CHAPTER – I

INTRODUCTION

Marketing a product requires high skill. The producer has to take into consideration various aspects such as demand, supply, season, requirements, cost of production, alternates available and many other things. There should be some consensus between the marketing people and the buyers. The buyers may be individuals, organizations or government. The type of marketing goods depends on the type of usage and the type of buyer. In this thesis the marketing of cotton in Perambalur district has been analyzed in detail.

Marketing is always required for the existence of the product in the market and the buyers are to be put under continuous watch for continuous marketing. The need for marketing is higher for agro-based products such as cotton. The producers of cotton have to consider the significant changes that have taken place in the international scenario before marketing the products. Cotton is playing a vital role in every individual’s day to day activities as well as the cotton products have become the basic necessities for many people in the society. Cotton marketing is one of the oldest product-marketings in India. The marketing practices of cotton can be even traced from the 15th century in India.

The demand and supply matching for cotton is highly needed in the present day marketing. Sometimes, the demand and supply cannot be matched and there may be higher instability in the prices of cotton in the
market. The cotton production and the marketing are providing higher employment opportunities to millions of people in India. The cultivation of cotton involves high man power and it is labour-oriented.

Marketing of cotton is a specialized activity by itself involving handling, packing movement of cotton bales, grading, quality tests and problems of payment. As compared to other commercial crops, the cotton has to pass through multiple numbers of intermediary agencies, as cotton has to traverse through a long route before reaching the end user. The marketing of cotton commences from the closure of harvesting of kappas and ends after the lint is procured by the millers. Between these two points, cotton passes through several stages, namely, sale of kappas in primary and secondary markets, ginning and processing, storage, transport to terminal markets and sale of lint to the consuming mills.

**Brief Description of the Research Topic**

Marketing of cotton in Perambalur District is the research topic and the study is highly relevant at present. The product is agro based and the producers have to adopt different strategies to market their product. The seasonal variations and the soil patterns create various pricing policies that are to be adopted by the producers. The demand for the product is at district, state and national levels. Cotton has a universal requirement and the consumptions are purely by the textile and cotton ginning mills. There are various types of cotton and the study of production and marketing of cotton requires a high importance at present.
In India, in primary markets kapas are sold by the grower to the village merchant without an intervention of any intermediaries. A majority of the growers dispose of kapas in the secondary markets, i.e. important trade centers. In the secondary wholesale markets, the business is conducted in accordance with local customs and practices. In centre where regulated markets have been established, bylaws framed by the market committee and approved by the state governments govern the transactions. Open auction system for each individual seller's produce is generally followed in most of the secondary markets.

Cotton lint is sold to the textile mills, exporters and traders dealing with consuming mills or engaged in inter-state trade. Mumbai, Coimbatore, Ahmedabad and Kanpur are some of the important terminal markets of which Mumbai is the largest one.

**Systems of Marketing**

- Cotton has to reach the spinning mills through ginning mills passing through commission agents and wholesalers.
- The farmers normally bring their produce to the nearest market by cart, truck or by other means after packing it in the form of bales.
- Based on the grades so decided, the cotton lots are put to public auction, wherein, the commission agents or wholesalers participate.
- The Commission agents do all the works in handling the kapas on behalf of the farmers and arrange to sell it either in presence or absence of the farmers.
• Storage space, arrangement of auction, inviting tenders, announcement of market rates and market information are managed by the market committee.

• The market committee collects market cess for its services and the commission agent charges his commission for his service.

• The farmer gets the value of his produce after all these deductions.

• The wholesaler normally transports the cotton to Mumbai or arranges to gin it locally and sell the lint to spinning mills.

• With the establishment of a number of ginning/spinning mills in private and cooperative sector at many taluks and districts, the bulk movement of kapas and lint to weaving mills located at Mumbai and Surat has decreased in recent years.

**Definition of Problems**

Cotton is basically a non-edible product and is used for production of clothing. It is an agro-based product and has all problems related to marketing of agro based products. There are problems faced by the producers related to cultivation, fertilizer, pesticide, harvest, storage and marketing. There are problems related to labour too. The improvements in the field of cotton production are significant but sometimes, the yields are not encouraging to the growers. There are high fluctuations in the earnings of the growers.

The demand for cotton and related products are consistently increasing in India. The cotton demand-supply crisis and spiralling prices demonstrate the importance of understanding the complex political economy of marketing
of cotton. There are many small cotton growers in India who are playing active roles in cotton market economy. The government has not been able to reign in the intermediaries and market agents. In India, they bring tears to the eyes of the cotton growers by quoting lower prices. Neither the cotton growers, sometimes, get the expected price nor are the consumers satisfied in many occasions.

**Fineness**

- Related to staple length
- Expression of the weight per unit length of fibre
- Influenced by soil

**Colour**

- Varies from reddish tint to bright shining white brighter the colour - better the quality

**Touch**

- Coarseness or fineness of lint to touch

**Cleanliness**

- Lint to be free from impurities.

**Neppiness**

- Defect of yarn owing to tiny knots
- Lack of uniformity in the thread
- Weak yarn
Cotton Production

The Cotton Advisory Board, in its meeting held on 20th September, 2005, has placed the 2004-05 cotton production at 243 lakh bales of 170 kgs each, as per state-wise details given below:

Table: 1.1

<table>
<thead>
<tr>
<th>States</th>
<th>2004-05</th>
<th>2003-04</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Area</td>
<td>Production</td>
</tr>
<tr>
<td>Punjab</td>
<td>5.09</td>
<td>16.50</td>
</tr>
<tr>
<td>Haryana</td>
<td>6.21</td>
<td>15.50</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>4.38</td>
<td>11.00</td>
</tr>
<tr>
<td>Total (North)</td>
<td>15.68</td>
<td>43.00</td>
</tr>
<tr>
<td>Gujarat</td>
<td>19.06</td>
<td>73.00</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>29.80</td>
<td>52.00</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>5.76</td>
<td>16.00</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>11.74</td>
<td>32.50</td>
</tr>
<tr>
<td>Karnataka</td>
<td>5.12</td>
<td>8.00</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>1.42</td>
<td>5.50</td>
</tr>
<tr>
<td>Others</td>
<td>0.62</td>
<td>1.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>231.00</td>
</tr>
<tr>
<td>Loose Lint</td>
<td></td>
<td>12.00</td>
</tr>
<tr>
<td>Grand Total</td>
<td>89.20</td>
<td>243.00</td>
</tr>
</tbody>
</table>

Cotton Demand: Imports & Exports (2005-06)

- The demand for cotton is expected to total 204 lakh bales by 2005-06.
- Export comprises ten lakh bales.
- Mill consumption is estimated at 163 lakh bales
- Small units are expected to consume 17lakh bales. The ex-factory consumption is placed at 14 lakh bales.
- Cotton prices are falling owing to devaluation in Asian currencies.
Cotton is allowed to be imported under OGL without any duty impact.

Several mills have gone in for imported cotton and already about 12 lakh bales have been ordered for import.

The government has allowed the export of 10 lakh bales so far.

The CAB has also estimated exports at three lakh bales for the year.

With less exports, there would be more cotton available to the mills in the domestic market and there need not be any fear of scarce supplies.

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (in lakh bales)</th>
<th>Consumption (in lakh bales)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-51</td>
<td>32.80</td>
<td>42.10</td>
</tr>
<tr>
<td>1960-61</td>
<td>56.80</td>
<td>61.10</td>
</tr>
<tr>
<td>1970-71</td>
<td>53.50</td>
<td>67.70</td>
</tr>
<tr>
<td>1980-81</td>
<td>78.00</td>
<td>84.80</td>
</tr>
<tr>
<td>1990-91</td>
<td>117.00</td>
<td>115.50</td>
</tr>
<tr>
<td>2000-01</td>
<td>140.00</td>
<td>173.03</td>
</tr>
<tr>
<td>2001-02</td>
<td>158.00</td>
<td>171.76</td>
</tr>
<tr>
<td>2002-03</td>
<td>136.00</td>
<td>168.83</td>
</tr>
<tr>
<td>2003-04</td>
<td>179.00</td>
<td>177.10</td>
</tr>
<tr>
<td>2004-05</td>
<td>243.00</td>
<td>194.00</td>
</tr>
</tbody>
</table>

(Source: The Cotton Corporation of India Ltd)
<table>
<thead>
<tr>
<th>Variety</th>
<th>Basic Staple length (2.5% span length)</th>
<th>Micronaire value</th>
<th>Prices in Rupees per Quintal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1-2</td>
</tr>
<tr>
<td>Assam Comilla</td>
<td>--</td>
<td>7.0-8.0</td>
<td>1330</td>
</tr>
<tr>
<td>Bengal Desi</td>
<td>--</td>
<td>6.8-7.2</td>
<td>1250</td>
</tr>
<tr>
<td>V797</td>
<td>22.0</td>
<td>4.2-4.8</td>
<td>1560</td>
</tr>
<tr>
<td>Jayadhar</td>
<td>23.0</td>
<td>5.0-5.6</td>
<td>1560</td>
</tr>
<tr>
<td>GCOT-12</td>
<td>23.5</td>
<td>4.2-5.0</td>
<td>1485</td>
</tr>
<tr>
<td>AK/Y-1</td>
<td>24.0</td>
<td>4.8-5.2</td>
<td>1595</td>
</tr>
<tr>
<td>NHH-44(Marathwada/Khandesh)</td>
<td>24.0</td>
<td>3.0-3.2</td>
<td>1595</td>
</tr>
<tr>
<td>NHH-44(Vidarbha)</td>
<td>25.0</td>
<td>3.3-3.7</td>
<td>1620</td>
</tr>
<tr>
<td>PCO-2 AP &amp; Kar</td>
<td>25.0</td>
<td>4.8-5.5</td>
<td>--</td>
</tr>
<tr>
<td>F414/H-777/J-34 Raj</td>
<td>24.5</td>
<td>3.8-4.2</td>
<td>1675</td>
</tr>
<tr>
<td>F414/H-777/J-34 Hry</td>
<td>25.5</td>
<td>3.8-4.4</td>
<td>--</td>
</tr>
<tr>
<td>F414/H-777/J-34 Pjb</td>
<td>26.0</td>
<td>3.8-4.4</td>
<td>--</td>
</tr>
<tr>
<td>AHH-468</td>
<td>25.5</td>
<td>3.8-4.0</td>
<td>1700</td>
</tr>
<tr>
<td>1007/Jhurar/DHY286</td>
<td>27.0</td>
<td>3.7-4.0</td>
<td>1750</td>
</tr>
<tr>
<td>LRA-5166</td>
<td>27.0</td>
<td>3.6-4.2</td>
<td>1750</td>
</tr>
<tr>
<td>JKHY1/MECH-11</td>
<td>30.0</td>
<td>3.8-4.2</td>
<td>1800</td>
</tr>
<tr>
<td>S-6/10</td>
<td>29.0</td>
<td>3.7-4.3</td>
<td>1840</td>
</tr>
<tr>
<td>H-4/H-6</td>
<td>30.0</td>
<td>3.6-4.2</td>
<td>1875</td>
</tr>
<tr>
<td>RCH-2</td>
<td>30.0</td>
<td>3.4-4.4</td>
<td>--</td>
</tr>
<tr>
<td>Bunny/Brahma</td>
<td>31.5</td>
<td>3.4-4.0</td>
<td>1900</td>
</tr>
<tr>
<td>MCU-5</td>
<td>33.0</td>
<td>3.0-3.5</td>
<td>1950</td>
</tr>
<tr>
<td>Surbhi</td>
<td>33.0</td>
<td>3.6-3.8</td>
<td>--</td>
</tr>
<tr>
<td>DCH-32 MP</td>
<td>34.0</td>
<td>3.0-3.3</td>
<td>1975</td>
</tr>
<tr>
<td>DCH-32 SOUTH</td>
<td>37.0</td>
<td>3.0-3.5</td>
<td>2075</td>
</tr>
<tr>
<td>Suvin</td>
<td>40.0</td>
<td>3.2-3.6</td>
<td>3000</td>
</tr>
</tbody>
</table>

(Source: The Cotton Corporation of India)
Export Orientation

- The export of raw cotton may be allowed to meet various objectives such as stabilization of cotton price which is important to both the cotton growers and the industry, ensuring a remunerative price to the cotton growers and maintaining India’s presence in International market as a stable supplier of cotton.

- For ‘exportable’ varieties of cotton, it is suggested that specific ‘export oriented’ production programmes may be implemented, so that the foreign buyers are assured of a regular supply of stipulated quality and quantity. As bulk of the consumption of cotton by the Indian textile industry is ‘medium staple’, value added exports may be concentrated in this category.

### Table 1.4 World Demand and Supply Situation

<table>
<thead>
<tr>
<th>Year Beginning on August</th>
<th>99-00</th>
<th>00-01</th>
<th>01-02</th>
<th>02-03</th>
<th>03-04</th>
<th>04-05</th>
<th>05-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Beginning stock</td>
<td>10.46</td>
<td>9.63</td>
<td>9.27</td>
<td>10.50</td>
<td>8.71</td>
<td>8.09</td>
<td>10.27</td>
</tr>
<tr>
<td>World Cotton Consumption</td>
<td>19.82</td>
<td>19.76</td>
<td>20.20</td>
<td>21.12</td>
<td>21.32</td>
<td>23.44</td>
<td>24.16</td>
</tr>
<tr>
<td>World Cotton Exports</td>
<td>6.13</td>
<td>5.75</td>
<td>6.47</td>
<td>6.62</td>
<td>7.26</td>
<td>7.72</td>
<td>8.41</td>
</tr>
<tr>
<td>World Ending stocks</td>
<td>9.63</td>
<td>9.27</td>
<td>10.50</td>
<td>8.48</td>
<td>8.09</td>
<td>10.27</td>
<td>11.07</td>
</tr>
</tbody>
</table>

(As per latest ICAC release dated 1st November 2005)
Table 1.5 Role of Different Species in Production and Textile System

<table>
<thead>
<tr>
<th>Fibre Quality</th>
<th>Production Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short and Medium</td>
<td>Stabilize arboretum area at present level; use in biotic and abiotic stress and export</td>
</tr>
<tr>
<td>Medium staple</td>
<td>Stabilize herbaceous at present level and use for organic cotton</td>
</tr>
<tr>
<td>Medium and Long</td>
<td>Improve hirsute for irrigated and assured rainfall areas</td>
</tr>
<tr>
<td>Extra Long</td>
<td>Improve barb density for yield</td>
</tr>
</tbody>
</table>

Table 1.6 Cotton Exports by India from 1990-91 to 2003-04

<table>
<thead>
<tr>
<th>Year</th>
<th>Qty (in lakh bales of 170 kgs)</th>
<th>Value (Rs./Crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-91</td>
<td>11.9</td>
<td>620.9</td>
</tr>
<tr>
<td>1991-92</td>
<td>0.77</td>
<td>38.7</td>
</tr>
<tr>
<td>1992-93</td>
<td>13.77</td>
<td>725.3</td>
</tr>
<tr>
<td>1993-94</td>
<td>3.90</td>
<td>238.2</td>
</tr>
<tr>
<td>1994-95</td>
<td>1.08</td>
<td>83.39</td>
</tr>
<tr>
<td>1995-96</td>
<td>8.53</td>
<td>961.16</td>
</tr>
<tr>
<td>1996-97</td>
<td>16.82</td>
<td>1655.00</td>
</tr>
<tr>
<td>1997-98</td>
<td>3.50</td>
<td>313.62</td>
</tr>
<tr>
<td>1998-99</td>
<td>1.01</td>
<td>86.72</td>
</tr>
<tr>
<td>1999-2000</td>
<td>0.65</td>
<td>52.15</td>
</tr>
<tr>
<td>2000-01</td>
<td>0.60</td>
<td>51.43</td>
</tr>
<tr>
<td>2001-02</td>
<td>0.50</td>
<td>44.40</td>
</tr>
<tr>
<td>2002-03</td>
<td>0.84</td>
<td>66.84</td>
</tr>
<tr>
<td>2003-04 (E)</td>
<td>9.00</td>
<td>NA</td>
</tr>
</tbody>
</table>

E Estimated’, NA: Not available
(Source: Cotton Advisory Board (Quantity figures only))
(Note: Value figures for 1999-2000 are estimated)

Requirement of Cotton Quality and Quantity in 2010

- In the past two decades, India has become fully self-sufficient in her cotton requirements – both quantity wise and quality - wise.
- The total production in recent years has reached 120-130 lakh bales.
• Besides meeting the requirements of the domestic textile industry and other sectors, the country has also been able to export sizeable quantity of raw cotton.

• Export of raw cotton together with export of spun yarns, sewing threads, fabrics, made-ups, garments etc., constitutes a major foreign exchange earning source for the country.

• The demand for renewable natural fibres such as cotton for apparel use has increased in recent years all over the world. Therefore there is good potential for exporting raw cotton and cotton based textile items from the country.

• Several export oriented units for yarns and made-ups have been established in the country.

• Therefore, It is suggested to increase the production of cotton to meet these requirements as well as the requirements of increasing population in India.

• In the past, cotton consumption in the country used to be listed under only two heads, viz., (i) mill consumption (composite and spinning mills) and (ii) non-mill consumption.

• The quantity consumed under the latter head in recent years is estimated to be about 8 lakh bales and is used for various purposes like stuffing of mattresses, preparation of surgical/absorbent cotton, etc.

• One more source of cotton consumption has been identified, viz., small scale spinning units which use about 5 lakh bales of cotton every year.
- It is noteworthy that both the non-mill consumption and consumption by small scale spinning units is expected to go up in 2010.
- Taking into consideration all the above factors, the total cotton requirement is estimated to be about 230-240 lakh bales.

**Future Cotton requirements:**

- Various factors to be considered in estimating future requirements are:

**Per-capita consumption of cloth in India:**

- At present, the average consumption of cloth per person per annum is about 20 square meters. Although the present policy of liberalization in economy and trade is supposed to bring more prosperity and improve the living standards of our population, considering the vast population whose living standard is very poor, it is presumed that increase in per capita cloth consumption, if any, would be very marginal.

**Trend in mill consumption of cotton:**

- Mill consumption of cotton has increased substantially over the past three decades or so. For the last few years, the rate of annual increase is about 4% and this trend is likely to continue till the turn of the century at which time the mill consumption of cotton would be 140-150 lakh bales.

**Export of cotton textile materials:**

- As stated earlier, the export of yarns, sewing threads, fabrics, made-ups, garments, etc., account for a major share in our total F.E.
earnings. Cotton textiles account for 60-70% of these exports. These exports are expected to increase further in the coming years and hence there would be increase in the demand for cotton.

**Raw Cotton Exports:**

- There is a good demand for Indian cottons in other countries. However, the quantity exported has been varying from year to year depending on the production of the county. Although opinions differ as to whether raw cotton should be exported at all, the Govt. of India now seems to have decided on the policy of allowing exports of minimum of 5 lakh bales every year irrespective of the size of production. This is a very welcome decision from the point of ensuring better price of kapa’s to cotton growers. Looking to the demand in international market, performance and grower interest, we should aim at exporting about 10 lakh bales of cotton per year in future.

**Requirements in 2030**

The estimation of cotton requirements 16 years from now (2030) and beyond depends on several factors like rate of growth of population, competition between fibre crop and food crop in India as well as in other countries, clothing habits/styles that may come into vogue, likely changes in processing technology, competition from man-made fibres, demand for Indian cotton in foreign countries, etc., which are difficult to predict. In India the present rate of growth of population is estimated by some sources to be 2.0%, whereas it has come across a recent report giving the figure as 1.6 – 1.7%.
Besides, it is not certain whether the present rate of increase in cotton consumption taken at 4% up-to 2000 A.D. would be sustainable later. Inspite of these limitations and assuming the rate of increase in cotton consumption as 3%, the total cotton requirement of the country has been estimated at 230 – 240 lakh bales which includes non-mill consumption and exports of 12 and 10 lakh bales respectively for the year 2030.

Problems of Packing and Handling:

- The kapas are packed conventionally in loosely knit bags of Deccan hemp or Manila hemp fibres. The empty bag of hemp, specially knit for this purpose is called "bardan". The bag is flexible and can hold a varying quantity of 150 to 230 kg kapas. Packing the seed cotton (kapas) in bardan to make it what is called bale has resulted in many problems. They are:

  Difficulties in Packing the Kapas:

- Age old system of packing the kapas in bardans involves hanging of loosely knit hemp bags from the top of the roof and pouring the kapas layer by layer with intermittent application of pressure by legs and hands. This involves a lot of labour time. As the bale is packed manually, the quantity of kappas held in a bale is directly proportional to the pressure applied. Approximately two labours can pack 6-8 cotton bales in 8 hours. A cotton farmer producing about 80-90 quintals of cotton from 8-10 acres, he should be able to pack about 60 bales requiring 20-22 man-days.
Exposure of kappas to Dust, Rain:

- A conventionally packed cotton bale is exposed to dust, rain, heat or dirt of many forms during its handling, storage and marketing. This results in the loss of quality of fibres at all these stages. Ultimately, the farmer is put to great loss in terms of reduced quality of the fibres.

Difficulties in Standardization

A cotton bale is likely to weigh between 150 amd 230 kg. Depending upon the skill, strength and body weight of the labourer at the time of packing, the quantity of kapas held in each bale varies.

Quality Parameters:

- Fabric quality is mostly governed by that of the yarn from which it is woven, and since the quality of the yarn in turn depends upon the properties of the fibers from which it is spun. The quality of raw cotton which is generally judged from the physical characteristics of the fibre is an important factor.

- Cotton possesses many qualities to make it a good textile fibre. Its dominant position as a textile raw material is primarily due to its versatility for a wide range of end-uses. It can be put into the bags.

Staple length:

- Average length of individual cotton fibre. The longer the staple, the better the quantity.

- Short staple : 19.5mm and below
- Medium staple: 20.0mm - 21.5mm
- Superior staple: 22.0mm - 24.0mm
- Long staple: 24.5mm - 26.5mm
- Superior long staple: 27.0mm - 29.5mm
- Extrasuperior long staple: 30.0mm and above

**Ginning Percentage:**

- Out turn of lint to seed cotton expressed as percentage by weight normally varies between 24 and 38%.
- \( GP \% = \frac{\text{Weight of lint}}{\text{Weight of seed cotton}} \times 100 \)

**Fibre maturity:**

- A sample of lint corrected at maturity is of 3 types:
  - Mature (ripe)
  - Half mature (Half ripe)
  - Immature (Unripe)
- Ripe fibres have thickened walls and good convulsion (twist)
- Unripe fibres have thin walls, lack of twist and are weak, with a tendency to break up during manufacture.

**Strength of fibre:**

- This is estimated by means of a fibre-testing machine by clasping the ends of a single fibre between the jaws of the machine and applying the strain gradually. The breaking strength of fibre depends upon its area of cross-section, test length, type of testing instrument used, the
rate of loading etc., It also depends upon the relative humidity of the atmosphere. The tensile strength of fibre varies from 50,000 to 1,25,000 pounds per square inch. Fine cottons tend to have greater tensile strength than short and coarse cottons.

**Convolutions (Twists)**

- The uniform distribution of the convolutions helps to give better inter fibre grippage. Convolutions confer the following additional advantages: They are:
  - make the fibre equally flexible in all directions, and
  - prevent close packing of fibres in yarn and hence give better cover in cloth.
  - As the frictional contact of adjacent fibres is reduced, it lessens the risk of electrification, if any.
  - The number of convolutions depends on the ratio of cell-wall thickness to ribbon width.
  - The number of convolutions per inch varies from about 150 for Indian cottons to about 300 for Sea Island cottons.

**Surface Friction**

- The spinning quality of a textile fibre depends not only on its staple length and fineness, but also in its ability to offer sufficient frictional resistance. The effectiveness of friction depends upon the nature of the fibre surface and normal pressure between fibres due to twist.
**Hygroscopicity**
- Cotton absorbs moisture from the surrounding atmosphere depending on its temperature and relative humidity. Moisture has a marked effect on the tensile strength, elasticity and other properties of the fibre.

**Rigidity**
- In processing cotton, the fibres have to be twisted to make a yarn. The more rigid a fibre is, the greater is the force required to twist it and vice versa. Modules of rigidity are defined as the ratio of the tangential force per unit area to the angle of twist produced. It depends upon the shape of cross section and the wall thickness of the fibre.
- Temperature and relative humidity have a great influence on fibre rigidity. At room temperature, the rigidity of cotton fibre is six times that in an atmosphere saturated with moisture.

**Elasticity**
- Changes in length and volume as well as shears or twists produced by applied stresses are all included in the elastic properties. Cotton fibres are fairly elastic, though they exhibit both the primary creep and the secondary creep to some degree.

**Plasticity**
- Cotton is relatively nonplastic. Finishing process like shrinking depends on the increase in the plasticity of cotton fibres as they swell in water at elevated temperatures.
Cotton quality requirements: (Count-wise Pattern of Yarn Production)

- The main trends observed from data are given here:
  - Yarn production in coarse counts (1s to 10s) has come down during recent years.
  - The production in fine and superfine counts (41s and above) has increased during these years.
  - The production in the 31s' - 40s' count range has also increased during recent years.
  - The bulk of yarn production of about 71% comprises counts in the range of 11s to 40s.
  - The above trends indicate that while attention has to be given for producing cottons suitable for finer counts, greater efforts have to be made to produce cottons suitable for the count ranges of 11s to 40s.

Blending with Man-Made Fibres

- Although the preference for cotton in apparel fabrics is increasing as against fabrics made from purely synthetic fibres, the use of blends of cotton and synthetic fibres is expected to continue for various reasons. The proportion of blended yarns has increased to 13% in recent years.
- Prior to 1975, imported cottons from Egypt, Sudan, etc., were used for blending with polyester. Research work in CIRCOT showed that superior quality cottons developed in India like MCU 5, Sujatha, Suvin, Hybrid 4, Varalaxmi, DCH 32, etc. are quite useful for blending. The Indian cottons, however, need improvement in respect of fibre maturity and trash content. Cottons used for blending should have good fibre strength and extensibility.
Deficiencies in fibre quality

- There are a few important deficiencies that added to lowering the quality of our Indian cottons. A special attention to eliminate/minimise them so that the general quality of Indian cotton improves.

Variability in Fibre Quality

- A frequent complaint both from Indian and foreign users of Indian cottons is about the variability in quality observed even in the same lot of cotton. Leaving aside the factors such as admixture of seeds in cultivation and mixing up of varieties at marketing centers and or at ginning factories, there are other genuine reasons like suitability of land/soil for the variety, level of crop management and attention paid to crops by different farmers, etc., which contribute to variability in quality of cottons.

- Some zoning system along with supply of good quality seeds and other inputs may have to be considered at least for superior quality varieties and hybrids like MCU 5, Hybrid 4, Hybrid 6, DCH 32 etc,

Fibre Strength for OE Spinning (Open End):

- As it has been stated earlier, fibre strength plays a very important role in deciding the yarn quality in OE spinning system. Since the spinning industry is being modernized more rapidly at present by installing OE systems, in order to keep in mind the special requirement of fibre strength and orient the research programmes accordingly.
Fibre Immaturity

- Many of the long extra-long staple cottons, particularly interspecific hybrids, contain a high proportion of immature fibres. This mars the yarn quality, appearance and also leads to problems in dyeing. It is therefore desirable that cottons have 75% - 80% mature fibres. Ideally, it has been advised to aim at 80% mature fibres in the selection programmes.

Stickiness in cotton

- The presence of 'honey dew' in cotton (secretion by sucking pests like aphid, whitefly, etc..) results in stickiness on account of which severe problems are faced in ginning and subsequent spinning as the fibres stick to the rollers of these machines. Further, the honeydew sometimes leads to black coloured mould formation resulting in loss of quality.

Motes

- Motes or undeveloped seeds with immature fibres constitute another source adding to lowering of yarn quality. The problem is encountered more in hybrid cottons. Although some of them are removed during processing, quite a few escape and enter the yarn and give rise to objectionable faults. Such faults in yarn have to be removed first by a separate process before producing quality fabrics on modern, high-speed knitting or weaving machines, which add to the cost of production. Therefore, this problem has to be kept in mind while selecting parents for evolving hybrid cottons.
Trash, Other Contaminants and Seed Coat Bits

- The average trash content in Indian cottons is about 6% - 7%, which is very high, compared with that in cottons from other countries in the world. It varies from as low as 2% in Suvin and MCU 5 to as high as 18% in Wagad, V 797 etc., from Saurashtra (India). Besides trash from plant origin, several extraneous materials contaminate the Indian cottons.

In India, cotton is harvested by hand picking and as such there is no justification absolutely for high trash content, care is necessary for general cleanliness at all levels starting from picking, storage, transport to market, storage at marketing centre till ginning.

Cotton Marketing Basics QUALITY:

One of the most important aspects of producing a profitable cotton crop is lint quality. In fact, the marketing component of cotton production begins with lint quality. This thesis describes the factors that determine cotton quality and discusses the basic options that Kansas producers have to market their cotton. Premiums and discounts associated with several quality factors can have a significant impact on the price producers receive for cotton. Together, these quality factors determine the grade. The components of cotton grade determinations include: leaf grade, fiber length, length uniformity, strength, micronaire, trash, and color. Except for leaf grade, all cotton quality factors are determined by High Volume Instrument (HVI) systems.

The following quality factor descriptions are based on information from the USDA.
Agricultural Marketing Service (AMS) Cotton Programme

Leaf grade refers to the leaf or trash content in the cotton. Graded on a scale of 1 to 8, leaf grade is determined by human classers who compare a lint sample to Universal standards for the grades. A leaf grade of 8 is referred to as “below grade”, and can result in large price discounts. Leaf is determined by plant condition, harvest preparation, weather conditions at harvest, and weeds present in the field at harvest. In addition to the initial leaf grading, cotton bales can be further downgraded for specific trash contaminants such as bark from aggressive stripper operation on weathered stalks or grass from uncontrolled grassy weeds at harvest. Use of hairy leaf varieties, poor defoliation prior to harvest, hard freezes on rapidly growing plants, and harvesting damp cotton can also be causes of high leaf.

Regardless of the cause, high leaf grades can result in significant price discounts.

Fiber Length

Fiber length is the average of the longest half of a fiber bundle and is reported in hundredths of an inch and 32nds of an inch. The official standards for fiber or staple length range from 26 to 32 inches upward, generally in graduations of one thirty-seconds of an inch. The upper half mean length of fiber is measured by the HVI system in hundredths of an inch and length is converted to thirty-seconds of an inch. Fiber length is primarily determined by cotton variety, but growing conditions and fertility can affect length as well. Nighttime temperatures of 60-70ºF are optimum for fiber length development. Temperatures above or below this range result in shorter fibers. Reduced
length can also result from deficit or excess soil moisture levels. Potassium deficiencies may result in the plant being unable to move adequate water and/or nutrients to developing fibers, and adequate nitrogen is necessary for normal growth and development of the entire plant. The first 16-20 days following flowering determine fiber length. Stress on the cotton plant during this period can reduce fiber length and thus price.

Length Uniformity

Length uniformity is the ratio between the mean length of fiber and the upper half mean length expressed as a percentage.

Low uniformity values are a function of fibers that are more easily broken. Fibers may become more susceptible to break if cotton is weathered and is ginned at moisture levels less than 6%, or if there is excessive lint cleaning. Premiums for uniformity are paid for readings of 83 and above, while discounts are incurred for readings of 79 and below. Strength is measured by clamping and breaking the beard of fibers with a 1/8-inch gage spacing between the clamp jaws. The strength reported is the force in grams required to break a bundle of fibers one tex unit in size. A tex unit equals the weight in grams of 1,000 meters of fiber. With readings from below 18 to above 32, strength premiums are paid for readings above 29.4, while discounts are incurred for readings below 25.5. Like length, strength is determined primarily by cotton variety.

Micronaire

Micronaire (mike) is a measure of the fineness of the cotton fiber. Unlike fiber length, mike is determined more by environmental conditions than
variety. Mike is developed after the full fiber length is obtained. Therefore, 
mike is developed from 16-20 days to 40-45 days following flowering. Cool 
and/or dry weather and fertilizer shortage (especially potassium) can cause 
low mike values. Low mike refers to fine fibers, while high mike refers to 
coarse fibers. Mike values below 3.5 and above 4.9 are discounted, while 
premiers are paid for mike readings between 3.7 and 4.2.

Trash

Trash is a measurement of trash present in the lint. The measurement 
is made by the HVI video trashmeter which measures the percentage area 
and particle count of trash on the sample surface. This measurement provides 
an estimate of the total amount of trash in the bale. Colour is the measure of 
grayness and yellowness of the lint.

Reported as a two-digit code as measured by the HVI, colour usually is 
not affected by variety. Rather, it is influenced by weathering (excessive 
rainfall) in the field or in the module. Typically, colour is not a quality concern 
for cotton in Kansas.

Kansas Cotton Quality

Overall, the quality of the Kansas cotton crop in 2003 was decent. 
Slightly over 50% of cotton produced had a colour grade of MID 31, while 
18.5% graded SM & Better 11 & 21, and 13.7% graded SLM 41. Nearly 33% 
of the Kansas cotton crop had a leaf grade of 4, 31.4% of the cotton had a 
leaf grade of 5, and 21.3% had a leaf grade of 3. The average staple length, 
strength, mike, and uniformity were 32.5, 28.7, 38.0, and 80.1, respectively.
Thus, the average Kansas cotton sample had a slight discount for length, and a slight premium for mike. Strength and uniformity fell within acceptable parameters.

Quality is an essential factor in determining price. Regardless of current market conditions, the quality of the cotton to be marketed is the first, and arguably the most important step in the marketing process. Producing an acceptable quality crop can be done through management, but requires favourable growing conditions as well. These considerations may be especially important for producers in Kansas, where cotton production is marginal. (Disclaimer: The following description of marketing alternatives is not intended to promote any business or neglect others. It is simply an outline of the major marketing alternatives available to cotton producers in Kansas. Producers interested in growing cotton should contact their local cotton gin to discuss all viable marketing options.) Marketing cotton is somewhat different from marketing traditional commodities in Kansas. Cotton growers in Kansas essentially have four options to market their cotton. Three of the four options involve marketing through the Plains Cotton Cooperative Association, while the fourth option is to market cotton via USDA marketing assistance loans.

Plains Cotton Cooperative Association (PCCA) is a farmer-owned cotton marketing cooperative organized with the goal of helping producers receive good, average prices for their cotton. PCCA offers three alternatives for cotton growers to market their cotton through PCCA affiliated cotton gins. These alternatives include the marketing pool, electronic trading through The Seam, and crop contracting. The most popular method of marketing cotton is
the marketing pool. The objective of the marketing pool is to receive a good, average price for member’s cotton. To participate in the pool, producers contract acres by FSA farm number via their local cotton gin. Signup for the pool takes place in April. The contract is for one year, allowing producers to sign up additional farms, or sign out current farms. Since the contract is based on acres, producers are not required to deliver cotton if planting is prevented or a crop loss occurs. Initial advances for pool cotton are set by the PCCA board of directors in August. In recent years, the initial advance has been the Commodity Credit Corporation (CCC) loan rate. This advance is paid to growers once the cotton has been invoiced to the pool. To be invoiced, cotton must be ginned, received at a warehouse, and classified by USDA graders. Typically, advanced payments are available within 10 days of ginning. The first progress payment is made in early January, typically followed by another in April.

The Seam is an electronic trading system, operated by PCCA that links the producer’s gin to a network of buyers throughout the U.S. The system allows the producer to market his cotton at a price that he chooses. After a producer offers his cotton, a buyer can accept the offer or make a counter-offer. If the buyer makes a counter-offer, the producer may accept it or make a counter-offer. Following the producer’s instructions, all transactions are handled by the producer’s gin. After an offer is accepted, PCCA, who guarantees all trades, will make a payment to the producer.
Crop contracting

The third marketing option available to cotton producers through PCCA is forward contracting. Cotton growers have the option of contracting every other bale or every third bale on a set amount of acres. The contract price is typically on the basis of the December futures contract. In this contract, producers are required to deliver the grade they specify in the contract. Discounts will apply if the cotton delivered is of a lower quality than that specified in the contract.

In addition, there are no premium opportunities for higher quality cotton.

Marketing Assistance Loans

Marketing assistance loans are available on all upland cotton production for farms with a PFC contract. Like other crops, to be eligible, producers must comply with applicable conservation and wetland requirements, report their planted upland cotton acreage, comply with crop insurance requirements, and maintain beneficial interest in the cotton from harvest throughout the term of the loan. When compared to other crops, cotton must meet some other requirements as well. Cotton must be ginned, carry an approved USDA Agricultural Marketing Service (AMS) class, and be placed in a Commodity Credit Corporation (CCC)-approved warehouse. A crop may be put under loan for a term of 9 months beginning from the first day of the month after the loan is made. The loan repayment rate is the lower of the loan rate or the Adjusted World Price (AWP).
Cotton placed under loan may also be forfeited to CCC when the loan expires. Instead of placing cotton under loan, producers may receive Loan Deficiency Payments (LDP) when the AWP is below the loan rate. The LDP rate is equal to the difference between the loan rate and the loan repayment rate in effect during the week in which the application for payment is filed. Unlike the loan process, producers can lock in an LDP rate prior to ginning while the cotton is in ricks, modules, or trailers by providing module numbers at the time of application. LDPs are then dispersed after the cotton is ginned and are subject to the payment limitation. Producers are allowed to participate in the LDP program on a bale-by-bale basis.

Summary

In order to successfully grow cotton in Kansas, producers will have to become knowledgeable in the cotton marketing process. Understanding the factors that determine quality and how those factors affect price, hence its critical to successfully growing cotton. This thesis gives a brief explanation of the factors that determine quality and the factors that affect quality. For more extensive explanations of cotton quality classifications, consult AMS Cotton Program publications at www.ams.usds.gov. For loan rate charts showing the relationship between quality and price, and more information about marketing options, contact your local cotton gin.

Marketing trends, world prices, domestic prices etc. are to be considered for fixing prices for cotton by the organizations. The channel of cotton marketing is different. In the case of private trade in cotton for
domestic consumption, producers sell cotton to commission agents in assembling regulated markets, which are now in operation extensively throughout the country. The commission agents sell the cotton to sub-wholesalers or directly to mills, who in turn, process the product. The margin to the channel members comparatively low in cotton marketing as per growers.

Scope

The present study on marketing of cotton in Perambalur District is carried out to analyze the marketing of cotton in the study area. Marketing is the basic for all business process and the study on marketing of cotton is needed at present. The study intends to help the cotton growers and sellers scientifically. The study will also help in developing policies and procedures based on its findings. Increasing marketing efficiency can help the growers to earn more in cotton cultivation. It can also help sellers of cotton to a great extent. The present study can contribute to the knowledge in the areas of marketing of cotton as well as it can be useful to scholars and researchers in the various areas of marketing and marketing management. The study can help to identify areas of further research in marketing and can help social science research in higher educational and research institutes. Marketing management is an important part in agro based product marketing to a greater extent.
Objectives

The prime objectives of the study are:

1. To understand the origin and growth of cotton and the production and trade of cotton at International, national and state levels;
2. To explain the cotton farming methods and the processes followed in the study area;
3. To identify the pattern of trade of cotton by the growers and the trade pattern in the study area;
4. To analyze the factors that influence the marketing process of cotton and the pricing of the product;
5. To examine the problems faced by the growers and agents of cotton in the study area, and
6. To suggest ways and means to improve marketing efficiency of marketing personnel on the basis of findings.

Hypotheses

- The level of education of sample growers does not significantly differ in relation to their area of cultivation.
- The method of cultivation in cotton growing does not significantly differ in relation to their area of cultivation.
- The methods followed by growers for pricing of cotton do not significantly differ in relation to the area of cultivation.
- The spreading methods followed by cotton agents do not significantly differ in relation to the area of cultivation.
- The problems of storage for cotton faced by sample agents do not significantly differ in relation to the area of cultivation.
Methodology

The present study is mainly based on primary as well as secondary data. The secondary data have been collected from various official records and reports from cotton growers, National Federation of cotton producers, Directorate of Agriculture, books journals and Bulletins of National Union of India and many cotton export organizations. Unpublished theses of Indian Universities have also provided source material. Many studies related to marketing have also been reviewed. This is an analytical study in marketing of cotton in the District of Perambalur in the State of Tamil Nadu. The data collected have been organized and presented in the form of Tables, diagrams and graphs. Various statistical techniques like average, chi-square test, correlation co-efficient, multiple regression and Discriminant analysis have been adopted for analyzing and interpreting the quantitative data. Analysis of variance technique has been used to find out whether there is homogeneity in the operations among the producers in the study area.

SAMPLE

There are more than 2400 growers and around 600 agents in the District of Perambalur who are prominently engaged in cotton production and marketing respectively. As per the records of revenue divisions, the area is divided as rural and semiurban and the sampling are done as follows:
TABLE: 1.7
SAMPLE SELECTION

<table>
<thead>
<tr>
<th>Area</th>
<th>Total growers</th>
<th>Sample taken</th>
<th>Total Agents</th>
<th>Sample Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEPPANTHATTALAI</td>
<td>1400</td>
<td>70 (5%)</td>
<td>350</td>
<td>35 (10%)</td>
</tr>
<tr>
<td>PERAMBALUR</td>
<td>600</td>
<td>30 (5%)</td>
<td>140</td>
<td>14 (10%)</td>
</tr>
<tr>
<td>ALATHUR &amp; KUNNAM</td>
<td>400</td>
<td>20 (5%)</td>
<td>110</td>
<td>11 (10%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2400</strong></td>
<td><strong>120 (5%)</strong></td>
<td><strong>600</strong></td>
<td><strong>60 (10%)</strong></td>
</tr>
</tbody>
</table>

(Source: Records of the Cotton Growers Association)

The growers and agents are first stratified on the basis of area as per the Taluks. Then a sample of 5% is taken as sample. Similarly, out of 600 agents, data are collected from 60 agents, i.e., 10%. Thus, stratified random sampling method is considered for the purpose of selection of sample for the study.

Original Contribution

Analysis of marketing of cotton by the producers and the sellers is a current required topic. There is a growing demand for cotton and the marketing complexity is increasing. The marketing of agro based product differs from that of other products and services. Though there are many studies related to marketing, there are no specific research studies in relation to marketing of cotton in the selected study area. The working capital of the firms also differs in relation to their process and production capacity. The data are collected from the growers and sellers directly and can be classified as first-hand information. The data are collected during the period of 2 years, i.e., between 2014 and 2015. The study is unique and original in nature as the data are current, pragmatic and informative in the present globalized scenario.
Papers Published

Three papers have been published by the researcher in the areas of marketing out of which the following two are related to the cotton marketing aspects:


Operational Definitions

‘Growers’ for the purpose of the study includes the farmers involved in cultivation of Cotton in the study areas especially in Perambalur District;

‘Agents’ of the purpose of the study includes the agents involved in procuring cotton from the producers in the study area especially in Perambalur District

Limitations of the Study

The study is conducted during the period of three years up from 2012 to 2015. As this is an agro based study, many of the sample growers have
not maintained proper accounting records. The data provided by certain growers are from their incomplete books and memories. The secondary data are collected from the records of the sample growers and sellers to certain extent and from the published statistical data. Different websites and corporate websites are used for getting specific data. The data are as provided by the firms and hence considered to be correct in all aspects for the purpose of the study. The data could not be specifically apportioned for cotton and related agro products in some areas. Inflation aspects could not be considered. However, the suggestions can be generalized to similar agro based products in the similar environment to a certain extent.

Chapter Scheme

The present thesis is divided into six chapters. The first chapter ‘Research Design’ deals with introduction, importance of the study, product concepts, problems in cotton marketing, objectives, hypotheses, methodology, significance of the study, operational definitions and limitations of the study. The second chapter ‘Review of Literature’ contains the reviews of previous studies made in cotton and agro based industries and other marketing aspects. The chapter also explains the uniqueness of the present study over the earlier studies in relation to cotton marketing. The Third chapter contains the profile of the study area. The fourth chapter consists of the production and trade aspects of cotton growers from various angles. The fifth chapter deals with the opinion of agents in relation to marketing of cotton in the study area. The sixth chapter contains the findings, suggestions and conclusion of the present study.