CHAPTER 1

INTRODUCTION
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Perishable goods such as vegetables, fruits, fresh cut produce, meat and dairy products, ready to eat processed products are vital parts of our nutrition and as such are of utmost importance for the retail grocery business. They account for over 50 percent of the annual turnover of the retail grocery industry and their availability, presentation, and perceived quality appear to be more relevant to consumers’ store choice than the availability of branded products. In fact, the importance of perishable goods for the society has been widely accepted. Their management, however, still constitutes a severe challenge for retailers and their supply chain partners alike. Improper storage, transport, and handling conditions often result in unsellable goods that have been produced, shipped – and are then thrown away.

The Indian retail sector is highly fragmented with 94% of its business being run by unorganized retailers like the traditional family run Mom and Pop and corner stores. The organized retail however, is in a very nascent stage but the last few years have witnessed immense growth in this sector. An analysis by A.T. Kearney reveals that the organized retail in India accounts for only 6% of the total retail market.

A prime disturbing feature of the retailing industry is the lack of proper supply chain perspective. A chain tying up with a set of exclusive, loyal suppliers, manufacturers/ producers, distributors, transporters etc. for themselves has not really been practiced.

The status of Supply Chain Management practices are in poor state in unorganized retail sector. The utilization of computer, internet, IT and other IT enabled services in unorganized retail are in pathetic condition. This makes the supply chain ineffective and ultimately creates a bullwhip effect which contributes towards higher cost and poor customer satisfaction. The fear of stock out results in higher level of safety stock, not only increasing the cost but also contributes in wastage. The effect of schemes and offers is
also significantly increasing the inventory holding. Though the unorganized retailers are aware with benefits of IT & ITES, they are yet not interested in or are capable of investing any amount towards the upgradation and integration of the supply chain.

Organized retailers are comparatively holding a better position as far as Supply Chain Management is concerned. A huge investment is required in the area of infrastructure development like cold chain, warehousing, transportation etc., for which the recently permitted 100% FDI by the government may prove to be a milestone decision in the near future.

The focused approach of the government to bring about overall rural prosperity is evidenced by initiatives. Regional Rural Banks have also been instructed to expand their branch networks and extend their services to farmers/ traders as well to expand their scope in general. Looking at the core concerns of this sector, the growth of this sector in terms of increased public investment is of immense necessity at this juncture to revive the fate of the rural economy of India. There was a lot of hope that the present government would address these concerns by allocating funds in budgets. Several incentives to the agriculture sector, which has really been the backbone of the rural economy, are bound to favourably and directly impact the growth of the rural sector.

1.1 BACKGROUND

The focused market attention on the rural markets is aided by the slowly but surely hanging infrastructural scenario in rural India. The budget proposals are an acknowledgement of the fact that India’s poor infrastructure needs urgent attention, which in turn is likely to address many of the ills besieging the country’s vast agriculture sector and the bottlenecks facing rural marketing in general and the unorganized retail in specific.

It has also been observed that India’s rural markets are growing at double the rate of urban markets. Moreover, the total number of rural households is expected to rise from 135 million in 2001-02 to 153 million in 2010-15. This
is likely to result in rural India becoming the largest potential market in the world.

The mall mania has given a boost to organized retailing. As the income of the consumers all over the world has increased rapidly over recent years, shopping has become more of a pleasure than a mere necessity. People desire to make their purchases in a more comfortable, clean and well-illuminated environment. On the other hand, because of the fast pace of living, the singular family structure, and more and more women becoming career oriented, many consumers are unable to spend too much time for shopping. The frequency of shopping has decreased from once a day to once a week, or even once every two weeks, and even longer. The shopping behaviour of consumers has also changed. Many consumers now prefer to buy all they need in a single visit from a single store or location. In this changed environment of shopping, new patterns of retailing such as supermarkets, convenience stores and hypermarkets have emerged.

India is going through a retail revolution. All the big business houses are entering this sector and it is growing at a very fast pace. International giants in this sector like Wal-Mart, Tesco and Carrefour are also trying to enter the Indian market. Retail is offering tremendous opportunities in employment. However, our country also poses a big challenge to organized large retailers, particularly in the food sector. An apt Supply Chain Management system is crucial to the food sector as it comprises of perishable items. For the retailer to be successful, the key to success is proper supply chain management indeed. The challenge comes from a number of factors, i.e. the huge size and population of our country, a varied culture pattern and hence diversity of taste, very poor infrastructure like improper roads, bad connectivity between production centres and markets, lack of proper cold chain facilities like refrigerated transportation, ware-housing etc. Under these circumstances, it is interesting to find out how large organized retailers are coping up with these problems.
There are three major types of retailing. The first one is a market where the buyer and the seller are in direct contact. This involves selling on the sidewalks, streets etc. The second form involves shop or shop trading where goods are out of buyers’ reach and are kept at a distance which the seller supply them on demand. The third type is virtual selling where products are offered online and then selling is done involving e-mail, online shopping etc. In the nineteenth century in France, arcades were invented, where roofed shops were made on both sides of the streets.

In 1920s, the first supermarket opened in USA, which heralded the concept of self service. Around the same time, the first mall was constructed with both arcade and departmental store style. Soon, a revolution set in as people got to feel the product before actually buying it, they had a variety to choose from and the ambience added to the beauty of the concept. The concept caught on and the scenario remains valid even in current times. This not only opened the vistas for global retail but also set the tone for the next big revolution called Retailing. Retailing both reflects and determines culture as consumer goods are the focus of our labour, our economy, and our collective lifestyle. Because of consumer goods, the retailing industry demands equal opportunity from employers.

Retailing is the most unifying and common force for the youth of our society. Retailers are now on a spree to make their global presence felt by entering into the untapped markets which have an immense consumer base, especially in India and China. Wal-Mart, Carrefour etc are eyeing these markets through acquisitions, mergers or joint ventures.

A unique and specific supply chain link is required to be developed specially designed to cater to unorganized retailers which will be fruitful in order to enhance efficiency and to provide more value to customers. The unorganized retail can provide stiff competition to organized retailers by adopting better SCM practices.
1.2 STATUS OF PERISHABLE SUPPLY CHAIN

The perishable food supply chain is generally considered to be the most complex in terms of movement of goods, because of their time and temperature-sensitive nature. Typical examples of perishable food products are fruits and vegetables. Perishable food products require not only efficient production but also efficient and specific storage, handling, and swift customer delivery procedures. Experience shows that poor trade facilitation is a major detriment to trade in these products.

Perishable goods such as fruits, vegetables, and meat and dairy products are vital components of our nutrition and have utmost importance for the retail grocery business. It accounts for over 50% of the $400 billion annual turnover of the retail grocery industry. Approximately 10% of the total industrial and commercial waste is caused by perishable food products.¹

India is not only able to feed its domestic requirement but it can become the food supplier to the world. It has the cultivable land, all the seasons for production for all the varieties of fruits and vegetables, an agribusiness system that works in an unorganized manner which needs to improve as 35% to 40% of the total production of fresh fruits and vegetables is wasted in India.² About 72 percent of the fruit and vegetable production of country goes waste because of lack of proper retailing and adequate storage capacity. The production of vegetables in India is next only to China. The vegetable and fruit production contributes more than 30 per cent of the agriculture GDP. The crop diversification has led to rise in horticulture production, which has reached 185.2 billion tonnes in year 2008, but the real challenge starts after the production³.

² Andersen Consulting Report On Supply Chain Infrastructure- Group 7, Section B
³ P K Mishra, Secretary in the Ministry's Department of Agriculture and Co-operation, said so while speaking at a Fruits and Vegetables Summit organized by Confederation of Indian Industry (CII).
The mammoth truth about the constraints in agri-business and retail sector is also emphasized by the current agriculture minister, Sharad Pawar, categorically due to wide spread fragmentation in the supply chain, low productivity levels, and huge post harvest losses arising out of inadequate storage, cold chain and transport infrastructure, logistics and supply chain management. Organized and traditional retailing has to drive the growth of the fruit and vegetable sector in the country. It is factually evident that despite different types of fruits and vegetables grown across the country, India's export of agricultural and food products is only 1.4 per cent of the total global trade. Therefore, an appropriate policy support is mandatory for the growth of retail chains for fruits and vegetables in the country.  

By building an efficient and effective supply chain system using state-of-the-art technologies, it is possible to serve the entire population of the country with value added food products. This will give a double ended benefit. On one side to the farmers, ensuring a suitable remuneration for their produce and at the other end, a surplus of produce can be marketed aggressively in the international market which will boost the economy.

India is one of the fastest growing economies in the world and one of the largest in terms of purchasing power parity. Global brands are restarting the hype that was prevalent a decade ago, as they envisage how to take advantage of the massive population, rapidly growing incomes and high consumption levels to create new business streams, sales & profits. But companies face several challenges due to fragmented chains, poor infrastructure, unfriendly policies and regulations of the Government which make it difficult for retailers to make their move.

Issues concerning agro-infrastructure are one of the most prominent challenges that need to be addressed with immediate effect. Lack of proper irrigation and water management, environmental concerns related to poor soil management, inadequate and poor fertilizer and pesticide

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requirements coupled with scanty post-harvest infrastructure including shortage of proper warehouses and storage facilities, poor grading, sorting and packaging of yield are hurting the agricultural base of our economy. Problems exist even in marketing of produce as farmers are handicapped by the lack of information on prices and forecasts. Government policies and regulations have also created a lot of needless complexity in the system which has discouraged investments in this sector. The lack of agro-support infrastructure has also played spoil sport. Absence of proper research and development institutes, rural transport infrastructure, rural healthcare and educational facilities have stifled this sector.

A number of innovative measures have been undertaken by the public and private sectors to tackle these issues and improve the state of India’s agrarian market. These initiatives have helped to transform the landscape of rural India in some parts of the country. The primary focus should be on highlighting and overcoming challenges with the agricultural supply chain and issues related to management of resources—human capital, R&D and policy to provide possible solutions from a productivity and modernization perspective. Global case studies certainly suggest mechanisms to transform specific sub-sectors within the agrarian economy.

Hurdles in the agro-supply chain with respect to poor seed development, poor crop selection and management techniques, inadequate irrigation and water conservation measures, poor cold chain and processing infrastructure, lack of research and development and poor extension of current technologies have resulted in wastages to the tune of INR 500 billion. Lack of basic infrastructure such as poor roads, inadequate education and healthcare facilities have also inhibited the growth of this sector. Only about 48 percent villages are covered with roads. The total road length in the country is about 33 lakh km, of which only 58 thousand km are National Highways. The existing rail facilities in the country are also inadequate. The railway route length in the country is only about 70 lakh km and the
electrified track is not even bare minimum.\textsuperscript{5} Rail lines do not even connect some of the districts in the country. Besides the transport, the state of infrastructure for horticultural produce as well as meat products leaves much to be desired. India has around 5000\textsuperscript{6} cold storage units, of which 90 percent are privately owned. A large number of these are of the single chamber and single product type. Nearly 80 percent of the cold storage facilities are accounted for by a single commodity namely; potato and they have a utilization of only around 50 percent. Further, the cold storage capacity is skewed towards the northern and eastern regions with 65 percent of the cold storages concentrated in Uttar Pradesh and West Bengal.\textsuperscript{7}

Addressing these structural challenges through innovative measures and technologies which effectively link production systems with processing and consumption can lead to self sufficiency in food as well as improvement in rural welfare. The prosperity achieved by augmenting agricultural growth could help to address the issues of a large fraction at the bottom of the pyramid. In order to achieve this, it is needed to work on resolving some of the self-made problems as well as build mechanisms to address external problems such as climate variability and erosion of natural resources. By analyzing the various linkages in the agriculture value chain and identifying the challenges within each, this research could come up with effective solutions. This could not only unearth new opportunities but could also transform these challenges into potentially profitable investments.

\textsuperscript{5} ‘Some Potential For Agricultural Marketing Infrastructure Projects In India’- Paper Presented In The General Body Meeting Of National Council Of State Agricultural, Marketing Boards, Held At Guwahati On 3rd to 4th of April 2008.

\textsuperscript{6} Report of the task force on development of cold chain in India, Dept. Of Agriculture and Cooperation, Ministry of Agriculture, Govt. of India Aug 2008

\textsuperscript{7} Agriculture Informatics Division, National Informatics Centre, Agmark
Inflation and fluctuation of Prices of Perishable food products

The spurt in food prices is a matter of grave concern and the governments have to urgently look into the supply chain management of items driving food inflation, in particular factors that are widening the gap between wholesale and retail prices. In the recent past, three-fourths of food inflation is explained by inflation in vegetables, and nearly one-fourth is explained by inflation in milk. A large part of the price rise takes place due to the widening gap between wholesale and retail prices, and the growing demand for these products due to rising income levels.

Prices of perishable products generally display considerable volatility reflecting mismatches in demand and supply. Admitting that the government does not have all the tools to control food prices, the supply chain efficiency is the only way to deal with fluctuation and volatility in demand-supply mismatch. (Kaushik Basu, Chief Economic Advisor, http://www.business-standard.com/india/news dated 07/01/2011).

The development of an efficient supply chain management will certainly be helpful for the government as this will prevent any embarrassment coming its way. Also, an efficient supply chain management will help in controlling inflation and price fluctuation, improve credibility of the government, reduce wastage, provide better remuneration to farmers and enhance their quality of life. Above all, a good supply chain management system will entail easy availability of food as a basic necessity to the general public/poor people.

A detailed analysis is required to address the huge gap in the application of an efficient supply chain management to make the retail sector more competitive. There is a lot of scope for IT enabled service providers and other knowledge providers to work in conjunction with retail organizations for bringing about improvements in the supply chain system. This will not only enhance the profitability for retail and ITES solution providers but also generate value for consumers as well as producers including farmers by reducing the wastage. In this era, amidst a severe food crisis, when the poor
are suffering from starvation, food wastage on such a large scale is beyond
tolerance and acceptance levels. The benefit ripen from the waste reduction
can be shared by the farmer as well as the consumer and the cost on
investment for improving the supply chain will also be recovered in the long
run. The only critical factor is the initial investment which can be promoted/
supported by the government and/or can be achieved through a PPP model
(public-private-partnership) as also envisioned by Mr. Pranab Mukherjee,
Finance Minister⁸ who categorically mentioned its positive impact on
infrastructure development. This will also be helpful in the control of inflation
as well as fluctuation in the market for the prices of perishable products.

⁸ Pranab Mukherjee, Finance Minister, “Govt, to Liberalize FDI Policy” Indian Express,
Pune, March 5, 2011.