

INTRODUCTION

Agricultural economics as a separate branch of economics is a recent addition to economic literature. Various books on agriculture had been written in the past and many problems of farm economics had been given considerable attention, but well thought out effort on agricultural economics as a separate discipline started only in the beginning of 20th century. It was only after the depression of 1890's which seriously affected farm activities that organised farm groups and developed interest in farm management problems. This new field of agricultural interest was later known as agricultural economics. The emergence of industrial revolution stimulated the growth of agriculture and facilitated understanding of its importance. This stimulation and understanding of the growth of agriculture gradually resulted in the evolution of agricultural economics as a separate discipline. The importance of this discipline has recently grown so much that we have now separate agricultural universities, centres and colleges and agricultural economics is treated as an inseparable part of the academic programmes.

We know that the producers, processors and consumers of farm products face constantly changing economic conditions. In this book our focus is on the agricultural aspects of economics to know, how changes in economic conditions affect producers, processors, and consumers of agricultural products. To understand these agricultural aspects in details, we must therefore, first understand the working of the whole economic system.

Economics and Agricultural Economics

The science of economics deals with the problem of choice between alternatives. The problem of choice arises because resources are scarce before ever-growing desires. Economic problem arises when the question is raised: how the scarce resources should be allocated to get maximum satisfaction? Every economic system concentrates on this question.

There are five basic functions which any economic system perform if the economy is to grow and develop. One is to determine what goods and service are to be produced. In the production of goods and services, producers assume that their products will be consumed. This means that some method must be established so that consumers may convey their preferences to producers concerning the kind and the quality of

goods they like to consume and which the producers would like to produce. That is, some criteria must be introduced for transmitting the desire of consumers to producers.

To conform the wishes of consumers an organisation is needed in relation to produce goods and services. Organisation is needed because resources are limited and it is necessary to have some method of dividing available scarce resources among producing units in such a manner that could permit these units to produce those goods and services which are in great demand. This means that by transferring resources from one use to another, more goods and services could be produced for reaching at higher and higher level of satisfaction. This is the second important economic function of a system.

A third important function which an economic system must perform is to distribute the product. Owners employ their resources in the production of commodities for the market or sell their resources to others engaged in production. The price system directs resources to those uses where the returns are greatest. Returns from the sale of the product are distributed among resource owners through prices established for resource services. These payments are given special names in economics. Payments for labour services are called "Wages". Payments for the use of land are called "Rent". Payments for the use of capital are called "Interest". And payments for management are called "Profit". If the productive potential of an economy is to be explored, these rewards to the owners of resources must be high enough so that they could get better incentive.

If an economy is growing, it has to maintain or increase its production over-time for the maintenance and expansion in plant and equipment. This is the fourth important function of an economic system. New and additional goods and services cannot be produced unless the economic system is organised in a manner which permits the production of these goods and services. This means that some incentives for research, innovation and invention are needed if new and improved goods and services are to be made available for consumption.

At any point of time, the amount of commodities and services is fixed. Obviously, consumption cannot exceed the stock of commodities available. The economic system must be so organised that consumption at any point in time should be restricted to the stock of goods and services available. This is the fifth function of an economic system and is essentially a rationing function. Here consumption is adjusted according to the available stock of goods and services.

Among all the five functions discussed above, the first four may be viewed as an expression of preferences of the consumers and an

adjustment of production to fulfil the desires of consumers. The last fifth function takes the stock of goods and services as given and adjust the amount of consumption accordingly. All these functions are the essential elements for a smooth functioning of an economy.

These functions of an economic system must be perform by any economic system irrespective of its political organisation. In a capitalist system the owners of resources, i.e., land, labour, capital and enterprise are free to enter into the production or sell their services to others. In such free enterprise exchange economy owners of the resources are paid for the use of their services/resources and have the freedom to spend the money to buy goods and services offered for sale. In a centrally controlled economy all resources are owned by the state and the decisions of production and distribution are taken by the central authority.

To sum up, economics may be defined as the science of analysing the use of limited and scarce resources to achieve desired ends. It is a social-science which studies "human behaviour as a relationship between ends and scarce means which have alternative uses". As such economics decides alternative ways of using scarce resources to satisfy human needs for which there are varying degrees of preferences. The questions: What to produce? How to produce? For whom to produce? are centred around this basic theme of economics.

DEFINITION, NATURE AND SCOPE OF AGRICULTURAL ECONOMICS

Agricultural Economics: Agriculture is one sector of the total economy. Agricultural economics is an applied field of economics which analysis the principles of choice applied to the use of scarce resources such as land, labour, capital and management in the farming and allied agricultural activities. It decides what should be produced, which crops should be raised to maximise profit and what should be the price of the product. As a social science, agricultural economics is concerned with the allocation of scarce resources among the uses associated with producing, processing and consuming the farm products. The problem of allocating scarce means for diversified uses is more crucial in agriculture than any other sector because the land which is the basis of all agricultural pursuit is highly limited. Hence, the theoretical frame of agricultural economics should be such which could provide plausible methods and procedures of using such precious and limited resource for the maximum satisfaction of society. Agricultural economics is, therefore, both theoretical and applied in its character. It is theoretical because it deals with the development of principles of resource economics, production economics and distribution economics.

It is an applied science as well as it deals with the application of the principles in diversified production, consumption and distribution activities related to agriculture.

Nature and Scope: The scope of agricultural economics is very wide. A number of forces are actively involved in agricultural activities whether it is production, processing, marketing or consumption. Some of them are physical and are taken care of by soil-scientists, geologists, soil-chemists and physicians. Some other forces are biological which are studied by animal and plant physiologists, geneticists, entomologists, pathologists and bacteriologists. Agriculture is also governed by some economic and sociological forces. Agriculture is a vocation as well as a way of life. This unique characteristic refers to the relationship between economics and sociology. And it is with this relationship that agricultural economists deal. There are some relationships which are of purely economic nature. Input-output relationship, cost and revenue relationship, production decisions, price-decisions, maximisation of output/profit or least-cost combination of inputs, income-distribution and trade are some aspects where economists pay attention. Demographic structure, working conditions, customs, traditions and rituals of rural population and their impact on the thinking of rural masses and on their way of living are some sociological aspects where sociologists show their keen interest.

Thus, the scope of agricultural economics, as Taylor pointed out, "deals with the principles which underline the farmer's problem of what to produce and how to produce it, what to sell and how to sell it in order to secure the largest net profit for himself consistent with the best interest of society as a whole. More specifically, it treats of the selection of land, labour and equipment of a farm, the choice of crops to be grown, the selection of livestock, enterprises to be carried on, and the whole question of the proportions in which all these agencies should be combined. These questions are treated primarily from the point of view of costs and price."¹ Although Taylor deals with the subject in broader perspective, yet the whole treatment rests only on the problem of production. And as such an impression emerges that agricultural economics has nothing to do with the problem of consumption and distribution of farm products. But this is not true. Consumption, processing and distribution economics is as important for farm people as it is for them to understand the economics of their farm production. They are, therefore, part of the economics of agriculture.²

The scope of agricultural economics, is, thus, not confined to only production economics. It is equally related with the problem of distribution and consumption. It includes the questions: what to distribute;

among whom to distribute and on what basis to distribute; what to consume and how much to consume. Agricultural economics also includes the participation and functioning of Government in agriculture. "To neglect the public management, public aid, and public regulation", as Black reveals, "as arts of the agricultural economics would be almost like leaving mechanics out of the agricultural economics would be almost like leaving mechanics out of a course of physics".³ Of course, the role of the Government cannot be neglected as in the process of production, distribution and consumption and overall upliftment of the rural masses. It provides infrastructure, technical know-how, aid and assistance on one hand and regulates input and output prices in the interest of both the consumer and the producers on the other. Thus, Government participation is a relevant part of the study of agricultural economics and as such it should also be included in the scope of agricultural economics.

To be specific the scope of agricultural economics include the production, distribution, consumption and Government activities in relation to agriculture and farm enterprises. The main problem is of choosing the most profitable activity. The task of agricultural economist is to point out what is best to do in the economic interest of rural community under the given conditions. The scope is very vast which include every phase of national activities that affect farmers in their efforts to make a happy and prosper living.⁴

Agriculture economics is both a social-science as well as a natural science. As a social-science we study farmers' activities, decisions and functioning which are greatly influenced by society. The society, in turn, is also affected by the farmer's decisions. Since farmers' decisions are to some extent affected by his own psychology, social institutions and other religious taboos, their activities cannot be measured in such a precise manner as are possible in a laboratory experiments. In this respect, agricultural economics is subject to all such influences which exist within the domain of social-sciences.

As a natural science agricultural economics deals with a thorough examination and evaluation of scientific innovations in relation to agricultural activities. Since agricultural economics is an applied science, the practical wisdom of an agricultural economist seems to be more useful than the volume of his theoretical knowledge. The nature of agricultural economics is unique as all the practical aspects of agriculture are controlled and governed by nature. In no other economic phenomenon as in agriculture is the nature so strongly, directly and closely involved. The problem of maximisation of output is therefore more complex in agriculture in comparison to other sectors.

Obviously the solution is too more uncertain. Varying agro-climatic conditions, soil-fertility lead to inter-regional and intra-regional heterogeneity in the production conditions. This creates the problem of differential achievements under varied geo-economic conditions. The problem of agricultural production is, therefore, complex and multi-dimensional.

Seasonality is another unique factor that distinguishes agricultural production activities from other non-agricultural production activities. Naturally, market fluctuations are more sharp and frequent in agriculture sector in comparison to non-agricultural sectors. The nature of agricultural activities is such that it involve the whole family in pursuit of livelihood, it becomes a way of life, a culture, besides, of course, means of livelihood. The very word "agriculture" reflects that it is more a culture, a way of living rather than a profession and a business enterprise.

SOME PECULIARITIES OF AGRICULTURE

Agricultural economics does not present a different set of economic principles and methodology relevant to only agriculture. The general framework of economic theory is applicable just as much to agriculture as it is applicable to any other sector such as industry. The analysis of demand and supply, equilibrium, cost and revenue markets, maximisation of profit etc. is as valid in agriculture as in industry. When all the general principles of economics are applicable to agriculture the basic question arises: What is the need of studying agricultural economics separately?

True, goals of production and the need for management decisions in relation to the allocation of inputs are strikingly similar between agricultural and industrial production. However, there are substantial differences in the natural conditions under which production is carried on in the agricultural and industrial sector. And this necessitated a separate study of agricultural economics. Agriculture possesses some unique and peculiar characteristics which in turn makes the agricultural economics as a separate branch of study.

- (i) Agriculture is a unique industry in the sense that it is only agriculture where a mode of life, a culture, and profession, a business all are combined together. This combination no longer exist in industry or in any other sector. Agricultural activities are such that involve the whole family for the pursuit of livelihood. And as such it is more a way of life than merely an industry or business enterprise. It is on this ground

that agriculture is more influenced by sociological, political and sentimental elements.

- (ii) Agriculture is known as basic industry. Basic in the sense that it provides food for all without which nobody can live. Basic in the sense also that industrial growth depends on it as it provides major raw material for their growth and expansion. No other sector takes such strategic responsibilities of growth and development. Agriculture is also unique in the sense that it produces net surplus production over cost. However it is also true that its production activities are marked with uncertainties, limitations and immobilities. Agriculture, being a biological activity is always subject to the vagaries of nature. Here man's association with nature is more close, intimate and many sided. Weather, climate, rainfall, temperature, moisture, chemical properties of soil, latitude, altitude all serve as limiting factors in man's efforts to develop agriculture according to his own plan. Man has hardly control over them. Here nature decides the level of output. When production is not controllable serious maladjustments are likely to occur because at times more production is needed, agriculture fails to produce it. Hence, the whole economy suffers with shortages and high-prices. When prices are high and farmers wish to produce more he is not capable of producing more. And at other time, more products are produced than are required, making the whole production activity unprofitable. This trend refers towards the immobility of agriculture.
- (iii) Agriculture is immobile in the sense that it cannot adjust their output and organisation in accordance with the market fluctuation immediately, while the other sectors such as industry can do it easily. Expansion and contraction in their case is more a function of time and technique. But in agriculture the adaptability of any such change is slow and therefore, it is immobile and inflexible. A farmer neither can take immediate advantage of technological changes nor can be benefitted from the changes in taste, fashion and mode of life. Besides, factor limitation like area of land also places severe limitation on the efforts of man to expand his activities. But no manufacturing unit suffers from such limitation.
- (iv) Due to these limitations and immobilities, the application of Law of Diminishing Returns is more pronounced in agricul-