INTRODUCTION

With about seventy per cent of the people being directly dependent on farming for livelihood, India has still an overwhelmingly agricultural economy. Keeping in view the vast size of the country and its acceleratingly increasing massive population it appears certain that it will take very long time before other occupations can dominate the economic scene and relieve the agricultural land from the fearful pressure of farm population. The unusually high rate at which the population has been growing in recent years and the staggering absolute increase it has given rise to, has created an alarming situation with regard to employment problems.

Eminent economists of the country like Professor V.K.R.V. Rao feel that under these circumstances the expanding industries and other non-agricultural activities will not be able to absorb the newly added numbers in the working population. In addition to carrying the pressure of existing population the farm land may have to carry an additional load of population. In view of these developments it appears that agriculture is going to dominate the occupational structure of the country. Also, this situation is making it increasingly necessary to re-assess the agricultural resource-base in a comprehensive manner.

Although agriculture is the subject of study in various social sciences there is little that overlaps in terms of the actual contributions. In Geography where the various phenomena are examined in the spatial perspective and later integrated to differentiate various regions in
the total picture this type of study has a contribution of its own to make.

It is in this spirit that the present topic 'Agricultural Land Use and Pressure of Population in the Malwa Tract of Punjab' has been taken up for a geographic investigation. Also coupled with this is my personal interest in agriculture. The inspiration to work on a project of this scale and dimensions arose and got strength when I was working on a similar problem but in a restricted area of the Ambala District. The distinctive place of a large part of the Malwa Tract in its agricultural economy among other areas of the State stimulated me to subject the agricultural land use to a geographic analysis. Not only is this area distinct in terms of its agriculture, it is also to a great extent different from other areas of the state in terms of pressure of population and agricultural prosperity. It is this distinction of the central zone of the Punjab from areas lying in its north and south which offered a challenge for a scientific probe.

The study begins with general physical back-ground of the Tract with special reference to its relationship with and usability to agriculture. This is followed by a broad classification of the land according to its present utilization. Special emphasis has been put on the investigation of possibilities of further extension of cultivated area.

After this the utilization of the present cultivated land is put to a detailed examination. In this part of the study, each crop has been studied in the areal perspective. This is followed by a synthesis of the crops in areas, leading to a division of the Tract into crop-combination
regions. Other aspects of the agriculture like methods of cultivation, intensity of cultivation, disposal of crops etc. have been discussed along with the crops wherever relevant and necessary. Other characteristics like land tenure, size of land holdings and irrigation have been discussed, each separately.

In the agricultural economy of the Punjab, the place of livestock for draft and dairy purposes is very notable indeed. Livestock are an integral part of the agriculture of Punjab. In a subsequent chapter, therefore, the various types of livestock have been studied in detail with special reference to their distributional patterns and their relationships with the farm economy of the Tract.

No account of the agricultural land use, however detailed, can be understood in its full significance till it is related to population to which it is to provide a livelihood. Therefore a thorough study of the density of population has been made particularly in relation to the cultivated area. Taking the standard food requirements of an individual at a given level of nutrition, the population supporting capacity of the various parts of the Tract has been determined from the acreage devoted to food crops at present. These figures of supporting capacity have been compared with the existing densities of agricultural, rural, and total population. This comparison leads us to the conclusion that the area as a whole is far from having reached the saturation point. In fact, there is an appreciable difference between the population it supports and the population it can support at the existing level of living. However, with the rapid rate of growth of
population this difference may disappear before long. Under the circumstances not only is it necessary to improve methods of cultivation and further increase the intensity of land utilization to maintain the present standard of living but also it is an urgent need to diversify the economic activity to the greatest extent at the earliest possible, if improvement in the common man's standard of living is desired. The whole discussion in this study is based on what has emerged in the maps made from assessment-circle-wise data. Next to the village, an assessment circle is the smallest areal unit for which land records are available. For a large area as 12,000 square miles which the Malwa Tract is, it is practically impossible to make use of village data for the various maps of the Tract. For large areas such as this data by assessment circles, therefore, provide the ultimate indetailed mapping.

An assessment circle is a tract of land with a uniform revenue rate owing to similar productivity throughout. The criteria used in delimiting an assessment circle are the soil texture and productivity of land calculated from the crop yields under the average conditions of climate and management. Unlike an administrative division, a tahsil or a district, wherein the agricultural phenomena may vary, an assessment circle has homogenous agricultural characteristics. So in a Geographical study of agriculture an assessment circle, as a unit of data representation, has a much higher utility than an administrative division.

The choice of the problem made it necessary the
collection of a variety of huge and widely scattered data by tapping numerous sources. The data on classification of land, irrigation, crops, livestock, land holdings and land tenure have been collected from the unpublished hand-written revenue records from the tahsil headquarters. This record is kept up-to-date by annual entries based upon the crop-inspection of each crop and each year's husbandry. The data on population have been taken from the 1951 District Census Hand Books. Village-wise data from these books have been consolidated assessment circle-wise so as to correlate them with the agricultural data. The data on climate have been collected from the office of the Director of Land Records, Jullundur and from the Office of the Director of Meteorological Observatories, New Delhi. Data on soils have been collected from the Department of Soil Science of the College of Agriculture, Ludhiana and also from the Irrigation and Power Research Institute, Amritsar. Additional data on agriculture, land tenure, land-holdings, and soils are tapped from the unpublished records of the Office of the Financial Commissioner Punjab, Chandigarh. In addition, data have been collected on many aspects of the problem by personally interviewing people engaged in the relevant pursuits.

Data on agriculture for this study were collected in 1959-60 when the completed revenue records for the assessment circles were available up to the year 1957. These have been averaged for five years, 1952-57, in order to round off the fluctuations caused by the variability of rainfall. The population data used are of the 1951 census which is the
nearest to be co-rrelated with the agricultural data. The study will thus serve as a base for further work on the same topic which the author contemplates as soon as the 1961 Population Census data are available in published form.

Because of uncomparable nature of data in the erstwhile native states and British territory, no light could be thrown on certain aspects of agriculture. The important one is the extent of crop failure for which no data are available for more than half of the region under study. Similarly in the absence of crop production data, there could be no direct measurement of the population supporting capacity of land, consequently indirect means have been employed to arrive at the required figures.

It could be possible to go still deeper in analysing the problem by selecting a village as an areal unit instead of an assessment circle. However, for such big an area the choice of village as a unit of study is beyond the scope of an individual. After studying the problem at this scale it is proposed to conduct sample surveys of villages and farms in a separate study to reach the still deeper roots of reality.