INTRODUCTION

Agricultural development of any region works for and through the media of the farming community. The development depend generally, on the initial natural factor endowment, the quality and quantity of human resources, and subsequently added, the adoption pattern of technologies. The Hooghly district, in the state of West Bengal, is not an exception to this fact.

The Hooghly district is one of the important agricultural districts of West Bengal where the conditions and the methods of production have been quite developed. Geographically, it lies between the latitudes of $22^\circ 39'32"$ north and $23^\circ 01'20"$ north to the longitudes of $87^\circ 30'20"$ east and $88^\circ 30'15"$ east, surrounded by the river Hooghly on the east and the districts of Burdwan, Howrah and Bankura on the north, south and west respectively. The total area covers 3145 sq.km. and has been agriculturally divided into three divisions, namely, Chinsurah Sadar, Chandernagar-Serampur and Arambag. These divisions have again been sub-divided into eighteen police stations but in seventeen blocks.
The district due to its favourable geographical conditions enjoys much facilities for agricultural development. When during the late sixties and early seventies the technology push in the agricultural sector accelerated the production function of the agricultural commodities, the district took up a fast and rapid move towards development. Added to this was its already set up industrial background due to which the people of the district were aware of the development process taking place elsewhere in the world, and also were keen to innovation. As a result agricultural development diffused rapidly in the district though due to the variations in the physical features, soil and drainage conditions, the degrees of development were different in different parts of the district.

Social change has been always associated with development and thus in the Hooghly district the social change occurred as a natural process among the farmers in response to its agricultural development. In the study, an assessment of the agricultural development of the district Hooghly has been attempted together with the social change among farmers. Some
representative villages have been selected for the study in detail through some indices both for agricultural and social transformations with geographical analysis.

A question would obviously follow about the year and the period of assessment. A ten year period has been undertaken after such a consideration that a decade could definitely give a clear picture of any change. Thus a ten year period ranging from 1977-78 to 1986-87 has been considered for the study. The study period initiated from the year 1977-78 because of the fact, that, during this period, the technological know-how was well established among the farmers after its introduction in the late sixties. After ten years of development practices with accessory errors of omission and commission, things were crystalized enough to provide a concrete shape. After a decade, in the year 1986-87, the change in the social lives of the farmers, which were normally a slow process, also expected to give a clear and positive picture.
In the Hooghly district, due to a variety of development factors, the change became interlinked with agricultural upliftment which brought in its turn affluences among the farming community leading to an overall social change, sometimes drastic - sometimes imperceptible. The study has the aspiration to examine all these processes together with the resultant products.

Object:

The object of the work is to study the nature and pattern of agricultural development of the Hooghly district and an analysis of the social change of the same areas. The study also aims to assess if there is any interrelations or interdependence between the development in the agricultural sector and the social change among the farmers. In this connection a number of agricultural and social indices have been thought to be considered.
Scope:

The scope of the study is necessarily very wide because it covers a diverse field, ranging from agricultural production, area, yield rate, input use to social criteria namely, food habits, dresses, education, cultural contacts etc. of the people of the studied area.

Limitations:

The study is based mainly on the field study which has been a hard and difficult task for an individual research worker. Despite inevitable limitation in the field studies, namely, the smallness of the samples, inability to observe the changes over long period, limited resources etc., the study has indicated, based on the concrete analysis of the area, a overall picture of the agricultural and social change of the Hooghly district.
Methodology:

The main purpose of the study is to assess the agricultural development and the social change of the Hooghly district for a period of ten years. To satisfy the objective, the data have been collected from the primary sources through an empirical survey. Secondary data have been collected from different official sources, Journals and published statistics.

The data collected from the village survey have been arranged in such a way, that it suits the empirical estimation in detail, in two broad heads: (a) the decinnial change in agriculture and social change in village life and (b) the interdependence of agricultural development and social change of the farmers.

The two base years 1977-78 and 1986-87 have been selected on the basis of the initiation of a new era of modern technology (popularly known as Green revolution) when felt, and a year, when the adoption was sufficient to assess its impact on different spheres.
Selection of the sample villages:

The study has been mainly carried on an investigation of a sample of cultivating households in eight villages of the Hooghly district in such a way that,

1. the villages have been well provided with different levels of inputs potentials

2. the villages suffer from seasonal inundation at different degrees

3. the villages having concentration of different holding sizes to denote the level of adoption among different types of farmers with varying cropping intensity, diversified cultural practices and economic conditions.

4. the villages locating in an interior part of the district as well as to an easily accessible area to enable to assess the influence of communication and external contacts upon the agricultural development and social change.
(5) the location of the villages of selection has also been emphasized the geographical considerations, e.g., availability of water, nearer to the rivers, canals and other water bodies, Geological and soil structure etc.

As the district has been divided into three agricultural subdivisions, the villages have been chosen from each subdivisions from different blocks to a overall picture.

The household samples have been considered through a simple random sampling. Twenty percent of the households taken from different holding sizes from the selected eight villages have been studied.

The samples considered from the different holding sizes have been

(1) the landless farmers with no land of their own,

(2) the marginal farmers having land upto 1 hectare of their own,
(3) the small farmers owning land between 1.5 hectares to 2.5 hectares,

(4) the medium farmers owning lands between 3 hectares to 5 hectares, and

(5) the big farmers owning land above 5 hectares.

The proportion of sample households in various sub-groups used to vary from ten percent to as high as hundred percent.

**Collection of data:**

For the collection of data from the sample households, interviews have been undertaken through a structured questionnaire. The questionnaire has been prepared into Bengali, when it was administered. The interrogations were mainly carried on among the heads of the families but answers had to be supplemented with the questions put to the younger generations. In addition to this, cross verifications were done through a series of interrogations put to the Government.
officials like, Krishi Projukti Sahayak, Agricultural Development Officer, Principal Agricultural Officer etc., and the progressive and well informed persons of the villages, members of the Panchayat Society also rendered their valuable opinions.

Choice of techniques:

Different types of quantitative techniques have been employed for the quantitative analysis depending upon the suitability of application. Accordingly, to assess the agricultural development, diversification index, cropping intensity index, productivity index along with different regression analysis have been applied, and to consider the social change and the interdependence between the two, the synthetic index and the composite index, prepared on the basis of different indicators have been adopted.

The whole work has been arranged into five chapters including the introductory one. In the introduction, the conceptual framework of the agricultural development and the social change of the
Hooghly district has been dealt with. Some information about the district have also been inserted. The second chapter deals with the physical layout of the district which has profound influence on agricultural development as well as the social change. In the third chapter the decennial change in production, area, yield rate, input use in agriculture etc. and the associated social changes have been observed. In the fourth chapter an analysis of the change from the case studies of the eight villages has been attempted. In the fifth and the last chapter, a conclusion has been given which brought in an overall assessment of the study.