family operates in a frequently changing external environment. How one responds to change depends on the situation in which one is at the moment of change (Deacon and Firebaugh, 1975). The response to change is determined by the depth of insight into the resulting problems and challenges. It further depends on the resourcefulness in discovering ways to cope with the changing circumstances. The family must adjust its financial resources, time and activity patterns, and general resource allocations. Management, therefore, becomes the major process of achieving family goals.

In the context of the energy problem, the family needs to find out ways and means of dealing with the changed

situation. However, the direction of change is seldom clearly laid out as it may be influenced by several factors, such as income, values, family size, and status of the family (Morrison and Gladhart, 1976; Baker, 1979; McNew, 1979; Bailey, 1980; Yao, 1980, Uusitalo, 1983). There are several ways in which families respond to change. The two most common ways outlined by Deacon and Firebaugh (1975) are : (1) by adjusting temporarily to external forces, and (2) by reorganizing the family system to cope with an unexpected change in the environment.

According to Paolucci et al. (1977), things do not just happen in a family; they are decided and can be decided upon. The quality of human life and level of living within limited environmental setting depends, in a large measure, on the decisions made in daily family living for the use of family resources. The family's choice depends on the family's perception of the situation and the alternatives for action in the situation as perceived. Paolucci (1978) suggested three options towards change for the family; one of them being ℅ 'increased individual responsibility for making informed household decisions and taking decisions.' These decisions form the family lifestyle and add up to the larger macro decisions of the society. Hence, the family has the potential and important responsibility to shape the

future through its everyday decisions and actions.

Generally, the families do not make explicit decisions to consume a particular quantity of energy or to spend money on energy upto some fixed amount; rather families engage in activities of their choice to meet the family and individual goals and in the process consume the amount of energy required. But families need to change this attitude towards energy consumption, as in the foreseeable future, the large share of family income would be consumed by the energy used. Even today, the shortage of fossil energy and its high price has made most of the families conscious about their energy consumption.

In view of the above, energy conservation becomes an imperative need. A ten percent saving in energy consumption in India is all that is needed to tide over the current energy shortages, says a study on 'Energy Efficiency in Industry' conducted by the Federation of Indian Chambers of Commerce and Industry (1986). Considerable energy saving can be achieved through energy-saving strategies. As most households use mainly oil products, coal and fire-wood as energy sources, they need to have the knowledge of ways in which to conserve energy. The supply of energy has an effect on how people live and families depend on

~~depend on~~ different forms of energy for their various day-to-day activities, therefore, its use must be optimised. The households' contribution towards energy conservation is vital since the major portion (more than 48 percent) of India's energy is consumed by families at home (Pandey,1982). This may require change in attitudes, values, lifestyles and resource use patterns of families to promote energy conservation. For instance, a family can choose a lifestyle which would alter the demand for energy itself, i.e. by giving emphasis on use of public transport instead of using private vehicles. This will significantly affect the need for energy within the family and require a profound change in values. A study has shown that homemakers were aware of the need for energy conservation, had a favourable attitude and were willing to conserve energy (Kaul, 1984). The National task of energy conservation can be made more successful in meeting energy crisis if individuals make it a conscious habit, and families an essential goal.

Thus, the present energy crisis situation calls upon families to demonstrate their ability of adaptability. Any change in the fuel availability and price would affect the families, especially the low and middle income families. The efforts to cope with such a situation would thus be the major concern of the family system as a whole.

Rationale for the Study

Much of the research that has already been done and is being conducted on household energy use by various institutes, organizations and commissions working on energy problems of the country has focused on peoples' attitude towards energy situation, perception of energy situation; the energy consumption-expenditure patterns; energy conservation methods and practices; alternate energy sources; thermal efficiency of various fuels; and stove/chulah designs for decreasing fuel consumption and increasing efficiency. Frequently, seminars, workshops and conferences are being held to discuss the energy problems of the country and their possible solutions. Hence, we all are aware to some extent that there is severe energy shortage.

Although people have come to be aware of the serious energy problems, changes in their behaviour patterns are slow, and sometimes expressed in minor ways - such as being more careful to turn off lights and fans in an unused room. The inconsistency between perception of the energy situation and the energy consuming behaviour is partly because their preference for comfort, convenience and a desired status overpowers their actions. This has a cumulative effect on increasing the energy problems often overlooked by them.

In fact, most people conserve energy because they want to save money or are unable to pay high energy prices (Morrison and Gladhart, 1976; Gandotra, 1983; George and Ogale, 1983). Since empirical research is limited to few aspects, it is essential to know how families use energy and why they use it that way ? What is the perception level of homemakers regarding energy problems of the country?; what is the degree and types of stress experienced due to energy crisis situations ?; how do they cope up with the changed situations of energy availability and increased price ?; do the families have certain flexible household standards permitting quick adjustments ?; and what conservation practices families adopt and why ? The present research was planned in an attempt to obtain answers to these questions about behaviour under energy crisis situations.

Statement of the Problem

The present investigation is an attempt to determine the family managerial behaviour by studying the perception, stress felt and the coping measures adopted by homemakers under energy crisis situations.

Objectives of the Study

The specific objectives of the study were :

1. To determine the demographic characteristics and the energy-related values of the families.
2. To assess the fuel/energy consumption pattern of families, specifically of cooking fuels, electricity and petrol.
3. To study the factors influencing the perception level of homemakers in relation to energy crisis situation.
4. To determine the variables influencing the kinds and extent of stress felt by families under energy crisis.
5. To identify the coping measures adopted by families to meet the energy crisis situations.

Assumptions of the Study

1. Families differ from each other in their behaviour patterns with relation to energy use.
2. Families consume different energy forms for various purposes.

Hypotheses of the Study

The following specific null hypotheses were made to assess the relationships between the variables under study.

Hypothesis I : There is no association between the number of coping measures adopted during each of the energy crisis situations and the variables :

(A) Socio-economic status
(B) Family income
(C) Family size
(D) Education level of homemakers
(E) Age of homemakers
(F) Perception of homemakers regarding energy crisis
(G) Stress felt due to energy crisis

Hypothesis 2 : There is no association between the number of conservation measures adopted during each of the energy crisis situations and the value for economy.

Hypothesis 3 : There is no association between the number of substitution/supplementary and adjustment measures adopted during each of the energy crisis situations and values :

(A) Comfort and convenience
(B) Social status.

Hypothesis 4 : There is no association between the perception of homemakers regarding energy crisis and the personal variables :

(A) Age of homemakers
(B) Education level of homemakers

Hypothesis 5 : There is no association between the stress felt due to energy crisis and the variables :

(A) Family size
(B) Family income
(C) Age of homemakers.

Hypothesis 6 : There is no significant relationship between the number of coping measures adopted during all the energy crisis situations and the following variables :

(A) Perception of homemakers regarding energy crisis

(B) Stress felt due to energy crisis.

Hypothesis 7 : There is no significant relationship between the perception of homemakers regarding energy crisis and (A) Age of the homemakers (B) Stress felt due to energy crisis.

Hypothesis 8 : There is no relationship between the stress felt due to energy crisis and (A) Age of homemakers (B) Family size.

Hypothesis 9 : There is no relationship between the number of coping measures adopted during each of the energy crisis situations and the combined effect of perception and stress felt due to energy crisis.

Hypothesis 10 : There is no difference among the various SES groups in relation to :

(A) Level of perception of homemakers regarding energy crisis

(B) Degree of stress felt due to energy crisis

(C) Different types of stress felt

(D) Number of coping measures adopted during each of the energy crisis situations.

(E) The mean number of different coping measures adopted during each of the energy crisis situations.

Delimitations of the Study

1. This study was limited to a town in Ambala District of Haryana State.

2. The sample consisted of only 260 respondents.