CHAPTER I

INTRODUCTION AND IMPORTANCE OF THE STUDY

In a developing economy like India, increase in the supply of agricultural commodities assumes great importance in the face of accelerated growth in the level of income coupled with the rapidly growing population under the condition of relatively high income elasticities of demand for these products. The need to increase the supply of agricultural products also stems from the fact that most of the industries in these economies directly or indirectly depend upon agriculture for their raw materials. From the point of view of earning and conserving foreign exchange, for the development of industries and to get rid of the deficit problem in the balance of payments, also the increase in agricultural supply is considered vital as agricultural products constitute main items of export and significant part in the imports of these countries. Increasing agricultural production is not an easy problem as it involves increasing the potential of agricultural sector and optimising the use of limited resources in agriculture. The solving of this problem entails building up of incentives for growth by improving the terms of trade for agriculture, improving institutional structure and modifying technological condition prevalent in agriculture. Above all the farmers' behaviour to various economic incentives become
very crucial in suggesting solution to the problem of increasing the supply of agricultural products.

It is generally held that in a market economy with private ownership of land property, the agricultural producers are economically rational and they respond positively to price changes. Agricultural produce prices, in these economies, may act as an incentive or disincentive for investment in agriculture and for allocation of land in the production of a particular commodity. A change in the relative prices of farm products may be instrumental in altering the supply structure from the farm sector. However, the same principle may not apply to the agricultural sector of developing countries. There are so many small farmers operating with uneconomic landholdings, generally branded as self-subsistent, lacking commercial outlook and less receptive to modern techniques. Since most of them have taken agriculture as a way of life than a lucrative profession, they are, it is believed, insensitive to price changes. But Schultz argued that peasant farmers in underdeveloped countries are efficient but poor. He also observed that farmers in traditional agriculture are more efficient by strict economic standards than farmers in the technically advanced countries in using the

particular collection of land, labour and material reproducible capital that they each have at their disposal\(^2\). In a recent book Schultz argued that farmers in dealing with costs, returns and risks are calculating economic agents. Within their small individual allocative domain they are fine tuning entrepreneurs tuning so subtly that many experts fail to see how efficient they are\(^3\). Majority of Indian researchers of supply response study, notably Dantwala and Rajkrishna have come with the result that farmers in less developed countries do respond to price incentives. All of these studies have assumed net income maximisation behaviour of the farmer under competitive conditions. This formed the basis for the policy prescriptions. However, many of the conditions underlying optimising behaviour of the farmers had not been satisfied in the agriculture of developing countries. It is clear to the casual observer of Indian village life that input and output markets are not perfect. The choices available to the small peasant farmers are quite different to that faced by medium to large farmers who have no survival problems.\(^4\).

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It is assumed in most of the supply response studies that there is homogeneity among production factors. But land, the primary input in the agricultural production is varying in quality by their geo-physical environment. Moreover, due to insufficient capital accumulation, agricultural production in underdeveloped countries are controlled by natural conditions. The labour, the other important input item is also varying in cost and efficiency. A major part of labour force in small households of underdeveloped countries consists of farmer and his family. The opportunity cost of this labour is relatively at a very low level as change of profession is morally a loss of social prestige for them. Irrigation condition also differed from region to region and also from farm to farm depending on the resources on hand with the farmers. The source, extent and purpose of credit also varied widely between the group of farmers. Technical knowledge about input-output relationship in production is another important input which decides to a great extent, the level of production in agriculture. This depends upon the experience of the farmer, his participation in social and extension activities etc. It is known fact that all the farmers are not possessing the same level of technical knowledge of agricultural production. The rate of absorption of new knowledge and new inputs also depends critically on the price and risk milieu. The price realised and risk taken by the farmers differed
significantly between farmers depending on the holding capacity and market knowledge of the farmers. There was no perfect knowledge on the part of agricultural producers partly due to defective marketing system and partly due to lack of interest on the part of sellers selling their meagre surplus for unremunerative prices. On account of which the farmers preferred to sell their produce at the village site itself. This led to intermarket price differences and sometimes, these differences tend to be greater than the transport cost. All these factors in one or the other way contributed for the limited mobility of land between different crop cultivation.

The situation is fast changing with the increased adoption of new technology introduced in fifties and early sixties. It is the experience of agricultural workers that a new practice introduced in a village is not accepted straight away but a considerable time elapses before all or even a majority accept the new practice. The rate of acceptance is not even. There appears to be a resistance at the beginning, then as extension teaching proceeds, the resistance breaks down and more and more people begin to adopt it. With this, increased irrigation and better seeds made possible substitution between land and new inputs. Improvements in the flow of credit into agriculture from the latter sixties made possible land reclamation and other improvements in land and enabled the farmers to adopt new
technology, with a greater degree. This eased the inter-crop substitutability and commercialisation of agriculture. The knowledge of the farmers about the market condition and technical relationships of input and output have grown considerably in the past one and a half decade with the popularisation of radio and T.V., development of regulated markets and intensive extension education apperted to the farmers with increased amount of subsidy. Thus the condition for the free operation of price mechanism is more satisfied in the agriculture of 1970's and 80's than in the agriculture of 1950's and 60's.

The agricultural price policy and other government programmes introduced with the objective of increasing the supply of agricultural output had not succeeded in 60's because of non-rewarding investment opportunities provided by these programmes. The fact of the situation is that the terms of trade between agriculture and the rest of the economy have never been attractive enough for the resources to flow into agriculture, and conditions in this regard remained more or less unchanged. Following the examples of developed countries, many of the less developed countries, have pursued the negative price policy of holding farm prices low to safeguard consumer interests and to provide

capital for industrial development. As was to be expected the consequences of this policy have been disastrous and many of the development plans have foundered on the rock of agricultural shortages. Only a well conceived and efficiently executed price policy can go a long way in speeding up the pace of agricultural development. However, upto 1965, India's agricultural price policy mainly comprised short-term and adhoc measures adopted hastily to meet the exigencies of a particular situation as and when they developed. That is why, the agricultural price policy in the 70's and before have ended in failure in the production front. A long-term policy aiming at more of agricultural production calls for (1) Development of Agricultural infrastructure along with better availability of inputs and induction of new technology (2) Creation of price incentives for producers that are reasonably non-inflationary for the consumers (3) Structural reform involving a drastic realignment of ownership rights in favour of small farmers and landless labourers. Thus, to increase agricultural production, techno-organisational measures are required along with the policies designed to take advantage of the price responsiveness of agricultural supply. But the government had adopted programmes of increasing agricultural

7. Rajbans Kaur, ibid, P.99.
supply without improving institutional structure and without providing a reasonable price incentive to the farmers. This had resulted in lesser pay-offs to the farmers for the investment made by them and consequently formed the reason for the non-acceptance of new technology introduced by the extension workers.

The studies in this field have brought out conflicting results. They have analysed the problem at different levels in various time periods by using different techniques and models with varying specifications. However, the overwhelming evidence indicates that subsistence and semi-subsistence farmers do respond to economic incentives. The price responsiveness of traditional agriculture has been convincingly demonstrated by the studies made in the near past. These studies have come with increased price responsiveness of the farmers. This result might have been due to the confounded effect of technological advancement, since those studies were made during the period when the outlook of the farmers towards the adoption of new technology was about to change. Moreover, the studies have neither used the technological factor, nor adopted an appropriate specification of technology. In addition to this, the total risk factor involved in the improper adoption of new technology, in price fluctuations etc., has been either ignored or taken into account partially. An appropriate measurement of this variable has not been made
in most of the previous studies. Besides this, these studies were based on the assumption of no change or negligible change in the institutional condition particularly in the case of marketing and banking. In the context of econometric work on supply response, the net effect of price variables can be properly measured only if the non-price variables determining supply are well specified and vice versa⁸.

Almost all studies concerning price response of Indian farmers are either at macro level using time series analysis or at micro level with cross sectional analysis. There is no notable study at the micro level adopting time series analysis along with cross sectional analysis to make fruitful comparison of the results of time series and cross sectional analysis. In this context a study at the district level seems to be very important.

Studies covering a wide range of commodities confirmed that farmers are responsive to some crops and non-responsive to certain other crops. The price responsiveness for a particular crop also varies between regions. Under this pretension, it becomes very necessary to make supply response analysis by homogeneous sub-regions for a wide range of food and commercial crops.

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The farm scene of Periyar District, one of the agriculturally progressive districts of Tamilnadu, have shown a change in the cropping pattern in the recent past years. Various government programmes have been vigorously enforced in order to boost up agricultural production in this district after its inception in the year 1979. Many rural banks and regulated markets were also opened in this district only in the recent years. In the phase of changing condition, the problem under the study are to gauge the net price effect upon the crop production after giving allowance for the effect of non-price variables by homogeneous geographical subregions.