

A Study on Marketing of Cotton Seeds in India

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Abstract: Increasing population put a greater demand on the agricultural production. At present India is facing a challenge of increasing the productivity per unit area, since the area under agriculture is decreasing due to industrialisation and urbanisation. A single largest contributor for increasing the productivity is the seed. This is the first and foremost source of all the food, stands between survival and starvation. A wider appreciation of the importance of seeds and their vital importance in agricultural will pave for economic prosperity. Andhra Pradesh has excellent climatic conditions suitable for the production of seeds of all the crops varieties. The seed replacement rate for the cotton crop is 100% in the year 2015. This shows the tendency of farmers opting for purchasing the quality seeds, instead of depending on own production which thus created a demand for the marketing of seeds in the country.

Key words: Oligopoly, product differentiation, marketing mix, seed replacement rate, economy

INTRODUCTION

The importance of agriculture to India is figured by a statement "If Agriculture survives, India also survives" (<http://www.agriculturalproductsindia.com/agro/history.html>). Agriculture is known as a mainstay for Indian economy. About 70% of the total population depends on agricultural and its allied sectors. The contribution of agriculture and allied sector is around 13.9% (http://indiainbusiness.nic.in/newdesign/index.php?param=economy_landing/213/2) in the year 2013-14. In India major agricultural contributing states are Andhra Pradesh, Bihar, Gujarat, Haryana, Maharashtra, Madhya Pradesh, Punjab, Uttar Pradesh and West Bengal. Cotton is one of the major crops grown in the country. The area under cotton crop in the year 2014 is 11.69 million hectares and it contributes around 14-16% to total agricultural crops in the country. In the year 2013-14, the production of cotton is 36.59 million tonnes, most of the people in India depend on cotton for clothing, medical usage, etc. (Table 1).

Importance of seed: Increasing population and decrease in land under agriculture put a pressure on agricultural production which can be done only through use of high quality hybrid seed. Seed is the largest contributor for increasing the productivity. A quality seed alone enhances the production of a crop by 25% when compared to the performance of other inputs. Better seeds sown can harvest better future. Use of good quality seeds is a requirement for farmers as the return on investment or

Table 1: Area and production scenario in India

Crops	Area (million hectares)			Production (million tonnes)		
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
Rice	44.01	42.41	43.95	105.30	105.24	106.54
Wheat	29.86	29.65	31.19	94.88	93.51	95.91
Coarse cereals	26.42	24.64	25.61	42.01	40.04	43.05
Pulses	24.64	23.47	25.23	17.09	18.34	19.27
Food-grains	124.75	120.16	126.04	259.27	257.13	264.77
Oilseeds	26.31	26.53	28.53	29.80	30.94	32.88
Sugarcane	5.04	5.06	5.01	361.04	341.20	350.02
Cotton#	12.18	11.98	11.69	35.20	34.22	36.59

Data for 2013-14 are based on advance estimates; Ministry of Agriculture, Government of India

the yield depends on the seed they use. During olden day's cultivators retain a part of their production for seed purposes. But with concept of green revolution, improved seed varieties were evolved and their production is undertaken by the organised sector. This tendency of farmers opting for purchasing the quality seeds, instead of depending on own production has given rise to development of seed industry and also created a demand for the marketing of seeds in the country.

Indian seed market size: Indian seed industry is the world's fifth largest seed markets with 4.4% next to US (27%), China (20%), France (8%) and Brazil (6%) (<https://researchreports.careratings.com/industries/seed.html>) with a total turnover of Rs. 15000 crores. In terms of global trade, India is virtually self-sufficient in vegetables, fruits, flowers and field crop seeds. The National Seed Association of India says that every year the market size

Table 2: Seed market size of top five countries

Name of the country	Market size in percentage (compared to global seed market) (%)
United states	27.0
China	20.0
France	8.0
Brazil	6.0
India	4.4

<https://researchreports.careratings.com/industries/seed.html>

of seeds industries increases by 11%. The growth drivers for Indian seed market are increasing population, advancements in technology, decreasing agricultural land availability and high investment (<http://www.marketsandmarkets.com/Market-Reports/seeds-market-376.html>). The demand for hybrid seeds is increasing due to the benefits like sustainability to drought conditions, herbicide tolerance, increase in production, etc. (Table 2).

Seed sector in India: The Indian seed business is the result of refinements and renovations in technology. The sixties are known as the crucial period to Indian seed business as the high yielding varieties are introduced in this period and also the formation of National Seed Corporation had taken place. With the liberalization of Seed Act the private seed companies has entered into seed business. Today Indian seed business has occupied sixth position in the world with Rs. 9000 crore turnovers. This is due to the increase in adoption of Bt cotton hybrids, hybrid vegetable and also corn hybrids. The hybrid market is pegged at Rs. 12000 crore. Indian seed industry consists of 14 state seeds corporations, 2 national level seed corporations and many multinational companies. Gradually the public sector is confined to production and distribution of high volume low value certified seeds and with a limited presence in commercial crops such as cotton, vegetables, etc. In recent years, we find growing involvement of private sector in producing and marketing of cash crops such as cotton, cereals, corn and vegetables. The key players in private seed sector are Monsanto, Kaveri, Nuziveedu, Pioneer, Vibha and Syngenta seeds. At present there are >500 seed companies in India involved in production and marketing of seeds. In India, the hybrid seed market is growing by 15-20% annually. Major share (i.e., 80%) of the seed market has been occupied by 10 multinational companies. By 2018 the hybrid seed market in India is projected to reach by Rs. 18000 crore.

Objectives: The present study deals with following objectives:

- To understand the market structure of cotton seeds in India

- To study the issues relating to marketing of cotton seeds in India
- To study the marketing of cotton seeds in India

METHODOLOGY

The study entirely depends on secondary data collected from various published and unpublished article, journal, magazines, etc.

MARKET STRUCTURE OF COTTON SEEDS IN INDIA

The Indian seed industry has occupied fifth place in the world with a turnover of about Rs. 15000 crore. Of the total turnover, 33% was occupied by private unorganised and 24% is controlled by public sector and the remaining 43% is under the control of private sector. In commercial crops such as cotton the majority supply of seeds is under the control of private sector resulting heavy competition. With a sales volume of 1000 crore, Indian cotton seed market is one among the largest seed markets in the world (Murugkar *et al.*, 2007). Generally market structure of a seed is an oligopoly market (Bambang, 2006) where we find few numbers of sellers and more number of buyers. Market structure influences the pricing as well as the competition with in the market. The market structure consists of four main elements they are: buyers and sellers concentration ratio, market entry and exit barriers, degree of product differentiation market knowledge. By studying all these elements we can identify the market structure of a particular product.

Degree of concentration: It refers to the concentration of buyer and sellers in the market area (i.e.) refers to the control of sellers (seed companies and government) over a proportionate area whether it is small or a large unit and is referred as percentage of market share occupied by the seller in the market. Generally the market concentration or share indicates the degree of market power that the firm is holding in the seed industry. The market power changes accordingly with change in the market share and is noted as firms total share of sales in the total share of sales in the industry (may vary from 0-100%). The firm having a market share of <10% have no market power. Firms is said to be having market power if and only if it has a market share of 15%. Firms holding a share of >25-30% is said to have a monopoly power (Sheperd, 1997), holding 40-50% is said to have very strong monopoly power (Bambang, 2006). In Guntur Kaveri seeds Pvt. Ltd., Nuziveedu seeds Pvt. Ltd. and Tulasi seeds are the leading companies. Of the Kaveri and Nuziveedu occupies majority of the market due to their product specifications.

Market entry and exist barriers: Seed market is an oligopoly market consisting of few numbers of sellers and more number of buyers. This consists of high entry and exist barriers. Market entry means addition of a new seller to the existing sellers. Barriers are known as the situations that the new seller difficult to enter in to the market. There are two types of barriers known as exogenous and endogenous barriers. Exogenous entry barriers are such as economies of scale, government regulations, high investment, research and development, sunk cost, etc. Endogenous barriers are the strategies which the competitive firm implement in the market place they are pre-emptive and vengeance actions, price discounts, market segmentation, secrecy (Sheperd, 1997), etc.

Degree of product differentiation: The concept of product differentiation was first introduced by the Edward Chamberlin in the year 1933 (Edward Chamberlin was the first to introduce the concept of product differentiation. He explained this concept in his Theory of Monopolistic Competition). Product differentiating is nothing but differentiating the product or a service from the competitors product and also from own firms existing product to make the product attractive. Product differentiation also acts as an entry barriers in advertising (Bambang, 2006). In cotton seed industry product can be differentiated by additional specifications such as easy picking, boll size, height of the plant, etc.

Market knowledge: Market knowledge includes the complete information about the market area, farmers, etc. It includes identifying the type and variety of cotton seeds offered by the seed companies/government, seed type and variety preferred by the farmers for production of cotton assessing the seed requirement by region, market price, seed sources, information sources, frequency of market visit by farmers, identifying the retailers, etc.

ISSUES WHILE MARKETING OF COTTON SEEDS

Marketers faces various challenges while marketing seeds, some of the issues are discussed in the following.

Demand forecast: Demand forecasting is very essential for the marketers to know how much quantity of seeds to be produced for certain area. It is a very difficult task as demand for seeds is of seasonal and there may be a situation of either excessive or scarcity. Generally the seeds companies estimate the requirement of seed based on the area of cotton crop sown in the previous year, area targeted for the ensuring year, yield and price of the

produce. In addition to this the yield, price of produce competing crop and also the area sown of the competing crops are also taken into consideration. Sometimes due to sudden changes in climatic conditions may interrupt the demand of seeds there may be excessive supply to some centres where demand has fallen and also may be short supply due to increase in demand. In order to adjust this type of situations cross transportation is necessary. To avoid this type of situations continues monitoring of climatic conditions is necessary.

Issues while purchasing of seed from seed growers (farmers): The seed companies alone cannot organise the production of seeds so they provide the foundation seeds to the farmers for the production of seeds. The identified farmers will become their registered growers and will produce seeds for these companies on contractual basis. The farmers fix the price of the seeds in advance through negotiation for risk free price. In times of excess production the companies becomes strict on quality of seeds and the chances of rejection goes high. On the other hand in times of increased demand for seeds or crop the farmers may divert a part of their production to other channels expecting high price than the negotiated price of the company. Solving this type of issues is a live issue for the seed companies.

Packing and storage aspects: Packing of seeds is an important aspect as the quality of seeds depends of on proper package of seeds. Defects in packing may leads to damage of the product and cause contamination reducing the purity of seeds. In addition to this proper storage of seeds is also needed to prevent deterioration of seed quality. Generally seeds are stored in go downs in processing plants and also warehousing while transit (Kulakarni, 2011). But these are meant for handling of grains not for seed so proper storage conditions should be maintained. Bulk of seeds are transported through roadways and railways, care is to be taken while loading and transportation. In retail outlet we find seeds stored along with the pesticides and fertilisers and also kept outside for visibility of seeds this may causes damage to the quality of seeds. So, to prevent damage to quality, proper care is to be taken.

Operational aspects: Seed is a seasonal business, so the distributor and retailers will have cash credit limit in this business which are of inadequate. So, the distributors and retailers borrow money at high interest for the business. The distributor and retailers do not stick to the price the company fix and also do not operate at 10-15% margins. If there is a shortage of seeds the price rises, so sometimes in case of demand for seeds the retailers create

an artificial scarcity for seeds to increase the margins and price of seeds. These can be avoided by appointing distributors for longer period such practices would enable the seed companies to get feedback on the product on a regular basis.

MARKETING OF COTTON SEEDS IN INDIA

The tendency of farmers opting for purchasing the quality seeds, instead of depending on own production created a demand for the marketing of seeds in the country. The breeders are spread in different places, so it becomes difficult for them to process and distribute the seeds. So, many MNC's entered seed business performing marketing to make seeds available to farmers spread in different places in the country. Marketing of seeds includes 4 p's (i.e.) product, price, place and promotion.

Product: Marketing activities mainly focuses on the product to make it available to the farmers in a right place at a right time. However, many features of a product are not the marketing responsibilities (like plant breeding, seed production and seed processing, etc.), marketing deals only with the product's attributes. Product (seed) attributes include quality, appearance, purity and performance. Seed being a live organism, its quality deteriorates faster so it should be delivered to the market with time and to be used before expiry. Seed companies differentiate the product from competitors by these product attributes. Marketers use these attributes in positioning and building the brand image which helps in easy identification of brand (Fig. 1).

Price: Price generates sales revenue and is consequently important in determining the total value of the sales done. Generally price is fixed by what farmers perceive it as the value of seed of a certain seed variety, on the cost of production and also on other expenses. It is very essential to know how farmers value seed as well as how much they are ready to pay in relation to the benefits they expect from the seed. In times of demand and shortage of seeds an artificial scarcity is created by the dealers/retailers to increase the price of seeds. During those times companies as well as government interferes and fix the price at certain cost. The sale rate of the cotton seed includes procurement cost, overhead cost and royalty cost (<http://www.apagrisnet.gov.in/2015/AP%20Bt.%20GO%20No.%20268%20th%20Apl%202015.pdf>). In the year 2006 with the interference of state government the seed rate is reduced to BG-I to Rs. 650/- and BG-II to Rs. 750/- and in the year 2008 it is increased to BG-I Rs. 830/- and

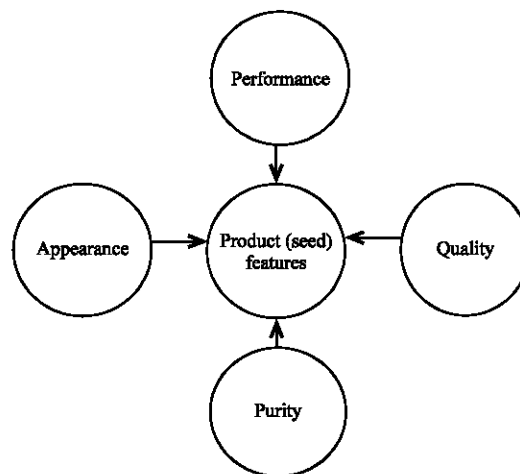


Fig. 1: Product (seed) features

Table 3: Seed rate of Bt and Non Bt cotton seeds

Seed rate per 450 g of Bt cotton seed	2005	2006-2007	2008-2015
Boll gard I	1050	650	830
Boll gard II	1800	750	930
Non bt cotton seed	-	500	500

Business standards, 2011, May 23, economic and policy news

BG-II to Rs. 930/- per 450g of Bt cotton seed. Till now the cost of seed is fixed at BG-I Rs 830/- and BG-II to Rs. 930/- per 450 g of Bt cotton seed, whereas the rate of non Bt cotton seed is Rs. 500/- per 450 g packet (Table 3).

Place: The place factor deals with the market, how the seeds reach the market through various transporting methods to make them available to the farmer. Distribution system plays a key in reaching the product to the right place at the right time. The selection of distribution method depends on the market position and the nature of both the seed and the farmer. In Guntur District, we find four types of distribution channels for cotton seeds they are as following. In case of big farmers the companies directly send the stock to the farmers without any intermediaries (Fig. 2).

Promotion: Promotion is the process of communicating with and attracting the customers. However, the cost associated with promotion is an important element in the overall cost of a seed; successful seed promotion increases the sale of seed. While increased promotional activity or a new seed variety launch, it is significant to maintain visibility in the market place as well as a constant flow of messages to the consumer (Fig. 3). The promotion for seeds is done through various ways such as advertising, village campaigns, exhibitions, palm plates,

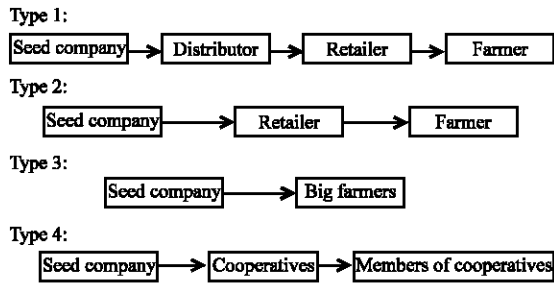


Fig. 2: Formal distribution channels for seeds

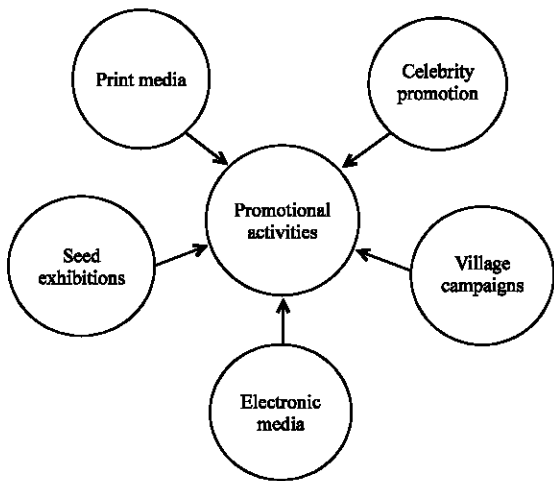


Fig. 3: Promotional activities involved in marketing of cotton seeds

advertisements in agricultural magazines, etc. The advertisements deliver complete information about seed and its features which are required for the farmers.

CONCLUSION

The Indian seed market is an oligopoly market with few sellers and many buyers. With the introduction of hybrid technology and the tendency of farmers to buy hybrid seeds created a demand for marketing of seeds in India. India is self-sufficient in the production of seeds. At present sector is ruling the seed industry producing high value low volume seeds such as cotton, chillies, maize etc. The seeds replacement rate helps in identifying the demand for seeds in particular area. Marketer faces various issues while marketing of seeds such as issues with growers, dealers/retailers relating to percentage, decrease in demand due to change in climatic conditions, etc., seeds as it is live organism should be delivered faster and care should be taken while transit to prevent deterioration of quality. Marketer uses various promotion activities to attract farmers and to deliver the message regarding its features to differentiate them from competitor's products.

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