CHAPTER II

REVIEW OF LITERATURE

Literature review aims to portray the critical points of current and collected knowledge on the topic under study. It seeks to describe, summarize, evaluate, clarify and integrate the content of primary reports. Moreover it forms the basis for the justification for future research in the area. As such, review of literature has become an inevitable part of any scientific investigation. Hence a brief review of available literature, related to the study is presented in this chapter.

2.1 Socio-economic profile
2.2 Change in cropping pattern
2.3 Inventory management
2.4 Trend analysis
2.5 Disposal pattern

2.1 SOCIO-ECONOMIC PROFILE

Awolola (1992) studied on non-use of agro-chemical products association with farmers socio-economic characteristics like farmer’s education, income, farm size etc with 300 farmers of five villages in Irepodun Local Government were of Kwara state. As substantial number of secondary school and post-secondary educated farmers reported to have used different agrochemical. Farm size is another important factor that contributes to the use or non-use of agrochemical products like farmers who possess 2 to 5 hectares of farm land reported to have used different agrochemical products. The study revealed that there is a substantial relationship between educational status, income, farm size and farmer’s use of agrochemicals, it is found that both adult, secondary and post-secondary education enhance the use of agrochemical products.

Bolarinwa and Fakoya (2011) studied the impact of farm credit on farmers’ socio economic status in Ogun state, Nigeria. Information was obtained from a total of 250 farmers randomly selected from Ogun. The farmers were stratified into beneficiaries of credit and non-beneficiaries. The study showed that inadequate provision of loan from formal credit institutions with about 40 per cent of beneficiaries securing loan from formal credit institution and 80 per cent from informal credit institution. About 54 per
cent of beneficiaries were of higher socio-economic status compared to 10.4 per cent of non-beneficiaries in the same category. Also they found that farmers’ economic productivity was based on the several factor like age, education, social participation, productive land and household size of the farmer and also depend upon family member same characteristics. The study recommends that for positive impact to be recorded on farmers’ socio-economic status credit should be given to the farmers and research should be intensified at the farm level for farmers to benefit.

Ali (2014) studied the socio-economic profile of women in rural areas in Raichur district of Karnataka. Majority of respondents are between the age group of 30-45 years with 43 per cent, 38 per cent of the respondents were between the age of 45-55 years, and only 19 per cent were age of above 56 years. Majority of respondents were illiterate with 70 per cent and literates comprised of 30 per cent. Most of them are engaged in agriculture for their livelihood constituting of about 64 per cent and remaining 30 per cent were wage labors, 5 per cent are working in private jobs and 1 per cent are engaged in government jobs. Majority of the respondents belong to Hindu religion which constitute about 76 per cent and 19 per cent are Muslims, Christian with 2 per cent and other with 3 per cent. Majority of the respondents belong to SC with 32 per cent, OBC with 30 per cent.

Bharathi and Nagaraja (2014) conducted study at Chikkaballapur district of Karnataka to know the socio-economic status, utilization and perception of bank account holders. The study was conducted based on both primary and secondary data, the primary data were collected from 200 bank customers and secondary data were collected from different sources of information. They observed that more than two-third of respondents were pursuing agriculture as their main occupation in that majority of them was pursuing plantation crops. The membership in political parties was the single largest institutional participation.

Neethi and Sailaja (2014) studied the socio economic profile of farmers in Mahabubnagar district of Andhra Pradesh. The majority of the respondents belonged to middle age 40 per cent, illiterate 38.33 per cent, had small farm size 26.67 per cent, medium farming experience 48.34 per cent, medium annual income 40.83 per cent, labour in own land hired agriculture as main and subsidiary occupation 49.17 per cent, medium innovativeness 56.67 per cent, medium economic orientation 48.33 per cent, medium market orientation 45.84 per cent, medium change proneness 49.17 per cent, medium achievement motivation 51.67 per cent, medium information seeking behaviour 56.67 per
cent, medium participation in DAATTC activities 50.83 per cent. Hence, there is a need to improve these characteristics from medium level to high level by intensifying the efforts through various ways of technology transfer like diagnostic visits, demonstration and group meetings which recorded higher participation of respondents. And also they concluded that majority of respondents were not members in any organization so extension agencies should encourage the farmers for social participation by strengthening community organization programmes to form youth clubs, welfare association, farmer’s discussion groups etc.

Patil et al. (2014) studied the personal, socio-economic and psychological profile of khol crop growers of Belgaum district of Karnataka state. Belgaum district was purposively selected for the study because, it ranks first in area and production of khol crops in north Karnataka Multistage random sampling procedure was used for collection of data. The study revealed that 78.00 per cent of the khol crop growers regularly participated in Krishimela. This might be due to Krishimela conducted in UAS Dharwad. The findings of the study revealed that majority of the respondents 64.00 per cent have 8 years of farming experience. Whereas 19.00 per cent of the farmers belonging up to 3 years farming experience, Which was nearer to the study area and most of the farmers gets the seeds and required information related to khol crops. Mass media participation of the farmers indicated that 56.00 and 21.00 per cent of the respondents were listening radio programmes occasionally and regularly viewing television.

Subba and Saha (2016) studied the socio-economic profile of orchid growers of East Sikkim where the majority of the orchid growers are large in growing orchids. The socio-economic profile was studied with respect to age, education, family size, annual income, operational land holding and mass media exposure. Majority of respondents belong to middle age category whereas majority of the respondents had a medium level of education. Majority of respondents according to their family size belong to medium size of category. Orchids are not grown commercially by most of the respondents so the annual income of them was up to medium level. Mass media exposure of the respondents had a medium level of category.

2.2 CHANGE IN CROPPING PATTERN

Bhide et al. (1981) used first order Markov-Chain Model in their study on structural changes in an agricultural assembling market in Karnataka for the period from
1962-73 based on secondary data collected from different sources. The important assumption underlying the use of Markov-Chain analysis in their study were, the firm growth is stochastic, and the transactional probabilities of movements of firms among categories, are stable over the period in to which projection were to be made. Both these assumptions are tested for their statistical validity in the context of data set used. Chi-square tests were to test the validity of the above assumption. Analysis of seller and buyer concentration, and size-distribution in an in the market in India suggests an increasing degree of competitiveness in the market structure.

Mahadevaiah et al. (2005) studied on the stability analysis of raw cotton export market from India for the period from 1981-82 to 1998-99. This study used Markov chain analysis approach for analyzed changing pattern of export of cotton to different eight countries. According to this study China as the most stable market which had been depicted an increase in its import share from the pre-reform period to the post-reform period. The transitional probability matrix has indicated that India was likely to lose most of its export share in the traditional markets such as Bangladesh, Germany, Indonesia and the UK. The estimation has indicated comparatively lower reduction of market share in Japan and Korea. Though China has remained a loyal market to Indian cotton, India should not have high dependency on one market so as to avoid trade risks in the long-run.

Panigrahy (2006) studied on long term changes in cropping pattern of Bathinda district, punjab. With the availability of required inputs for intensive agriculture, the cropping system in Punjab state had undergone a paradigm shift, from a much diversified cropping pattern to a very specialized monocropped one. A study was undertaken in Bathinda district of Punjab State for mapping crop area, cropping pattern and finally long term changes in cropping pattern. Multi-year, multi-date, IRS LISS I, WiFS & LISS III and RADARSAT ScanSAR data were used to map area under major crops and to generate the cropping pattern maps for the years 1988-89, 1998-99 and 2003-04, respectively. The study revealed that in Bathinda district which was lying in the south-western part of Punjab, popularly known as cotton belt, rice (Oryza sativa L.) -wheat (Triticum aestivum L.) system has come in place of cotton (Gossypium hirsutum L)-wheat (Triticum aestivum L.) and other minor cropping systems in large area where assured irrigation water was available. The results revealed that over the years, the area under rice had been increasing at the expanse of cotton as well as other minor crops, mainly because of clearing of sand dunes which were brought under cultivation by farmers and with the expansion of irrigation facilities. The closer look to the spatial
distribution of different cropping systems reveal that rice wheat system, which was
dominant in the northern part of the district in the year 1998-99 had spread to the other
parts of the district by the year 2003-04.

Ray (2007) studied on economics of change in cropping pattern in relation to
credit. It was a micro level study in West Bengal. Data had been collected from 160
household belonging to six villages. 90 farm household with credit and 70 without credit.
From the total 90 sample farm households with credit, 20 farm household are from the
villages in coastal zone, 50 from the village in alluvial zone, and 20 from village in
laterite zone. Of the total 70 farm household without credit, 20 farm household are from
the villages in the coastal zone and laterite zone each, and 30 from alluvial zone of the
district. His analysis revealed that impact of credit availability on cropping pattern change
had been more significant bin case of small and marginal farmers. Availability of labour,
family labour etc.. were the factors behind the higher profitability. Profit per acre from
non-food grains cultivation was larger than from food grains. Credit plays a substantial
role in effecting a significant change in cropping pattern in favour of non food grains
needed to satisfy the rising demand/ diversified demand in context of rapid
industrialization, urbanisation and population growth, government of India must put
greater emphasis on increasing the availability of institutional credit to the farmers.
Institutional credit should be provided on time and in required amount. Transaction cost
of credit should be reduced and change in cropping pattern should be in favour of
commercial crop cultivation. so, government must design an appropriate crop wise credit
policy which could ensure food security.

Devdarshi and Indira (2013) studied on changing pattern in area, production and
productivity of coffee and tea in India during pre and post liberalization period. Time
series data of two periods from 1970-71 to 1989-90 and from 1990-91-2009-10 had been
taken. All the data was obtained from valid Govt. official records. CGR was calculated to
understand the change. Analysis showed that area under oilseed and plantation crops,
there was a considerable increase. There were stagnancy in the area under food grains.
The export oriented crops are a likely to be more affected by trade policies than other
crops. In terms of relative share, the percentage of area under food grains was decreased
and oil seed became increased. Share of plantation crops was also increased. Production
and productivity of coffee and tea had been increased during the post liberalization period
and variability had declined. Liberalization of trade policies influence the marketing
structures, prices received by the growers and other market players.
Sangral (2015) studied on change in cropping pattern and crop diversification in Jammu and Kashmir. All the data used out to be from secondary sources. Data had been collected through govt. official records, Directorate of economics and statistics, Jammu and Kashmir, various published records, journals, yearbooks etc. A trend of shift from food grains to non food grains was observed by the process of development which indicates increasing tendency towards crop diversification. Area under the food cereal increased in nineties but it was strange that the area under rice which was the staple food of the state decline showed that rice lost its popularity during nineties. The area under oilseed was due to the effect at the national level the government initiated a series of measure during 1980's. There should be diversification in a proper balance between the propagation of cereal and non-cereal crops and the mechanization of agriculture.

2.3 INVENTORY MANAGEMENT

Keth et al. (1994) stated that the major objective of inventory management and control was to inform managers how much of a good to re-order, when to re-order the good, how frequently orders should be placed and what the appropriate safety stock could be retained, for minimizing stockouts. Thus, the overall goal of inventory was to have what was needed, and to minimize the number of times if one was out of stock.

Morris (1995) studied that inventory management in its broadest perspective is to keep the most economical amount of one kind of asset in order to facilitate an increase in the total value of all assets of the organization–human and material resources.

Gonzalez and Gonzalez (2010) studied on an economic order quantity model and reorder point inventory control model for company XYZ. The assumptions was done that company was facing an ineffective forecasting method that was leaded to multiple product stock out and this was leading to decrease in sales, profit loss and keeping them less competitive. Data was collected from the company which include, product sales, holding cost, ordering cost and unit price for their previous two years of 13 products. As a result, a cost estimate was done to compare both their current and the recommended models. Company XYZ was able to reduce their overall cost from $13,654 to $5,366. This was a cost reduction of approximately 61per cent, which summed to a total saving of about $ 8,300 per quarter.

Agrawal (2014) analysed on economic order quantity model. During his studies he found that it was very essential to manage inventories efficiently so as to avoid the costs of changing production rates, overtime, sub-contracting, unnecessary costs of sales
and back order penalties during periods of peak and dynamic demand. EOQ model have been effectively employed in marketing, automotive, pharmaceutical and retail sectors of the economy for many years. The model gave optimal solution in closed form which helps to know about the behaviour of inventory system. The study suggested that to rectify certain defects in the company inventory policy and if these suggestions will be implemented, the company's inventory management situation can attain a greater height.

Bano et al. (2015) studied economic order quantity model for inventory control in web based point of sale application and comparative analysis of techniques for demand forecasting in inventory management. For this analysis they had selected historical data of past two years (2011 and 2012) on quarterly basis, of 12 products from a supermarkets collected to determine demand forecast for the current year (2013) and to analyze products sales behaviour due to demand. Proposed application determined order quantity, reordering point, product selling, inventory categorization and supplier selection mainly by simple moving average, linear regression and back propagation. Using linear regression for forecasting demand and afterwards using this demand in EOQ to calculate annual cost resulted in 57 per cent savings when compared with simple moving average. Application of economic order model for reducing the cost related to inventory. It also analysed the sales data of customers to determine which products must be salved together to increase sales.

Guga and Musa (2015) studied on inventory management through EOQ model at Shpresa Ltd, Albania. Company was facing an ineffective predictive method, which caused the excess stock in the warehouse, loss of sale and also loss of earning. In this analysis, a product had been considered which was marketed by the company, the flower of “Orchid”. For this product they had applied EOQ and ROP. The use of EOQ model in inventory management for "Shpresa Ltd" was resulted into reduction of the cost of ordering and inventory holding costs, and as a result, reduction of total cost. They recommended to the business to implement inventory control in place to increase stocks and reduce order.

2.4 TREND ANALYSIS

Kamreshu (2012) studied on trend detection in annual temperature and precipitation using the Mann- kendall test- a case study to across climate change on select states in the northeastern united states. 12 month accumulation data on precipitation was obtained for nine states. Time period was from 1900-2011. The resultant Mann-kendall
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test statistic (S) indicates how strong the trend in temperature and precipitation was whether it was increasing or decreasing. For temperature, all states indicate statistically significant increasing trends, except for Pennsilsalvania and Maine that did not indicate significant trend. The linear trend line showed that there was an increase in precipitation. For temperature, trendline indicated that it was increasing for all the states except Maine.

Yang and Lu (2012) studied on trend analysis of news topics on twitter, which included trend prediction and reason analysis for the change of trend. The two database was used for experiments and evaluation in section. They first crawled the headlines of top news events from the RSS of the associated press website. At the same time, the tweets which match all the words in the headlines were crawled from twitter. In the subset, there were 1118 headlines, and more than 450 thousand tweets. For the twitter trend dataset, they used the stream API provided by twitter to sample about 1 per cent tweets of all public status on twitter. Furthermore they crawled the twitter trends in same period. In this dataset, there were more than 20 million tweets, and 1072 trend topics. The prediction of trends of topics was based on moving average convergence divergence (MACD) indicator. It is one of the simplest and most effective tendency indicators in technique analysis of stocks. The point at which main peak was arrived was called as prediction point. The baseline method was a fixed threshold method (FT), in which a fixed threshold was given. If the tweets density exceeds the threshold, it was considered that main peak is arriving. When prediction point appeared behind the main peak missing prediction happens. Before the topic became a twitter trend topic, about 74.46 per cent trend topic, their trend momentum experienced the process from negative to positive in the last 16 hours. Experimental report showed that the method was simple and effective.

Dwaikat et al. (2013) studied on content and trend analysis of the journal creativity and innovation management there had been only one attempt to analyze the corpus of publications in this journal from 1992-2000. This study was conducted by analyzing the content of latest 360 CAIM articles (published from 2000 to 2012). Data collection and analysis were performed by utilizing Publish-or-Perish software and also, Excel statistical analysis tools. This methodology uses a multi-approach to content analysis by interpreting the text in titles and abstracts to evaluate several elements, for instance the authorship characteristics, geographical contributions or the nine themes previously proposed and visible in the CAIM journal. The study outcomes in addition to the descriptive statistics that provide an overview of the research contributions, intend to gain insights in two important aspects. First, this study confirmed how the articles
categorized in the nine themes have behaved in the last 12 years. Second, the study revealed that some trends in the literature came from emerging markets economies (EME), which has not been raised so far, as the relation of author’s countries and the themes of their publications in the EME context.

Kumar and Pattnaik (2013) studied on trend detection methods and their application to detect temperature changes in India. Recent trends in annual, monthly and winter, pre monsoon, monsoon and post monsoon extreme temperature ($t_{\text{max}}$, $t_{\text{min}}$) had been analysed for three time slots viz. 1901-2003, 1948-2003, 1970-2003. Rigorous trend detection analysis had been exercised using variety of non-parametric methods which consider the effect of serial correlation during analysis. This study build a full envision of recent envision of recent temperature trends over India for different components of a year during the same period of time for different regions using various methods. This detailed analysis would be useful to find out influence of temperature change on hydrologic cycle, environmental resources and future water resource management of the country. Sequential MK test revealed that most of the trend both in maximum and minimum temperature began after 1970 either in annual or seasonal levels.

Tomas (2014) studied on trend analysis of human resource development representing the base for researchers in selected economies. This paper has discussed the issue of precondition for the number of researcher as an important input factor for research and development. This analysis carried out on higher education graduates, who can be considered a base of a group of researcher, and number of inhabitants. A method such as empirical data variables dependence was used. In this study EU(27), USA and crenz republic were selected for analysis. Due to the exclusion of possible duplication of data between the crenz republic as the EU (27) member, EU (26) was created. Absolute values of individual variables for EU (26) was calculated by subtracting the czech republic values from the EU (27) values. To analyse the emperical data, tools for time series analysis was used. This was the examination of the development trend for variables time series by a selected position indicator, especially geometric average of annual growth rates. correlation coefficient was used in order to determine the nature and interdependence. Analysis tool such as correlation analysis showed a strong a functional relationship between the variables entering both hypothesis. Regression analysis of the time series ratio value showed in increasing proportion of graduates with tertiary education per capita in all selected economies. This was a positive prerequisite for the fulfillment of the target group of researchers. Regression analysis of the time series ratio
values showed the number of scientist per tertiary graduate absolvent had been decreased.

Obimbo et al. (2016) surveyed on trend analysis and change point techniques. Trend analysis and change point detection in a time series are frequent analysis tools. Change point detection was the identification of abrupt variation in the process behavior due to distributional or structural changes, whereas trend could be defined as estimation of gradual departure from past norms. They examined four different change point detection methods which, by virtue of current literature, appear to be the most widely used and then west algorithms. We measure the power and accuracy of these current methods using simulated data. They drew comparisons on the functionality and usefulness of each method. They also analyze the data in the presence of trend, using Mann–Kendall and Cox–Stuart methods together with the change point algorithms, in order to evaluate whether presence of trend affects change point or vice versa.

2.5 DISPOSAL PATTERN

Naik et al. (2003) studied on price spread in marketing of brinjal in Maharastra state. In this study sample of 100 vegetable growers in Panvel tahshil of Raigad district was selected randomly. 5 marketing agencies were selected to collect the data of marketing cost and prices. The cultivers were categoriges into small group (0.98 ha), medium (0.99-1.61) and large group (1.62). There was no difference between marketable surplus and marketed surplus in case of vegetable because it was very perishable in nature. Among all the three channels (Producer—Retailer—Consumer, Producer—Wholesaler—Retailer—Consumer, Producer—Commission agent—Wholesaler—Retailer—Consumer) of brinjal marketing, second was the most favoured channel in the study because nearly 50 percent quantity was passed through this channel. Producers share was maximum in channel first (68.28 percent), share of retailer is maximum in third channel (25.83 percent), share of wholesaler is maximum in channel third (5.12 per cent). Total marketing cost is minimum (30.72 percent ) in channel first and maximum in channel third (46.86 percent ). It was revealed that marketing efficiency was higher in channel first (2.25 ) followed by channel second (1.37 ) and channel third (1.13).

Sun et al. (2004) studied distribution patterns of e-bussiness based agricultural products logistics. In China, the number had reached 87 million by the end of June in
2004 and the volume of e-business trade grows fast. A famous consultancy company, estimated that the volume of global e-business trade in 2002 was about 2,293.5 billion USD, and it will attain 12.8 trillion USD in 2006, which will be 18 per cent of the world retail volume, and the average growth rate was above 30 per cent each year. In China, The U.N. E-business Development Report in 2001 indicated that the volume of B2B and B2C market would be 4 billion USD in 2003, B2B would increase 194 per cent each year, and B2C would be 274 per cent. In this study various e-bussiness based logistic system, the model of logistic distribution based on electronic data interchange(EDI) and dynamic allocation mechanism. For logistics, e-bussiness logistics management (EBLM) model had been discussed. Implementation of EBLM model could be carry on effective management to logistics and information flow in the agricultural products supply chain so as to set up normal and efficient agricultural products circulation network.

Xiangyu and Yingxial (2006) studied on agricultural product logistics based on the supply Chain. The level of the agricultural product logistics development had become one of the key aspects which decide the level of the whole development of one country agricultural economy. There were such problems as high cost, low efficiency, low socialization and marketability degree, old logistics facility and technology, lacking talented persons, impeded information and so on. From the angle of the agricultural product supply chain, the agricultural product logistics development patterns based on the supply chain had been discussed. Aiming at these questions, this article has proposed the countermeasures including exploring new agricultural production circulation pattern, cultivating and developing agricultural product logistics organizations, strengthening education and training, enlarging the government’s support, speeding up the informationization construction and standardization construction of the agricultural product logistics.

Singh et al. (2003) studied on marketing analysis of milk production in Bhopal district of Madhya pradesh. For data collection, Bhopal "Sahakari Dugdh Sangh Maryadit Sangh" was selected purposively because of maximum capacity of milk collection (2,59,000) and maximum number of milk producers co-operative societies (891) in Madhya pradesh. This study revealed that there was reduction in milk collection over previous year. But overall, there was 250.54 percentage increase in milk collection over the base year (1991-2001). On an average sangh collected 34 lakh litres of milk with monthly fluctuation of 4.18 per cent per month. In which the collection of 83.24 per cent was from their milk producers co-operative societies and remaining 16.76 percent from
other agencies (30.70) as compared to milk producers co-operative societies (3.49) thus, milk producers co-operative societies plays important role in collecting maximum milk (nearly 83 per cent of milk per month ) in study area. As a result of volume of milk collection vs distance, the distance of the society was negatively related (r=-0.44), shows that as the distance of the societies increases, the volume of milk collection decreases. Producers got only 71.84 per cent share in consumers rupees, which can be increased by reducing their cost of milk collection from producers to consumer. In the collection of milk highest profit earned by the dairy plant, which can also be increased by the quantity and quality of milk. Low price of milk the most important problems in the collection of milk, followed by lack of cold storage, delay in payment, inadequate water for animals, lack of all weather roads, small quantity of marketable surplus of milk, improper treatment, lack of cross breed animals and uncertainty of electricity.

Han and An (2015) studied on urban fresh products cold chain distribution management system. Fresh agricultural products have the characteristics of short storage period, easy pollution, easy metamorphism, etc. If storage or distribution process was not handled properly, it was producing a large loss in the circulation process, reduce the shelf life, and reduce the value of agricultural products, related to supply chain related business profit, and also related to food hygiene and safety. Based on the analysis of the demand and the characteristics of the cold chain distribution, and the analysis of the structure of the distribution system, the paper puts forward some reasonable suggestions for the improvement of the city cold chain distribution management system.

Tiwari and Meena (2015) studied on marketed surplus, consumption and disposal pattern of milk in Baswara district of Rajasthan. The study covered 90 milk producers selected randomly from six villages which were post stratified into small, medium and large herd size category. This study revealed that about 76.15 per cent marketed surplus of milk was sold by milk producers to unorganised sector and rest of surplus milk (23.85 per cent) to organised sector. The percentage of surplus milk sold through directly to consumers was the highest (31.51 per cent), followed by milk vendors (30.18 per cent), dairy co-operative societies (23.85 per cent) and tea shops (11.26 per cent) in the study area. The direct consumers, milk vendors and dairy co-operative societies were preferred by milk producers of small, medium and herd size category respectively. The probable reason for preferences might be that milk vendors and consumers often advanced cash payments to needy milk producers at the time of emergency while dairy co-operative societies make payment on weekly, fortnightly or monthly basis.