CHAPTER – I

Introduction
1.1 Introduction

Agriculture plays a crucial role in the development of the Indian economy. About two thirds of the population is dependent on the agriculture sector. Agriculture is the engine of economic growth whether a country is developed, less developed or under developed. Agricultural development is necessary to feed the population increasing at a rapid rate. Improvement in agriculture can be in two directions, namely, extensive and intensive. Since the total geographical area is fixed, it is not possible to increase the cultivable landed area substantially without upsetting ecological balance. Whether the development is intensive or extensive, investment on agriculture must increase to meet ever increasing demand for food.

Agriculture in India is predominantly rain fed. Agricultural production fluctuates with the vagaries of rainfall in addition to the socio-economic factors. Low yield per unit area across major crops has become a regular feature of Indian agriculture in recent years. Some of the reasons for the low agricultural productivity in our country are (i) lack of sufficient irrigation facilities in major parts of the cultivated land; and (ii) lack of timely availability of quality seeds and fertilizers for the major crops in many parts of the country. Productivity of Indian agriculture is low as compared to the productivity at the global level. Estimates of yield of rice as of April 2011 in India were 3.2 tonnes per hectare as against 7.5 tonnes per hectare in the United States, 6.7 tonnes per hectare in China and an average of 4.3 tonnes per hectare for the World. Also many studies revealed that there is wide variation in productivity of major crops across the States/Regions in India.

According to Dr. K.C. Chakrabarty, Deputy Governor of the Reserve Bank of India, the productivity of Indian agriculture witnessed a fatigue with average growth rate of production of wheat, rice and food grains during 1990-2010 coming down to 2.6 per cent, 1.4 per cent and 1.6 per cent, respectively when compared to their growth rates (5.1%, 4.0% and 3.3%) during 1970-80. This was due to stagnancy in the yield of wheat, rice and food grains that grew at an average rate of 1.7 per cent, 1.2 per cent and 1.6 per cent, respectively, during the same period. Moreover, the average
growth rate of food grains production at 1.6 per cent during 1990-2010 trailed behind the average population growth of 1.9 percent.

Average annual growth of the agriculture and allied sector during the Eleventh Five year Plan at 3.6 per cent fell short of the 4 per cent growth target. Realized growth, however, has been much higher than the average annual growth of 2.5 per cent and 2.4 per cent achieved during the Ninth and Tenth Plans, respectively. Growth has also been reasonably stable despite large weather shocks during 2009 (deficient South West monsoon) and 2010-11 (drought/deficient rainfall in some states). Average annual growth of private investment at 12.5 per cent during Eleventh Plan (first four years) was significantly higher as against nearly stagnant investment during the Tenth Plan. Although agriculture, including allied activities, accounted for only 14.1 per cent of the GDP at constant (2004-05) prices in 2011-12, its role in the country's economy is much bigger with its share in total employment according to the 2001 census, continuing to be as high as 58.2 per cent.

During the Eleventh Plan period, food grains production in the country recorded an increasing trend, except in 2009-10 when total food grains production declined to 218.1 million tonnes due to severe drought experienced in various parts of the country. During 2011-12, total food grains production reached an all-time high of 259.32 million tonnes. The overall area coverage at 665.0 lakh ha under food grains during kharif 2012-13 shows a decline of 55.8 lakh ha compared to 720.86 lakh ha during kharif 2011-12. As a result the output also declined in all major crops.

1.2 Trade

International trade promotes the economic development of a country. It widens the market and increases the inducement to invest income and saving through more efficient allocation. India has comparative advantage in agriculture, so that there is considerable scope for raising farm income and employment by stepping up agro-based exports without jeopardizing and, indeed, by consolidating the food security already achieved (Naseeruddin and Sundaresan 1999). Agriculture export can thus serve as the bigger safety net in the process of structural adjustment in India.
The strategies for agricultural development constituted an integral part in the overall planning of the Indian economy. Trade policy under planning was highly restrictive and inward oriented. Earlier agricultural policies aimed at achieving self-sufficiency in agriculture with little emphasis on agricultural exports (Pursell and Gulati, 1993).

India has traditionally been following two distinct strategies for agricultural exports. For traditional commodities such as tea, coffee, tobacco and spices, the trade regime has been relatively open and on the other hand, for food-grains, cotton and sugar the policy regime favoured import substitution. Besides enlarging markets for commodities, expansion of export trade facilitates economic development without requiring much investment in social overheads like transport and communication. Exports promote the economy with an increase in national income, the level of output and growth of the country’s economy. The expansion of export sector helped India to percolate into the world economy as a supplier of cheap agricultural commodities and raw materials (Kaushik and Paras, 2006).

Indian agriculture is undergoing a perceptible structural transformation due to economic reforms. The decade of 1990’s witnessed two significant developments that have had profound impact on agricultural trade. The first development relates to liberalization of the economy initiated in 1991. The second development relates to the new international trade regime following Uruguay round agreement and formation of WTO.

The economics of globalization is based on Ricardo’s principle of comparative advantage. Indian comparative advantage is mainly in the field of agriculture in the form of vast human resources besides diverse natural resources and production environments (Swaminathan, 2002).

The economic environment for trade in agricultural commodities is changing fast in the wake of implementation of WTO agreement. The agreements that have an impact on agricultural trade are Agreement on Agriculture (AoA), Agreement on Sanitary and Phytosanitary measures (SPS), Agreement on Technical Barriers to Trade (TBT) and Agreement on Trade Related Intellectual Property Rights (TRIPS).
The agreements are aimed at promoting trade, by reducing level of protection and by removing various kinds of technical barriers and distortions in agricultural trade resulting from domestic policies. According to Nayyar and Sen (1994) and Bhalla (1995), the trade policy regime has undergone a considerable change during the last few years and it has implications on growth, welfare and inter-regional inequalities.

In the beginning of 1990’s, when India initiated economic reforms, agricultural exports hovered around $3.2 billion. As at that time international prices of most of the farm commodities were quite above the domestic prices. Relaxation of export restriction provided a big boost to agricultural exports which moved close to $7 billion in 1996-97. These achievements generated lot of euphoria for trade liberalization and also led many to conclude that Indian agriculture is highly export competitive.

The situation, however, changed dramatically in the post-WTO period. Farm exports, which were doubled in $ terms during four years between 1992-93 to 1996-97, declined by about 20 per cent in the next three years and surplus of agricultural exports over the imports has dwindled to less than half since 1996-97. Domestic prices of most of the agricultural commodities have turned out to be higher than the international prices and India has become attractive market for imports.

The globalization of Indian economy has created a favourable climate for a number of agricultural commodities to record an increase in exports. A production strategy based on comparative advantage, supported by a progressive export policy would help India consolidate her position in the global market.

India’s merchandise trade increased exponentially from US$ 95.1 billion in 2000-01 to US$ 620.9 billion in 2010-11 and further to US$ 793.8 billion in 2011-12. While India’s total merchandise trade as a percentage of the gross domestic product (GDP) increased from 28.2 per cent in 2004-05 to 43.2 per cent in 2011-12 as per provisional estimates, India’s merchandise exports as a percentage of GDP increased from 11.8 per cent to 16.5 per cent during the same period.
India's export growth in 2010-11 reached an all time high since Independence of 40.5 per cent. Though it decelerated in 2011-12 to 21.3 per cent, it was still above 20 per cent and higher than the compound annual growth rate (CAGR) of 20.3 per cent for the period 2004-05 to 2011-12. After registering very high growth of 56.5 per cent in July 2011, export growth started decelerating with a sudden fall to single digit in November 2011 as a result of the emerging global situation and then to negative figures from March 2012. Monthly export growth rates in 2012-13 (April-December) were negative except for a marginal positive growth in April 2012. For three months in 2012-13, exports declined with the largest decline recorded in July 2012 at -15.1 per cent. In January, 2013, there was a marginal positive growth of 0.8 per cent.

Table-1.1: Trade Performance: Growth in Quantum and Unit Value indices

<table>
<thead>
<tr>
<th>Year</th>
<th>Rupee in terms</th>
<th>US$ terms</th>
<th>Quantum</th>
<th>Unit value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-02</td>
<td>2.7</td>
<td>-0.6</td>
<td>0.8</td>
<td>1.0</td>
</tr>
<tr>
<td>2002-03</td>
<td>22.1</td>
<td>20.3</td>
<td>19.0</td>
<td>2.9</td>
</tr>
<tr>
<td>2003-04</td>
<td>15.0</td>
<td>21.1</td>
<td>7.3</td>
<td>7.5</td>
</tr>
<tr>
<td>2004-05</td>
<td>27.9</td>
<td>30.8</td>
<td>11.2</td>
<td>14.9</td>
</tr>
<tr>
<td>2005-06</td>
<td>21.6</td>
<td>23.4</td>
<td>15.1</td>
<td>6.1</td>
</tr>
<tr>
<td>2006-07</td>
<td>25.3</td>
<td>22.6</td>
<td>10.2</td>
<td>13.7</td>
</tr>
<tr>
<td>2007-08</td>
<td>14.7</td>
<td>29.0</td>
<td>7.9</td>
<td>5.1</td>
</tr>
<tr>
<td>2008-09</td>
<td>28.2</td>
<td>13.6</td>
<td>9.0</td>
<td>16.9</td>
</tr>
<tr>
<td>2009-10</td>
<td>0.6</td>
<td>-3.5</td>
<td>-1.1</td>
<td>1.0</td>
</tr>
<tr>
<td>2010-11</td>
<td>35.2</td>
<td>40.5</td>
<td>15.2</td>
<td>13.8</td>
</tr>
<tr>
<td>2011-12</td>
<td>28.3</td>
<td>21.3</td>
<td>8.9</td>
<td>20.2</td>
</tr>
<tr>
<td>2012-13^a</td>
<td>9.1</td>
<td>-4.9</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Source: Economic Survey 2012-13

^a - April-January
The very high export growth rate in rupee terms in 2010-11 is due to the high increase in both volume and unit value indices from the very low base of the previous year. The 28.3 per cent export growth in rupee terms in 2011-12 was due to the high growth in the unit value index of 20.2 per cent besides the 8.9 per cent growth in the volume index. While the high growth in the unit value index is due to growth in chemicals and related products, inedible crude materials other than fuels and mineral fuels and related materials, growth in the quantum index of exports is mainly due to growth in export of food and food articles. A dissection of country-wise export quantum indices shows that the high growth in this index in 2011-12 is due to the high export quantum growth to Japan (26.8 per cent), Belgium (26 per cent), Bangladesh (20.9 per cent) and UK (17 per cent).

The Compositional changes in India's export basket have been taking place over the years. While the share of primary products in India's exports fell over the years from 16 per cent in 2000-01, in 2012-13 (April-November) it regained the share of 16 per cent mainly due to the export of agricultural items like rice and guar gum meal. The destination-wise exports of major items to the major trading partners from 2009-10 to 2012-13 (April-November) showed great changes in the composition of exports to USA and China. In the case of India's exports to the USA, the share of exports of primary products has increased from 6.8 per cent in 2009-10 to 21.3 per cent in 2012-13 (April-November) and this may be mainly due to the rise in the share of agriculture and allied products.

1.3 Role of Agriculture in Andhra Pradesh

Andhra Pradesh is an agriculturally important state in India. It is the third largest producer of rice and groundnuts while it is second in cotton and sunflower. It has been one of the front-runners in reaping the benefits of green revolution. However, its vast dry land tracts could not keep pace with the better-endowed regions resulting in wide inter-regional disparities. In order to address the problems of agriculture, the State has been implementing various schemes from time to time. Despite this, agriculture in the state has been exhibiting stagnation in growth and is seeking innovative policy and technology interventions.
Of the total geographical area of 27.5 million hectares in the state, 39 per cent is net sown area with a cropping intensity of 124 per cent. The net irrigated area of the state is 4.4 million hectares, while the area under rain fed agriculture is 6.4 million hectares. The state receives an average rainfall of 840 mm. Out of the state’s 11.5 million land holdings, 61 per cent is marginal and 22 per cent is small.

Andhra Pradesh has a prominent position in the agricultural economy of India. The state has eight agro-climatic zones suited for growing a wide range of export-oriented crops comprising the fields of plantation, commercial and horticultural crops. The contribution of agriculture to state gross domestic product was 31.46 per cent in 1999-2000 which declined to 24.7 per cent in 2009-10. Its contribution to the SDP in recent years, though declining, continues to be significant in terms of its contribution to employment creation, export earnings and supply of raw materials to various industries in the state. Agriculture provides employment to 65 per cent of the population in the state.

A substantial proportion of the cultivated area in the state is devoted to the production of principal crops. They are paddy, maize, groundnut, cotton etc. These crops account for around 40 per cent of the cultivated area in the state.

With agriculture now having been brought under the realm of WTO, freedom of government to support agriculture sector beyond a point is limited. Production pattern will be decided by considerations of comparative advantage of crops. It is in this context that this study has been undertaken. This study is contemplated to address trade issues in major crops of Andhra Pradesh based on performance of the crops during the two time periods viz., pre-WTO (1976-77 to 1994-95) and post-WTO period (1995-96 to 2012-2013).

1.4 Significance of the study

The liberalization of the Indian economy has provided enormous opportunities for agricultural exports. To step up the rate of exports, the Government of India has embarked upon a major programme of macroeconomic stabilization and structural adjustment through new trade and industrial policies. In the new economic policy,
adjustments in the exchange rate of the rupee were effected to bring it in line with the equilibrium in order to improve the country’s international competitiveness. The exchange rate policy was supplemented by major structural reforms in trade policy aimed at substantial liberalization of controls and licenses, decanalisation of many items of trade, reduction in peak tariff rates, abolition of export subsidies and other measures to encourage competitiveness in the economy. In this context, it is important to understand the global competitiveness of various agricultural commodities produced in the state.

Therefore, the present study intends to analyze the global competitiveness of important commodities as well as welfare gains of alternate pricing policies in Andhra Pradesh. In this study, an attempt has been made to estimate the Nominal Protection Coefficients (NPCs), Effective Protection Coefficients (EPCs), Domestic Resource Costs (DRCs), Subsidy Ratio to Producers (SRPs), welfare gains and losses of producers and consumers and impact of liberalization on agricultural trade of four important crops, namely, rice and maize in the case of cereals, groundnut in the case of oilseeds, and cotton as a representative of commercial crops. The findings of the study will help planners and policy makers to formulate appropriate agricultural development, export and stabilization policies for the state as a whole.

1.5 Objectives of the study

The present study is an attempt to analyze the competitiveness of agriculture in the state of Andhra Pradesh in the wake of trade liberalization and WTO implementation.

The specific objectives of the present study are:

1. to examine the trends in area, production and yield of selected crops,
2. to study the direction of trade and structural change in exports of selected crops,
3. to examine the relationship between domestic and international market prices of selected crops of Andhra Pradesh,
4. to analyze the global competitiveness of selected crops of Andhra Pradesh,
5. to quantify the welfare gains and losses due to liberalization of agricultural trade, and
6. to examine the implications of WTO provisions for Agriculture in the state of Andhra Pradesh.

1.6 Limitations of the study

The study was mostly based on the secondary data collected from various published sources. Often data from various sources may not agree with each other and some efforts to choose the better among them are inevitable. Care has been taken to avoid personal bias in such decisions. However, the limitations in the secondary data are to be recognized. There may be variations in the cost of cultivation of the crops. The competitiveness of the crops was also studied within the specified period though the competitiveness is subject to changes due to fluctuations in prices.

1.7 Organization of the thesis

The thesis is organized into five chapters as described below:

Chapter-1: Devoted to explain the introduction, the importance and scope of the research problem, objectives, and limitations of the study.

Chapter 2: Review of Literature – provides appropriate and relevant concepts and review of the related past studies.

Chapter 3: Data and Methodology- presents the design, method of data collection and various analytical techniques employed in the study.

Chapter 4: Results and Discussion – deals with the results of analysis of the crop selected and with the critical reasoning of the results.

Chapter 5: Summary and conclusions – deals with the summary of the findings and the conclusions drawn. It also focuses on the policy implications.

The bibliography and the data used for the study are presented at the end.