RESEARCH PROBLEM
AND
MEHTODOLOGY
CHAPTER - 1
RESEARCH PROBLEM AND METHODOLOGY

1.1 Introduction:

Owing to the sheer size of India's agricultural sector and the importance of agricultural products in the consumer budget, agricultural performance and agricultural policy have an economy-wide impact. The country launched significant efforts and a march towards trade policy reforms in 1991. Prior to this, high tariff and severe quota restrictions had created an export-unfriendly environment, which was further vitiated by jealous export controls and an uncanny regime of export incentives. All this contributed to wide variations in export incentives across the various industries. However, in the new economic environment, the Government of India has strived hard to implement a second phase of Economic Reform with an emphasis on rural areas. This program has brought about necessary structural adjustments in an economy via a regime of new trade and industrial policies. New initiatives were taken in trade policy to create an environment, which would provide a stimulus to export while
reducing the degree of regulation and licensing control in foreign trade at the same time.

The trade policy reforms aimed:

a) to reduce the degree of licensing in import trade,

b) to broaden, enhance and harmonize export incentives and

c) to introduce a self-balancing mechanism where imports would be automatically regulated by export earnings.

The main thrust of new trade policy was on exchange rate adjustments, decanalization and a reduction in peak tariff rates besides abolition of export subsidies, encouraging investments-both domestic and foreign improving competitiveness of Indian exports and integration of the national market with international market.

It is visualized that the reduction of tariff, delicensing and encouragement to foreign investors in the manufacturing industry will promote competition, leading to efficiency and reduction in the cost of production. This may also contribute to availability of industrial goods at real lower prices, thus, correcting terms of trade in favour of agriculture. In its wake the outflows of resources from agriculture
may also be arrested accruing a major gain to the agricultural sector (Sharma and Tiwari 1993).

The new agricultural policy declared by the Government of India in June 2000 and New Foreign Trade Policy 2004, suggests to provide fresh concessions to agricultural sector with a view to boost the volume of agricultural exports further.

The policy aims to achieve rapid and sustained growth (4%) in agriculture. The main objective of all this process is to encourage the production and marketing of agricultural goods.

Karnataka, like several other states, has a comparative advantage in agriculture. New economic policy has ushered a favorable climate for agricultural output to increase. It is further contended that the production reforms, are expected to improve the marketing of non-traditional agricultural output. Thus the ongoing economic reforms, it is believed not only have the potential of consolidating the food security but also have considerable scope for raising farm income and employment by stepping up agricultural
marketing specially those of non traditional crops viz. fruits, vegetables, flowers among others.

1.2 Statement of the Problem:

Non-traditional commodity production and marketing has of late become the prima donna of all the agricultural marketing in India. Initiation of the process of integration of forward and backward linkages in horticultural production in the aftermath of liberalization has given a fresh fillip to horticultural marketing in the country.

Consequently not only the horticultural marketing have improved but it has also resulted in considerable expansion of production agencies initiated in recent years has also contributed to far reaching structural changes in the horticultural economy.

There is no doubt that Karnataka has great potential in the horticultural sector and that the marketing of non-traditional commodities such as fruits, vegetables and flowers have grown many folds over time. There is no denying the fact that the adoption of several liberal policy measures by the government in more recent
times and the application of scientific production techniques have boosted the State’s horticultural production.

However the relevant questions that would strike one are:

a) How did the structure of agricultural production and marketing in Karnataka changed over time.

b) What future prospects Karnataka holds in the marketing of non-traditional commodities as against the traditional ones? and

c) In the light of rapidly changing national marketing conditions and in view of various trade policy measures adopted by various developed states, how Karnataka agriculture has adopted these within its fold. These issues are focused mainly in this thesis.
1.3 Review of Literature:

A brief review of the earlier research work is provided here. Published literature pertaining to both traditional and non-traditional agricultural commodities on output growth and its stability, supply response, price behavior a demand have been culled out. Therefore survey of literature is classified into two related categories viz.,

1. Growth and instability in the national agricultural production.


Minhas and Vaidyanatha (1965) used the decomposition model to examine the sources of changes in crop production in India from 1951-54 to 1958-61. Their study indicated that out of total increase in output approximately 45 percent was attributed to area of growth, 46 percent to increase yield, 8 percent to change in cropping pattern, and only one percent to interaction term between yield and cropping pattern. Further, they also studied the regional pattern of sources of growth in production and it was found that in Punjab, Rajasthan,
Assam and West Bengal, the contribution of area was substantially higher (above national average).

Whereas in erstwhile Madras, Kerala, Madhya Pradesh, Bihar and Orissa the contribution of yield was higher than the national average. In Punjab, Madras, Gujarat, Maharashtra, Andhra Pradesh and West Bengal the contribution of cropping pattern changes was the highest. Their research belongs to general crop production and not specific crops such as traditional or non-traditional.

Kaul (1966) conducted a study on Punjab and found that changes in area and yield were the major sources of growth in output in most of the districts during the period of the fifties and sixties. Districts having more irrigated area, showed higher contribution of yield to increase in food grain production.

Parikh (1966) examined the sources of output growth in different states of India using Minhas and Vaidyanatha model. His study revealed that changes in cropping pattern contributed more than 45 percent of growth in agricultural production in Madhya Pradesh, Mysore, Rajasthan and Uttar Pradesh, in Bihar, Kerala, West Bengal
and M.P. area growth contributed, more that 55 percent to the total output growth, while in Bihar and Madras, growth in productivity played an important role in increasing production.

Misra (1971) analysed the contribution of different components of growth in output for two different phases covering the period 1949-52 to 1956-59 and 1959-62 to 1966-69 in different districts of Gujarat. The study revealed that in majority of the districts in both the time periods yield contributed more to the growth of output. The contribution of yield increases from 49 to 90 percent in the second period over the first period for the state as a whole, whereas contribution of area decreased from 38.55 to 1.71 percent in the second period. In the majority of the districts, the contribution of cropping pattern was not comparatively higher, but there was little change in the cropping pattern.

Barker et al (1981) studied the effect of new technology on production instability and they found on evidence to support the contention that the adoption of modern technology led to greater production stability. On the contrary, they found a tendency for the
absolute variability to increase even though relative variability may in some cases remain unchanged or even decline. This was supported with the fact that the production stabilizing components of technology such as plant and land amelioration are almost invariably accompanied by destabilizing components technology, and on balance absolute variability in yield tends to increase.

In order to minimize inherent instability associated with the technology he emphasized on increasing the investment in maintenance research.

Alson (1980) in his study of supply response of Australian orange growing industry observed that expected profitability of growing oranges significantly influenced planting. An important feature of this study was that the price was not hypothesized to influence yield, on the grounds that growers tend to standardize cultural practices.

Mehra (1981) analysed the instability in Indian agriculture in the context of new technology. The analysis was carried out by dividing the time period into pre-green revolution period and post-
green revolution period, and making the comparison between the two periods. The results indicted that out of the 18 crops examined, the standard deviation of the production rose in 15 crops and the coefficient of variation of production rose in 12 crops. Comparatively higher yield variability showed that it was a dominant source of production variability.

The standard deviation for non-food grain (aggregated) crops has decreased. Further, it was stated that because a comparatively larger area under wheat, rice, potato and sugarcane was irrigated, these crops showed less increase in yield variability in the second period. Similarly, states having larger area under irrigation showed smaller increase or decrease in variability in production.

Reddy and Hiremath (1984) in a similar study examined the effect of high yielding varieties on production instability in Karnataka State. It was found that changes in production variance of individual crops had influenced total cereal production, through changes in yield covariance between districts and crops, rather than through district yield variability at farm level.
Barah and Chiranjeevi (1991) estimated the supply response for Indian tea using Nerlovian Expectation model. The results revealed that both area as well as yield responded significantly to expected prices. Yield per hectare revealed higher response to expected price and risk due to prices, as compared to “total area”. Risk due to price had a relatively small but a positive impact on yield per hectare, and negative impact on “total area” or area newly planted, which indicated a less than favorable overall impact. They suggested that stability of prices would become a crucial factor for maintaining stable growth of tea production.

1.4 Research Gap:

Minhas and Vaidyanatha examined sources of changes in crop production whereas present study is related purely on non-traditional agricultural commodities that too regarding their production and marketing. Kaul conducted a study in Punjab and found that districts having more irrigated area showed higher contribution of yield to increase in food grain production. Present study is closely related to Kaul’s study, but Kaul studied about food grains but this study is related to non-food grains. Parikh examined the sources of output
growth in different states in India. His study revealed that changes in cropping pattern contributed more than 45 percent to growth in agricultural production and area growth contributed more than 55 percent to the total output growth.

This study is related with changing structure of non-traditional agricultural production over time with a view to assess their nature of growth and instability in them. Misra analysis revealed that in majority of the districts, yield contributed more to the growth of output. The contribution of yield increase from 49 to 90 percent in the second period, over the first period for the state as a whole.

However this study is related with a view to assess the nature and extent of instability of growth of output in the pre and post reforms period. Soudhi and Singh examined the sources of increased crop output in India from 1960-61 to 1970-71. The entire period was divided into pre-green revolution period and post green revolution period. They observed that in all the states, the yield was contributing more than 50 percent to output growth, followed by changes in area and cropping pattern having very less effect on output growth.
However present study is confined to pre and post reforms period and is confined to Karnataka State.

1.5 Objectives:

The general objective of the present study is to assess the development of agricultural policies in the post liberalization period, which boosted the agricultural production and marketing.

However the specific objectives of the study are as follows:

1. To review the trade policies of India and to examine the extent of liberalization that has taken place in agricultural exports in India.

2. To examine the changing structure of agricultural production from traditional to non-traditional commodities over time and assess the nature of growth at the national level.

3. To assess the production of non-traditional agricultural commodities in Karnataka and its trends.
4. To examine the benefits of production and marketing of non-traditional agricultural commodities accrued to the farmers in selected districts of Karnataka based on primary data.

5. Finally to identify the problems faced by the farmers in production and marketing of such goods and suggest measures for policy implications.

1.6 Scope of the Study:

The scope of the research pertains to the review of the policies of governments as well as examination of the trends of production & marketing of non-traditional agricultural commodities over a period of 10 years. The data were collected from the secondary sources from various reports, publications etc. whereas primary data related to assessment of benefits accrued to sample 530 farmers in three districts in the state of Karnataka based on the data collected from field visits during the 2004-05.
1.7 Research Methodology:

The first three objectives of the study are examined with secondary data collected from APEDA, the Department of Agriculture, the Department of Horticulture & from the various research reports and journals. However the fourth & fifth objectives have been verified with the primary data collected from the sample of 530 farmers involved in the production & marketing of fruits (180 farmers), vegetables (200 farmers) & flowers (150 farmers) from the districts of Bijapur (for fruits) Kolar (vegetables) and Bangalore Rural (flowers) The questionnaire was designed and interview of the farmers was conducted keeping in mind the season and the crop in a particular year.

To the time series data pertaining to area and production of horticulture crops by broad categories viz., fruits, vegetables and commercial flowers, simple regression model of \( Y = a + bt \) is fitted to examine whether the annual compound growth over a period of time is significant or not.

Here, \( Y = \text{Production} / \text{Area} \quad T = \text{Year} / \text{Time} \).
‘a’ and ‘b’ are constants; here ‘a’ is the regression coefficient and it is also the slope of the fitted line and ‘b’ is the intercept. The intercept gives the estimated value of Y when ‘t’ is kept zero. It is the value of Y that holds good even if the effect of ‘t’ is removed.

1.8 Limitations of the Study:

1) Primary data collected from the sample farmers in the selected district of Karnataka is mostly based on recall of memory about the quantity produced the price received during the previous year. As a result there may be bias in the opinion of the farmers. However every effort is made to collect the reliable data from the progressive farmers who usually have the rough ideas about cost of cultivation and the price of the product received.

2) The Secondary data relating to the selected crops are collected from published data from the APEDA and Department of Agriculture and Horticulture. The reliability of data depends upon the credibility of the
reporting agencies. To that extent the study is limited its scope.

1.9 The chapter scheme of the study:

Chapter One deals with research problem and methodology, where in review of literature, significance of study, methodology, objectives, have been stated. Chapter Two contains the review of trade policies undertaken during liberalization period in agricultural sector in India. In Chapter Three the production and marketing of non-traditional agricultural commodities at national level is assessed. Chapter Four deals with the production and marketing of selected commodities such as fruits, vegetables and flowers, at state level based on secondary data. Chapter Five examines the benefits accrued to the farmers in production and marketing of those commodities in three sample districts (Bangalore, Kolar and Bijapur) of Karnataka, based on primary data and identifies the problems. Chapter Six summaries the conclusions of the study, & suggests policy measures.