Chapter – I

INTRODUCTION

1.1 INTRODUCTION

For most of the Indian people agriculture is the mainstay. It is not merely an occupation, but a way of life which has shaped thoughts and outlook of farmers. India occupies prominent position in certain crops in respect of their areas, production and trade in certain part of the country.

Agricultural investigation is concerned with economic, cultural and biological relationship (Kannan, 1983). The present investigation is related to fruit cultivation, very particularly to the Cashewnut cultivation. It involves all economic, cultural and biological aspects related to cashew cultivation.

The origin of fruit culture is intimately associated with the history of mankind. Man has been a food collector for the great part of his existence, dating back 7000 to 10,000 years to what is known as the Neolithic age. Man’s discovery of assuring himself plentiful food supply by planting seed coincided the origin of civilization.

Our fruit cultural heritage is largely traceable to Greek and Roman influences. By the thirteenth and fourteenth centuries, orchards were common everywhere. The fruit culture spread from Italy to France and then to England. The practices as fertilization, graftage, pruning, breeding, dwarfing, transplanting, insect control, processing of fruits were almost known to all farmers. In the medieval period the fruit gardening, under the imperial attention, was raised to a royal status thus proving its beauty and utility both (Tawade, 1980).

Over two third of the India’s workforce still depends directly or indirectly on agriculture. It continues to generate about 19.7 per cent of
GDP. Indian agriculture gambles with monsoon; therefore, there are variations in the production every year.

India is second largest producer of fruits and vegetables in the world. In India fruits are grown over an area of 3.73 millions hectares contributing to an annual production of 46.4 millions tones. Indian fruit basket comprises a wide variety ranging from tropical fruits like mango, cashew-nut, banana, citrus, papaya, guava etc. to fruits like apple, pear, peach, plume, almond and walnut etc, while the another fruits like pomegranate, annaona squamosa etc. are the fruits in the arid zone.

Cashew is a commercial plant grown in the tropics and extensively spread along sea coasts adopting a wide range of soil and climatic conditions, with a temperature range between $25^0 \text{C}$ to $30^0 \text{C}$.

The uniform rainfall distribution of five months required for establishment of plant, then after that it becomes the drought resistant crop. It demands light over its foliage during flush and fruiting season to give a satisfactory yield.

In Maharashtra cultivation of cashew is practiced in Thane, Raigad, Ratnagiri, Sindhudurg and western part of Kolhapur district. There are regional variations in the fruit farming of South Konkan due to the variation in natural and socio-economic factors, which affect the cashew farming. In this context, the present study of cashew cultivation deals with the South Konkan of Maharashtra.

1.2 RESEARCH PROBLEM

Need for investigation is as follows:

India has the distinction of being the world’s largest producer of cashewnuts. It is one of the major earning crops which contributes about 1.5 per cent of the Indian export and ranks second in the major edible oils.

Although during the past two decades it has gained the status of the horticultural crop, it is most neglected so far its cultivation, production,
productivity, use of modern Agro-technology etc. Interestingly cashew farmers are poor, ignorant and practicing mostly traditional practices. And hence it is the time to think seriously about economically important crop for it's over all performance at micro level, as micro level studies regarding cashew cultivation are very rare. Hence present attempt is to study the cashew cultivation at micro-level in South Konkan of Maharashtra which is the core area of cashewnut production in the state of Maharashtra.

1.3 STUDY REGION

The region selected for present investigation is southern part of littoral Maharashtra, located between 15° 36’ N to 18° 50’ N latitude and 74° 36’ E to 75° 50’ E. Longitudes comprising Ratnagiri and Sindhudurg districts. It has north south length of 450 km and east – west width of 65 km having average height of 1350 mt from mean sea level. The region is bounded by Arabian Sea to the west the Karnataka and Goa states to the south, Raigad district to north and Satara, Sangli and Kolhapur districts to east. Administratively it is divided into 17 tahsils (Fig. 2.1) comprising 13295.5 sq km area and supporting 25,58,154 population.

Geographically the South Konkan has considerable variation in relief, climate and socio-economic environment. The region is a narrow coastal strip with hilly and rugged topographic features along the Sahydri hills, the valleys are more open and the hills are less rugged. Towards the coast it falls into nearly level plains.

In general, the region experiences moist and humid climate. The rainfall is heavy, especially in the hilly eastern part that is on high crestline of Sahyadri. Weather in rainy season is humid and in winter season it is cool. The average temperature in summer season is 33° C and in winter season, is 18° C. The average rainfall of South Konkan is about 2500 mm. The rainfall is concentrated in four months from June
to September in all over the region. Broadly the year may be divided into three seasons, the summer season from March to May, the monsoon season from June to October and winter season from November to February.

1.4 SIGNIFICANCE OF THE RESEARCH WORK

Cashew is an important plant grown along with the costal area in Konkan. It is one of the important cash crops along with mango and coconut. Cultivation of cashew varies according to the amount of rainfall, altitude, size of holdings and humidity variations. At present cashew is one of the major plants supporting farmers for their livelihood. In South Konkan region of Maharashtra, area under cashew plantation is significant (107690 hectares), which has plenty of scope to increase.

1.5 HYPOTHESES

In the present study following hypothesis are formulated to test during the course of investigation.

1. Cashew culture yields high returns as compared to cereal crops grown particularly, paddy and ragi on similar type of land.
2. The returns from cashew cultivation vary according to the size of holdings.
3. The returns from cashew plantation vary according to the altitudinal zones.

1.6 OBJECTIVES

Once the need for such a study as detailed above has been felt, it becomes easy to appreciate the objectives behind micro level, single crop specialization study.

The study under taken aims:
1. To examine the present status of cashew farming in the light of physical socio-economic and technological factors.
2. To study the spatio-temporal growth of cashew cultivation and changes in cropping pattern in the study region.
3. To study the levels of cashew productivity in the study region.
4. To study the economics of traditional crops along with cashew plantation.
5. To study marketing of cashewnut.
6. To investigate the potential regions for cashew farming.
7. To assess the problems and prospects of the cashew cultivation in the study region.

1.7 DATA BASE AND SOURCES

The data has collected from two sources viz. primary and secondary. The primary data related to area, production and marketing has been obtained through interview, schedule and questionnaire techniques. The secondary sources include the published Government report, Socio-economic review and district statistical abstracts, Census hand book, Zillah Parishad record, Grampanchayat, Internet etc. The quinquennial average for the period of 1980-85 and 2000-05 has been abstracted in order to avoid fluctuations in the agro-parameters.

1.8 METHODOLOGY:

The commodity approach has been adopted for the present investigation. The tahsil has chosen as an areal unit for regional analysis. For the micro-level analysis village has been chosen as an areal unit. The stratified random sampling technique is used for selection of 10 per cent (130) sample villages for which altitude zones are considered as strata. The correlation regression has been employed to show the relation between altitude and per hectare yield, size of holding and per hectare yield. Spatio-temporal changes in landuse and
cropping pattern have been computed by considering percentage strength of individual landuse category and crop. For computing the levels of cashew productivity Jasbir Sing’s crop yield and concentration indices ranking coefficient method and Majid Husain’s method of productivity in term of money per unit area have been employed. The details of all other methods used are specified at respective places in the text. For the detailed analysis three cashew growers from each sampled villages were selected based on size of hoaldings. As such 390 cashew growers are selected. For collecting the required information questionnaire, schedule and interview techniques are employed. Here triennial averages for the year 2007-08 to 2009-10 are employed. To avoid the fluctuation of climatic parameters on the agricultural activities quinquennial averages for the period of 1980-85 and 2000-05 have been considered for tahsil level statistics.

The processed data have been presented in the form of table, graphs, diagrams and maps. The choropleth method has been used for showing the areal differences. Relevant photo plates are also included to exhibit the scenario of cashew cultivation.

1.9 BRIEF REVIEW OF LITERATURE:

Fruit cultivation being a highly specialized form of agriculture, its tract is strictly coinciding with the agriculture region of world. Fruit cultivation activity indicates the cultivating of fruit plants and trees.

On the research front, it is found that, the several attempts have been made by climatologists, agricultural scientists, economists and scholars from other disciplines to study the different aspects of various fruit cultivation.

There are many scholars, who worked on the fruit farming, cashew cultivation, agricultural pattern etc. All these works related to
agricultural activities are taken into consideration for the present study. The reviewed literature is as follows:

As per available literature it is evident that, Rajaona et al. (2007) have carried out the comparative study of allometrical parameters of cashew trees in Northern Brazil. It will contribute for the improvement of cashew cultivation system in North East Brazil, in order to increase the production level.

Martin et al. (1997) mentioned that, recently, higher cashew prices and liberalised marketing have created favourable conditions that have encouraged farmers to tackle several of the biological constraints on production.

Singh (1976) explained various physical factors related to agricultural activities. He focuses on land tenure, size of operational holdings. Another scholar Amar Singh (1980) in his book “Fruit Physiology and production”, has studied the complexities of metabolic control that the plant exercises due to the changes in external environment, supply of nutrient, shift in harmanal balance etc. He only considered the fruit plants for the said study.

Subramaniam et al. (1982) analysed the role of Climate in Horticulture. Wadkar (2001) highlighted the economic analysis of processing and export of cashew in India. The post harvest management technology and cashew development in India is also mentioned by him. Mandal (2000) in his book Cashew production and Processing Technology has highlighted the comprehensive information on the cashew and its products.

Bose et al. (2006) explained botany of cashew. Bal (2006) in his book Fruit Growing has discussed about the selection of site and soil for planning an orchard, preparation of land and layout of an orchard, etc. Sawant and Gaonkar (2007) studied the production of cashew in
relation with the watershed management scheme in village Morpilla of Goa.

Tawade (1980) in his book Geography of Fruit Farming a Case Study of Ratnagiri District explained the importance of fruit farming in the economy of South Konkan. With the help of sample studies, he explained how the fruit crops are influenced by the geomorphologic facets, soil determinants, hydrological and climatic conditions etc.

Dalvi et al. (1990) studied the economics of processing of cashewnut in Sindhudurg district of Maharashtra. Patil (1994) studied the growth and prospects of cashewnut processing industry of Sindhudrug district.


Sontake (1989) in his study emphasised on processing units in study region. He explained the economics of small scale units in Devgad tahsil.

Phule (2003) studied in detail the Geo-economics of pomegranate cultivation in Solapur district. For this study he selected the Sangola tahsil, which is drought prone area of Solapur district. The physical, social, economic aspects of pomegranate cultivation are also discussed by him. In the same year, horticultural economy of fruit crop in Maharashtra is studied by Patil (2003). Hajare (2007) also studied the fruit farming in Maharashtra plateau.

Thus major research works comprising scientific techniques of production, protection of crops are carried out. Along with this production and marketing, cost estimation has been also carried out.
However, none of them have attempted the spatial organization of cashew cultivation at micro level. Keeping in view the importance of fruit farming as an alternative land use for traditional crops, government of Maharashtra has encouraged this activity by providing incentives in the form of subsides, long term loans and infrastructural facilities etc. On this background, it becomes necessary to evaluate the success of fruit farming activity as compared to traditional farming practice. The present investigation is an attempt in this direction.

1.10 OUT LINE OF THE RESEARCH WORK

The entire study has been arranged into seven chapters.

The first chapter deals with statement of the problem, study region, significance of the research work, hypothesis, objectives, data base and sources, methodology, review of literature, and the organization of the work.

In the second chapter, physical setting of the study region is carried out. It includes geographical settings, geology, relief, drainage pattern, soil, vegetation, climatic conditions, agro-climatic zones and water resources in the view of suitability of cashew cultivation in the study region.

The third chapter is related to socio-economic determinants of cashew cultivation. It includes demographic status and infrastructural services in the study region.

The fourth chapter deals with the changes in general land use pattern, cropping pattern and changes in cropping pattern in the South Konkan of Maharashtra.

The fifth chapter is related to nature of cashew cultivation, spatio temporal growth and development of cashew cultivation in India, Maharashtra and in study region for the years 1980-81 to 2004-05 and levels of cashew productivity.
The six chapter deals with the economics of cashew cultivation and marketing.

The last chapter includes the findings and viable recommendations.
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