INTRODUCTION

1.1 SETTING OF THE PROBLEM

At the time of gaining independence, Pt. Jawaharlal Nehru said, “Everything else can wait, but not the agriculture”. Agriculture is the mainstay of the Indian economy. Agriculture and allied sectors contribute nearly 25 per cent of gross domestic product (GDP) while about 69 per cent of the population is dependent on agriculture for their livelihood (Anonymous, 2005). There has been several policy statements for agricultural development during the last fifty-nine years, including the comprehensive report of the National Commission on Agriculture (1976). The last National Agricultural Policy was formulated in 2002. In the post-independence period the stress in Indian planning has been more on growth oriented development and thus, the potential areas from the view point of agriculture were harnessed first. This policy resulted in growth of agricultural output and its contribution to national economy. However, the growth has not been uniform among crops and regions in the country. Many regions particularly the hilly ones remained out of focus due to many factors and it was only after the Fourth Five Year Plan that stress was laid on balanced regional development with special emphasis on hilly belts. Development of these backward areas for reducing regional disparities has now become an important national policy objective in the plans.

Agricultural production is subjected to glaring year to year fluctuations on account of many factors such as technology, government policies, uncertain market conditions etc. These variations also occur due to physical and biological factors. The physical factors
include weather events, such as rainfall, temperature, humidity, evaporation, frost, hailstorms and strong winds. Owing to low, erratic and uncertain rainfall, crop yields are not only low but also highly variable (Sekar and Palanisami, 2000). All these factors are responsible for the biological hazards like the incidence of diseases, attack of insect-pests etc. The lack of infrastructural facilities and imperfect knowledge about market further add problems to marketing of inputs and output. This has led to wide fluctuation in net farm income. Further, unless correct predictions of yields, prices and resource availability are made, the decisions for making optimum use of all farm resources are difficult. During the last two decades, fruitful efforts have been made to make available improved technology, alongwith inputs at the farmer’s level. This is likely to help to raise the average production of various enterprises. But the increase in average production has also been accompanied by increased production instability (Hazzel, 1982).

Inefficient use of resources and agro-climatic conditions are mainly responsible for risk and uncertainty in agriculture. These variations consist of two elements, (i) quantifiable and (ii) non-quantifiable. The former can be measured through probability estimates and is called the “risk” which is influenced by factors like technical change, price cycles etc., which are generally recognized by the farmer. The latter is termed as “uncertainty” which is caused by such variables as unpredictable weather and attack of pests and diseases. In this case, the probability distribution can not be established empirically (Gupta, 1964). Risk is seen as an important and ever present factor influencing the optimizing behaviour of farm adjusting to disequilibria in agriculture (Schultz, 1975). It is manifested in the production process in two ways. One, it affects the level of output by influencing the levels of inputs used and second, it constrains the firm from realizing the full potential of the technology by influencing it not to follow the best method of input application. The former may be described as market (allocative) risk and the latter as production (technical) risk.
The state of Himachal Pradesh has achieved the distinction of being regarded as a model of hill development. Agriculture and allied activities continue to be the mainstay of a majority of the population as they provide livelihood to about 71 per cent of the working population. These activities contribute about 22 per cent of gross state domestic product. Due to topographical constraints, the area under plough is restricted to 10.3 per cent of the total geographical area. Only about 17.2 per cent of the net sown area is irrigated which is mainly in the form of snow fed gravity flow channels (kuhls). About 88 per cent of the gross cropped area is under foodgrains. The average holding size comes to 1.2 hectare while 84.5 per cent of the total holdings are small and marginal. At India level, a plateau has been reached so far as cultivable land is concerned, and Himachal Pradesh is no exception to it. Hence the emphasis has to be laid on increasing the productivity levels (Kumar et al., 2002). In Himachal Pradesh, agriculture is practiced mainly on cereals, pulses, oilseeds, vegetables and animal husbandry enterprises but in some niches the cash crops particularly vegetables are coming up fast but this has also increased the risk Mandi district of the state is one of such niche particularly the foot hills of the district.

The district is predominantly an agricultural tract where majority of the people (74 per cent) depends on agriculture for their livelihoods. It constitutes 15.88 per cent of the net cultivated area of Himachal Pradesh (Anonymous, 2003). However there are large variations in agro-climatic conditions of the district, which necessitate the area specific studies for proper planning of farm resources. Due to lack of knowledge there is inefficient input use causing huge economic losses to farmers. Thus, there is need to study the extent of input use, variability in different parameters and suggest risk efficient farm plans to augment the farm income of the farmers in the district. Keeping this in view the present research investigation was undertaken with following specific objectives.

1.2 OBJECTIVES
1. To study the socio-demographic features, resource endowment and utilisation pattern in different sub-ecological regions of Mandi district

2. To examine the extent of risk on farms in the study area.

3. To study output-input ratio of selected farm enterprises in different sub-ecological regions and to examine the variability in farm income.

4. To develop risk-efficient farm plans suitable to different sub-ecological regions keeping in view the existing resource and various developmental programmes.

5. To identify various problems and constraints and to suggest action plan for implementation of most feasible risk efficient plan in each ecological region.

1.3 USEFULNESS OF THE STUDY

Agricultural production is subjected to glaring year to year fluctuations on account of the random behaviour of nature and various other factors such as technology, government policies, action of rival groups’ market behaviour. The average farm size is becoming smaller each year and the cost-risk-return structure of farming is becoming adverse, with the result that farmers are getting increasingly indebted. Thus, the study has the relevance in understanding the farming systems in the area, and giving risk-efficient farm plans suitable to different sub-ecological regions for agricultural development.

1.4 ORGANIZATION OF STUDY

The entire study has been systematically planned in six chapters. Chapter 1 (Introduction) elaborates rationale and objectives of the study. Chapter II contemplates the critical review of work done in India and abroad relevant to the present topic of investigation. The systematic methodology adopted for collection and analysis of data has been described in chapter III. The results of the study have been presented in chapter IV. Chapter V is devoted to elaborate discussion with logical conclusions and inferences drawn based on the results. Finally, findings of this study along with suggestions and policy
options for the development of location-specific and risk efficient farm plans in Mandi district have been summarized in chapter VI. The illustrations, tables and figures have been extensively used to elucidate the results. The references quoted and used in this study have been duly enlisted under literature cited. Additional information has also been given in the appendix for further use of interested researchers in the field of agriculture.

1.5 LIMITATIONS OF THE STUDY

1. Due to limited time and other constraints, the study was based upon a random sample of 150 households drawn from the Mandi district. However, an attempt was made to obtain a random sample from different situations to have a true representative sample.

2. The data were collected by survey method and the information collected was based on the memory and past experience of the respondents. Though, due care was taken to extract accurate information, the possibility of few slips from the memory of the respondent could not, however, be ruled out.

3. The risk efficient farm plans developed for the study area are relevant under the static set of circumstances and input-output prices. However, the changes in resources and/or prices of input/output can be incorporated in the same model through sensitivity analysis.