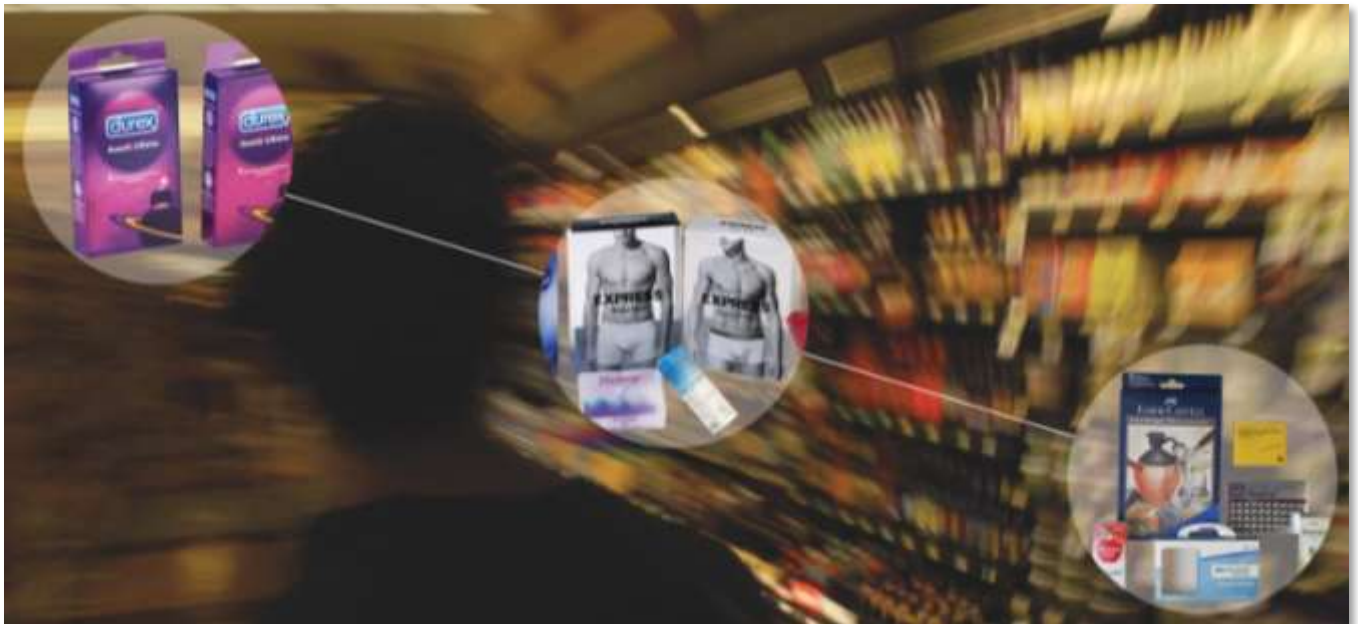




Knowledge Centre – 2010



**REPORT ON**  
**PACKAGING INDUSTRY IN INDIA**



## Introduction

All major industries create wealth but if there is one industry that plays a unique role by way of both creation of wealth through a wide range of manufacturing activities and also by way of preserving the wealth or value created by many, many other industries, it is packaging.

Apart from the huge value addition and employment involved in these activities, packaging has served the Indian economy by helping preservation of the quality and lengthening the shelf life of innumerable products - ranging from milk and biscuits, to drugs and medicines, processed and semi-processed foods, fruits and vegetables, edible oils, electronic goods etc., besides domestic appliances and industrial machinery and other hardware needing transportation.

With water becoming a consumer product, polymer material-based bottles are becoming a universal presence. Packaging, as distinct from mere “packing”, plays its most visible and catalytic role in a modern economy with the widespread adoption of branding of products and development of consumer preferences. To the extent that any consumer product is packaged in a manner that meets the criteria of safety, convenience and attractiveness, it gains market share. In the aggregate, packaging as a sectoral activity boosts consumption and economic growth. Heightened competition in all product sectors within the country as also the increasing need to look for export markets have contributed to the rising demand for appropriate, and at the same time cost-effective, packaging material and technologies.

The packaging industry’s growth has led to greater specialization and sophistication from the point of view of health (in the case of packaged foods and medicines) and environment friendliness of packing material. The demands on the packaging industry are challenging, given the increasing environmental awareness among communities.

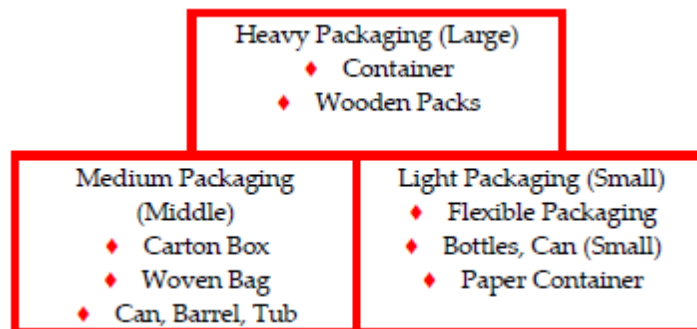
The World Packaging Organizations (WPO) slogan, “Better Quality of Life through Better Packaging”, sums up the important place that packaging occupies in a modern economy. To ensure that public appreciation of this role and the policy-makers’ support to the industry are not diluted, attention should be paid to basic issues like collection, segregation and reuse of synthetic packaging material and observation of regulatory requirements.

Classifications ~ Packing Industry in India:  
Functions of Packages:

<b>Protective Function</b> <ul style="list-style-type: none"> <li>♦ Shock, Drop,</li> <li>♦ Pressure, Vibration</li> <li>♦ Heat,</li> <li>♦ Water or Moisture</li> </ul>	<b>Convenient Function</b> <ul style="list-style-type: none"> <li>♦ Transportation,</li> <li>♦ Stocking (User, Ware House), Image, Design, Size Protection,</li> <li>♦ After Re-Use Productivity</li> </ul>
<b>Graphic Design</b> <ul style="list-style-type: none"> <li>♦ Design</li> <li>♦ Colour</li> <li>♦ Size</li> </ul>	<b>Psychological Function</b> <ul style="list-style-type: none"> <li>♦ Attraction</li> </ul>

b. Classification of Packaging:

1. By Shape (Form or Size)



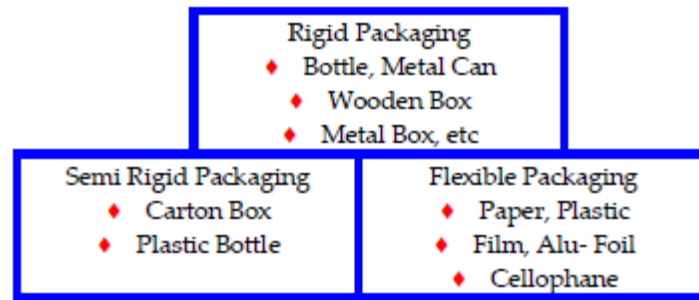
2. By Methods (Way of Packing)

<ul style="list-style-type: none"> <li>▪ Vacuum Packaging</li> <li>▪ Aseptic Packaging</li> <li>▪ Retortable Packaging</li> <li>▪ Shrink Packaging</li> <li>▪ Strip Packaging</li> </ul>	<ul style="list-style-type: none"> <li>▪ Gas Flush Packaging</li> <li>▪ Moisture – Proof Packaging</li> <li>▪ Blister Packaging</li> <li>▪ Skin Packaging</li> <li>▪ Tamper – Evidence Packaging</li> <li>▪ Others</li> </ul>
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3. By Contents

<ul style="list-style-type: none"> <li>▪ Food Packaging</li> <li>▪ Cosmetics Packaging</li> <li>▪ Powder Packaging</li> <li>▪ Toiletry Packaging</li> </ul>	<ul style="list-style-type: none"> <li>▪ Drug Packaging</li> <li>▪ Liquid Packaging</li> <li>▪ Clothing Packaging</li> <li>▪ Dangerous Packaging</li> <li>▪ Others</li> </ul>
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#### 4. By Materials



#### Indian Packaging Industry Market:

- ☐ The Indian packaging industry itself is growing at 14-15% annually. This growth rate is expected to double in the next two years.
- ☐ Indian Packaging industry is USD 14 billion and growing at more than 15% p.a. These figures indicate towards a change in the industrial and consumer set up.
- ☐ However, the Indian fascination for rigid packaging remains intact. It is estimated that more than 80% of the total packaging in India constitutes rigid packaging, which is the oldest and the most conventional form of packaging. The remaining 20% comprises flexible packaging.
- ☐ Rigid packaging constitutes glass bottles, metal cans, aerosol cans, battery cell cans, aluminum collapsible tubes, injection moulded plastic containers made of PVC, PET, HOPE, barrels made from HOPE, paperboards, and corrugated boxes.
- ☐ However, with the expanding middle class and rising income levels, the patterns of consumption are bound to change substantially and the demand for quality and convenience-based products will increase. Concurrently, the increased interaction with the developed world will considerably influence the aesthetic and quality norms of the Indian consumer and lead to better consumption standards. This is expected to stimulate greater consumption of branded products and increase the use of rigid and flexible packaging.
- ☐ Flexible packaging contains multi-layered laminated sheets of single or a combination of substrates such as plastic, paper or aluminum. Flexible packaging finds varied use because of its ability to provide strength, moisture resistance, aroma retention, gloss, grease resistance, heat retention, salability, printability and low odor. Flexible packaging has gained vast acceptability because of the protection it offers to the product against environmental threats like moisture, heat, and chemical reaction. More so, convenience in handling the product and the cost benefits it provides are added advantages.
- ☐ Nonetheless, plastic, which is the most commonly used substrate in flexible packaging, is facing pressure because of issues of environmental protection and safe disposal. These issues act as a major impediment in flexible packaging becoming an all-pervasive medium. Paper and paperboard, on the other hand are environment friendly and also enjoy the advantages of easy handling and efficient process implementation. Moreover, flexible packaging mandates additional capital requirements and technical know-how for efficient manufacturing operations.
- ☐ Although substrates like plastic have gained vast acceptability, attractiveness of paper and paperboard consumption remains. Currently, India is ranked 15th in the world for its paper and paperboard consumption and is expected to improve its rank in the future. Paper is the fastest growing substrate segment with a growth rate of 6-7%. The total demand for paper currently is estimated to be around 6 mn tones, of which about 40% is consumed by the packaging industry. If the demand for paper continues to grow at the same rate, total paper consumption is expected to reach 9.5mn tones by 2010.
- ☐ Laminated products including form-fill-seal pouches, laminated tubes and tetra packs are growing at around 30% p.a
- ☐ There are about 600-700 packaging machinery manufacturers, 95% of which are in the small and medium sector located all over India.

- Germany and Italy are the latest suppliers of packaging machinery to India but focus is now shifting on Taiwan, Korea and China.
- Indian packaging machinery imports are USD 125 million.
- Indian packaging machinery exports are rapidly growing.
- India's per capita packaging consumption is less than USD 15 against worldwide average of nearly USD 100.
- The large growing middle class, liberalization and organized retail sector are the catalysts to growth in packaging.
- Food and Pharma packaging are the key driving segments.

**Packaging Machinery Imports Rising**


Machines for filling, closing, sealing, capsules, etc.

1	GERMANY	9.73	16.13	65.87
2	ITALY	3.01	13.8	358.92
3	SWITZERLAND	0.65	9.38	1,336.13
4	USA	1.67	7.07	324.46
5	SWEDEN	3.5	4.04	15.39
6	CHINA P RP	2.92	3.76	28.95
7	TAIWAN	0.89	3.32	273.15
	Total	36.86	70.6	91.53

Other packaging, wrapping machines incl. heat shrinks machines.

Rank	Country	Values in US\$ Million		% Growth
		2005-2006	2006-2007	
1	GERMANY	13.32	21.91	64.46
2	ITALY	6.95	14.51	108.85
3	TAIWAN	2.19	2.81	28.22
4	UK	0.41	2.72	562.46
5	CHINA P RP	1.4	2.63	88.36
	Total	33.89	57.3	69.07

- On the packaging machinery side, while a wide range is manufactured in India, the industry imports machinery, especially at the high end.
- Germany and Italy are the largest suppliers of packaging machinery to India but focus is now shifting on Taiwan and China.
- The import (customs) duty for packaging machinery is 25.58% for 2007-08.
- India's imports at 20 & 25% of its total packing machinery import indicate further opportunities for Italian companies to explore.



Some important Packaging sub-sectors:

### **Corrugated Packaging & Situation in India:**

- ☒ A flourishing organised retail have raised the expectations that consumption of corrugated packaging will begin to expand again as the number and volume of goods packaged in corrugated increases. MNCs are demanding corrugated boxes of international standards and the pattern of buying the packaging is changing.
- ☒ Prices of corrugated sheet and converted boxes have remained low due to the over-capacity, manual operations and low productivity. Besides, transport constraints and high freight costs have meant that small to medium sized corrugated box plants are located near the customers.
- ☒ The over 4,000 corrugated board and sheet plants are highly labor-intensive, employing over half a million people – both directly and indirectly. The industry is converting about 2 million tons of Kraft paper into corrugated boxes. Factories are spread out in all parts of India, even in the remote industrially backward areas.
- ☒ This present scenario is already being challenged by the sweeping changes that are beginning to take shape. More and more in-line automatic plants are being set up, as corrugated box makers gear up to meet the new demands for high precision boxes with attractive graphics and large integrated production capacities.
- ☒ Inline Automatic Board and Box making plants will ease out the present semi automatic production processes.
- ☒ Deployment of Folder Gluers, Rotary Die cutters will be on the increase.
- ☒ Use of corrugated for display/promotional packs, POPs and dispensers.
- ☒ Advances in multicolor, flexo printing will facilitate in-house flexo printing and do away with screen printing, contract printing on offset presses.


### **Pharmaceutical Packaging & Situation in India**

Pharmaceutical packaging occupies a considerable portion of the overall drugs and pharmaceutical market in India and is growing steadily with the same pace of the industry.

Pharmaceutical packaging consists of various types of glass, pet bottles, strip and blister packs, injectibles, ampoules, bulk packs, etc.

The Indian pharmaceutical packaging industry is witnessing a spurt in growth. Today, the packaging industry in India is considered a sunrise industry and its linkages are extensive and highly employment creating. On one side, it involves manufacture (and sometimes import) of a wide range of packing material - paper, paperboard, cardboard, a range of polymer products including rigid and flexible packaging material, aluminum foil, tin and good old wood and steel. Other backward linkages of packaging including printing labeling and binding /adhesive tapes etc.Of course machinery for making / processing these products and for packing / packaging is another segment closely linked to this industry.

Growth will follow upward trends in global medication consumption, which will expand at a strong pace as aging demographic patterns lead to an increasing number of diseases and disorders. Pharmaceuticals will assume an expanding role in worldwide health care delivery based on new product introductions and economical advantages over other forms of patient treatment. Besides upward trends in medication consumption, the adoption of stricter regulations and standards governing the production, storage, distribution and labeling of pharmaceuticals will boost global growth opportunities for packaging products and accessories. Historically, pharmaceutical packaging requirements focused exclusively on preserving the quality of enclosed medication. These requirements are now being extended to cover such criteria as the prevention of product tampering and counterfeiting, the assurance of product dispensing accuracy and the promotion of patient compliance with product dosage schedules.



Packaging industry serves the following purposes in India:

- 1. Containment:** Most products must be contained before they can be moved from one place to another. To function successfully, the package must contain the product. This containment function of packaging makes a huge contribution to protecting the environment. Faulty packaging (or under packaging) can lead to spillages and result in major losses and serious damage.
- 2. Protection and Preservation:** Packaging plays a vital role in protecting products as they go from the manufacturer to the consumer. Packaging is designed to ensure that the product reaches the consumer in good condition. The product is protected during transport and distribution; from climatic effects (heat and cold, moisture, vapor, drying atmospheres); from hazardous substances and contaminants; from infestation.
- 3. Supplementary Product Protection:** Packaging can also provide supplementary product protection. This may be achieved by forms of cushioning such as shredded papers, sheets of corrugated paperboard, foamed plastic or wrappings. Packaging therefore contributes to food safety, quality and nutrition. Packaging technology has made major contributions to advancing food science and food safety and reduction of food spoilage.
- 4. Communication:** 'A package must protect what it sells and sell what it protects'. Modern methods of consumer marketing would fail were it not for the messages communicated on the package. The information provided on packaging allows the consumer to make informed decisions on the product's purchase and use.
- 5. Convenience:** Packaging plays an important role in allowing products to respond to the demands and needs of modern consumers. Frozen food packs, microwavable containers, wine cardboard casks, easy-open beverage and food cans and aseptic cartons are good examples of convenience packaging. These types of packaging reflect the demand for convenience and quick food preparation in a way that guarantees freshness. Light weight medical devices are packaged in peel-open, pre-sterilized containers designed for easy use in operating rooms, patients' rooms, or laboratories. In the administration of drugs, unit-dose packaging, solid and liquid, in small containers allows sealed, unused drugs to be returned to stock. Medical packaging also reduces the risk of accidental overdose or improper use by children (child resistant closures).
- 6. Environmental Aspects:** Packaging reduces the amount of waste going to landfill. Without the benefit of packaging to preserve food, a higher proportion of food would become spoiled and consequently consigned to garbage collection for land disposal. When the food is packaged, the unwanted portions such as skins, outer leaves and trimmings, remain at the processing point where they can be economically recovered and used in the manufacture of valuable by-products.
- 7. Reduction of Pilferage:** Packaging of a wide variety of products sold from self-service counters is designed to reduce stealing. The product may be sold in a blister package sealed to a large paperboard backing. The large card makes the package more difficult to conceal and steal. Other examples of security packages are lock-on caps and tamperproof closures.
- 8. Marketing Trends:** Marketing trends are placing increasing emphasis on the look, sales appeal and quality of retail packaging. Packaging helps sell products by providing product differentiation and presentation, greater brand awareness and convenience. The continuously changing demands of consumers will require higher quality graphics and promotional links between graphics and advertising to support brand identities, plus the ability to reflect current consumer trends and images.



## Factors Affecting Growth of Packaging Industry in India

### 1. Urbanization

Modern technology is now an integral part of nation's society today with high-end package usage increasing rapidly. As consumerism is rising, rural India is also slowly changing into more of an urban society. The liberalization of the Indian economy, coupled with globalization and the influx of the multi-nationals, has improved the quality of all types of primary and secondary packaging. Also industrialization and expected emergence of the organized retail industry is fuelling the growth of packaging industry.

### 2. Increasing Health Consciousness

As people are becoming more health conscious, there is a growing trend towards well packed, branded products rather than the loose and unpackaged formats. Today even a common man is conscious about the food intake he consumes in day-to-day life.

### 3. Low Purchasing Power resulting in Purchase of Small Packets

India being a growing country, purchasing power capacity of Indian consumers is lower; the consumer goods come in small, affordable packages. Apart from the normal products packed in flexible packaging, the use of flexible in India includes some novel applications not usually seen in the developed world. Products like toothpaste, toothpowder, and fairness creams in laminated pouches are highly innovative and are not used elsewhere. Another typical example of such applications is tobacco and betel nut-based intoxicants and mouth fresheners catering to unique Indian taste.

### 4. Indian Economy Experiencing Good Growth Prospects

The Indian economy is growing at a promising rate, with growth of outputs in agriculture, industry and tertiary sectors. Overall economic growth has proved to be beneficial for the consumer goods market, with more and more products becoming affordable to a larger section of the population.

### 5. Changing Food Habits amongst Indians

Changing lifestyles and lesser time to spend in kitchens are resulting in more incidence of eating away from homes resulting in explosive growth of restaurants and fast food outlets all over the country. Indians are trying out newer cuisines and also purchasing similar food items for their homes. Therefore, the review period has seen new products like pasta, soups, and noodles being launched in India, fuelling the growth of packaging industry in India.

### 6. Personal health consciousness amongst Indians:

With growing awareness towards contagious diseases like AIDS and other STDs, awareness towards usage of contraceptives and disposables syringes have increased the demand for packaging required for the same.

### 7. Rural Marketing Pushing Demand for Sachets

India comprises of a big rural market and there has been growing focus on rural marketing, whereby manufacturers are introducing low-priced goods in smaller pack sizes. Low priced sachets have proved to be extremely popular in smaller towns and villages, where people do not prefer to buy larger packs due to financial constraints.