FINAL REPORT

Productivity & Competitiveness of Indian Toy Manufacturing Sector

Report I - Main Report

Sponsored By

सत्यमेव जयते

Department of Industrial Policy & Promotion (DIPP)
Ministry of Commerce & Industry
Government of India

Submitted By

NATIONAL PRODUCTIVITY COUNCIL OF INDIA

Economic Services Group
National Productivity Council
New Delhi

CONTENTS

Page No.

LIST OF TABLES

Page No.

LIST OF FIGURES

Page No.

ANNEXURES

Page No.

Executive Summary

The study on "Productivity and Competitiveness of Indian Toy Manufacturing Sector" has been undertaken by National Productivity Council on behalf of Department of Industrial Promotion and Policy (DIPP), Ministry of Commerce and Industry, Government of India. The Toy Industry in India is in its nascent stages and requires a lot of support from government for the up gradation of existing technologies, R & D facilities, Designing Centers, Toxicity issues etc.. In this context, present study becomes relevant especially in the wake of increasing competition that the Indian Toy Industry is facing particularly from Chinese Toys.

It has been felt that Toy industry in India need to be accorded ***special status*** *since Toys relate very much with education and human development. Toy development and manufacturing should be considered as a special sector with its own unique profile for both traditional modern segments. The Toy sector has a significant role to play towards education and development of children and youth who account for more than 50% of India's population. This aspect has not been given due recognition, as a result toy sector has not grown despite its inherent special nature of product development. It may be noted that Toy Industry has tremendous scope for expansion in the area of exports as well as domestic markets.*

Status of Toy Sector*: The size of Indian Toy industry is about Rs.4000 crores of which Rs.1500 crores the organized sector while Rs.2500 crores comes from the unorganized sector. Indian Toy industry is characterized by small-scale establishments and is highly labour intensive. There are approximately 2000 manufacturing units consisting of MICRO (1500 units in cottage sector) SMALL & MEDIUM (450 units) and LARGE (about 20) units operating in the sector. Large MNCs like Funskool have manufacturing facility in Tamil Nadu & Goa; Mattel and Lego have their presence in India with direct Imports. India produces a wide range of Toys viz, plastic and mechanical, soft / plush dolls & animals, board games, puzzles, educational games, metal and tin, wood, Battery operated pullback Toys etc. With the increase in the availability of Toys and games in the market and also the personal disposable income, the average household spending on Toys and games has been progressively increasing in India.*

As a ***labour intensive*** *sector, Toy manufacturing offers tremendous employment opportunities as compared to other sectors. 70% of the soft Toys assembly line manufacturing workforce consists of women from weaker sections of the society. It is estimated that work force of approximately 2 million is engaged in different operations of the Toy Industry.*

Export Prospects*: Global Toy retail business has risen by 150% during the last one and a half decade i.e. from US $ 36 Billion in 1990 to US $ 95 Billion in 2006.*

Chinese Currency has depreciated substantially against Indian Currency in the recent years. Moreover due to the merger of Hong Kong with China, American/European Toy Manufacturers/ Traders are looking for alternative manufacturing base in South East Asia, and it is the opportune time for India to attract them.Cost of production in China is rising at a faster rate than in India. They are also facing acute labour problems and escalation of wages.

Export performance of the Indian Toy industry is noteworthy during 2002-2003 to 2007-2008 as it rose from US $ 28 million to US$ 140 million. Indian Toy export, though it is less than 0.5% of the world toy market, has tremendous potential for growth.

The Indian Toy industry is technologically inferior to its Asian counterparts like China, Hong Kong, Taiwan, Korea, Thailand, etc. Toy Industry in India urgently requires support for technology, market development, skill up gradation, design & product development etc.

Traditional Indian Toy Sector, though sporadic in nature, provides employment to thousands, needs support in marketing, partial mechanization of their processes, design, documentation and brand building support. Apart from design and support for packaging, which is vital component to costing and pricing of Toys, other factors such as training, consultancy, technology, machinery, statutory requirements etc., also need to be provided.

Auxiliary industrial materials & components (paints and varnishes, plastic eyes for dolls and soft Toys, synthetic hair, fabric used for plush Toys and clothing of dolls, stickers particularly for blow molded Toys, electronic circuits, whistles, printed instructions for use of Toys, threads, ribbons, decorative attachments, etc.) have a major effect on the quality, performance, costing and pricing of the final Toy product. The auxiliary industry down the complete supply chain also needs attention and support.

SWOT analysis conducted for Toy sector reveals that the sector can take advantage of huge untapped potential of expanding domestic and overseas markets, provided its strengths in the field of board and educational games are supplemented and its weaknesses such as poor designs, unorganized marketing, poor brand, quality aspects are addressed properly, through a structured institutional mechanism.

Support for design, product development, R&D, training and marketing is critically required for the survival and growth of Indian Toy industry. At present, there is no dedicated Research & Development institution catering to the requirements of Toy Industry in India. Such institutions have been created and supported in competing countries such as China, Spain, United States, Hong Kong, etc., by the respective Governments.

With the entry of organized retail chains, MNCs and liberal import, a number of channels have evolved/opened up for the marketing of Toys in India. The traditional methods of selling Toys through distributors, agents and wholesalers and direct selling by artisans need to be improved significantly.

The study has recommended both short term and long term interventions required to be undertaken immediately by Government in association with Industry Associations and manufacturing units with a view to make Indian Toy manufacturing sector internationally competitive.

Chapter 1

Introduction

1.1 Background

Toys are perhaps as old as the mankind. India has a glorious tradition in toys. Toys act as cultural ambassadors reflecting 5000 years of Indian civilization. The people of India have a very special affection for toys because of inner mysteries, traditions and myths of their culture. Once upon a time, toys were given away as wedding presents to the child bride. Today, toys not only provide a diversion but also a colorful canvas for depicting Indian life in its plethora of cultural beauties.

From early times, various materials have been used to make toys and dolls. The oldest toys date back to Indus Valley civilization. The perfect modeling of human and animal figures at Mohenjo-Daro and Harappa are testimony to the technical skills of craftsmen who could cast images in metal using the wax process. They could cast in clay and chisel in stone with ease, creating an art, worthy of these great centers of civilization. The excavated toys and dolls found in Harappa and Mohenjo-Daro have been carefully preserved by the museums in India.

In the recent years, commercial mass production of toys has come up. Currently a large variety of materials are used for manufacturing the toy and it is made all over the country. Whether it is Rajasthan, Andhra Pradesh, Orissa or Haryana, toys reflect Indian cultural diversity in the range of items manufactured.

Considering the importance of the toy sector in India as a major source of employment and income generation, Department of Industrial Promotion and Policy (DIPP), Ministry of Commerce & Industry, has entrusted National Productivity Council to undertake a detailed study of the sector with a view to suggest appropriate policy recommendation to make the sector more productive and competitive in the wake of increasing global competition.

1.2 Objectives of the Study

The study has been carried out with the following objectives:

1. To analyze the current status of the Toy sector in India.
2. To study the effect of removal of quantitative Quota restrictions and market access on Indian Toy Industry.
3. To measure the productivity and competitiveness of the toy sector covering aspects such as quality of raw material, aesthetic and utility value to the customer.
4. To study the toxics aspects of some of the common raw materials such as Nickel, Lead salts etc., used in the production of Toys.
5. To study the efforts made for showcasing traditional Indian toys in national and international market.
6. To document the requirements of the sector through a detailed stakeholder survey and interaction.
7. To conduct diagnostic studies at select Toy manufacturing units to develop a road map based on productivity, quality, tools and techniques required etc.
8. To upload the contents on toy sector in the Productivity Portal of NPC for the wider use of stakeholders including entrepreneurs.

1.3 Terms of Reference

1. To study and document the overall structure of Indian Toy Industry.
2. To measure the productivity and competitiveness of the toy industry in India vis a vis China with a view to identify the factors responsible for the success of the toy sector in China and to recommend adoption of relevant factors in India.
3. To develop a SWOT profile for the Indian Toy industry.
4. Identify the major problems faced by Indian Toy Industry after the liberalization of the economy through an all India survey of manufacturing units.
5. To study and analyze toxics aspects of some of the common raw material such as Nickel, Lead salts etc. used in production of Toys.
6. To document the support required for the Toy Industry through diagnostic study of select toy manufacturing units.

7. Identify the aspects and measures required for showcasing traditional toys in national and international markets.
8. To suggest areas where further interventions are urgently required for facilitating the growth of Toy Industry in India.
9. To develop contents based upon the information needs of the user groups and entrepreneurs and upload it in the NPC Productivity portal for the wider use of various stakeholders categories.
10. Traditional toys like terrakota, wooden toys, paper toys, cane and stick toys, traditional tin toys and collectables etc., having sizeable and up-gradation should be adequately covered in the study.
11. Study of export potential for traditional Indian toys and other toys manufactured may also be included.

1.4 Methodology

A study of this magnitude focusing on toy industry necessarily required pooling of expertise not only from NPC but also from Toy Industry Associations and domain experts. Hence for the conduct of the study a suitable team has been constituted as follows:

- A multi disciplinary team of consultants drawn from the fields of economics, industrial engineering, energy, finance, management, IT etc.
- Eminent experts from the field also have been included in the study team.
- NPC Study team has been headed by Mr. I.F Agarwal, a noted expert on toy sector.
- A number of experts from the concerned industry and industry associations have also been consulted on various aspects of manufacturing, competitiveness environment, marketing, taxes etc., during the course of the study.

The study has been undertaken in two broad phases:

First part of the study included preparation of a detailed baseline report on the basis of secondary data and literature. The study focused on an in-depth analysis of the present competitive environment in the aftermath of the opening up of the Indian economy and its impact on toy industry. Besides, the study team also analyzed all available published and unpublished information and data on toy sector over the years with a view to gauge the

growth and development potential of selected product categories in terms of sales volume and manufacturing practices.

The study also focused on the overall productivity and competitiveness of Indian brands on both domestic and export markets. Special emphasis has been given to analyze the impact of WTO agreements on the relative performance of the sector in the recent years.

The available research studies on the sector have been referred while arriving at suitable analytical framework including SWOT analysis of the sector. Apart from the detailed study of literature, the study team also compiled published industry specific data from various official and company sources.

Secondary data compiled from different sources such as Directorate General of Foreign Trade (DGFT), Annual Survey of Industries (ASI) etc. have also been used for the estimation of productivity and export competitiveness of the sector.

Second part of the study focusses on discussions with industry associations and field surveys of manufacturing units. Toy Manufacturing units have been randomly selected from major production clusters at various locations in the country. A sizeable proportion of manufacturing units from each product category has been contacted for a detailed field survey to find out segment-wise productivity and competitiveness parameters for the sector. The field survey covered a total of 184 modern manufacturing units (**Annexure I**) and 32 traditional units (**Annexure II**). Adequate care has been taken to include both successful as well as not so successful cases in the selected sample. Major manufacturing units from each of the product categories are selected for detailed study and survey. The manufacturing units have been intervened with a structured questionnaire (**Annexure III).**

The compiled data has been analyzed using SPSS software for drawing inferences on the factors such as productivity and competitiveness of the sector.

The study also included diagnostic case studies of 15 manufacturing units selected from each of the broad product categories for identifying unit specific issues. The information from the manufacturing units have been compiled through a checklist (**Annexure IV**). The study

focused on unit specific issues such as logistic problems, technological issues, market access issues, finance, employment, raw material availability, export competitiveness, etc., with a view to find out solutions to unit specific issues and to achieve competitive edge.

1.5 Data Analysis

The data has been analyzed using standard statistical techniques to draw inferences based on productivity and quality of Toys produced by the sector. Sample units for the study have been drawn proportionately from different product categories. Selection of sample units at the state level has been undertaken on the basis of the concentration of the product categories within the state. Since the data pertaining to the scale of operation of various units are not available, care has been taken to cover all the categories of micro small, medium and large units in the field survey. A few units dealing with export/import also has been included in the study**.** The study also includes a diagnostic study of 15 toy manufacturing units selected from different parts of India to understand unit specific problems.

Further the study also covered traditional toys segment by including units from the traditional toy clusters located at the interiors of rural India. For decades, Channapatna in Karnataka, a small town had thrived on the earnings of the making of toys. There were times when clay dancing doll from Panruti (Tamil Nadu) or figurines of birds, animals and musicians from Lucknow (Uttar Pradesh) or leather horse from Gwalior (Madhya Pradesh) could amuse a child for hours. Many adults may have childhood memories of playing with home-fashioned toys. Assam and West Bengal make dolls out of pith, the soft stem of a plant growing in marshy and waterlogged areas. West Bengal is particularly famous for terracotta toys. Varanasi, Lucknow, Mathura and Vrindavan are known for their brightly painted wooden dolls and toys, and Rajasthan for dolls of unbaked clay. Varanasi in Uttar Pradesh is also known for lacquered toys and miniature utensils for children to play with. So to give a fair representation of traditional toy sector, 32 traditional toy manufacturing units have been selected from major clusters/centres.

1.6 Limitations

- Originally the study was scheduled to be completed within six months. However, due to number of extraneous factors such as General Elections to 13th Lok Sabha during April-May 2009, many manufacturing units were reluctant to cooperate with the field survey. Hence the field surveys had to be re-scheduled leading to delays in the completion of study.
- Since most of the toy manufacturing units are micro small and medium enterprises many of them are not maintaining records or data on factor inputs and sales revenue for the previous years. As a result, the study had to be conducted based on discussions and other related information mainly from the memory of the respondents to arrive at the productivity and competitiveness related factors.
- Most of the family owned units were reluctant to share manufacturing related data and information due to the fear of information reaching to their competitors or business rivals.

Chapter 2

Structure of Indian Toy Industry

2.1 Overview

Toys are made from a wide range of materials such as plastic, metal, clay, glass, cloth, woods etc.. use of new materials and technologies have added value to a variety of toys. Selling a toy often involves selling to three individuals simultaneously, namely the child, who will use the toy, the mother, who is concerned about safety, space to play, etc., and the father who controls the purse strings. The target market for the toy selling firms is middle class and upper income group. According to a study conducted by Funskool, most of the toys are for kids in the age group of 2-5 years (31% of sales) with a particular skew towards the male child (60%).

According to (Dale Hoiberg and Indu Ramchandani, 2000) Indian toys can be categorized into four groups:

1. Toys developed and produced by craftspeople
2. Mela toys, dynamic folk toys developed and produced by the artisans (skilled and semi skilled person)
3. Toys developed by the layperson or invented by children themselves for their own unique purposes.
4. Factory made toys

A brief discussion on various toys made from a variety of materials are given below.

a. Metal Toys: Copper and bronze were the earliest non-ferrous metals which man shaped into tools. References to the casting of bronze images were found in ancient texts like the *Matsya Purana*. Gujarat and Uttar Pradesh in the north and Tamil Nadu and Andhra Pradesh in south India are known for their bronze and copper items.

b. Wooden Toys: Workmanship on wood has flourished in India over the centuries. Dolls made from wood are very popular. Sikkim is known for its carved objects and dolls. Traditional designs are carved on wood and then painted over giving the whole object a rich effect.

c. Clay Toys: Terracotta is the most ancient and original form of expression of clay-art. Terracotta figurines in India, ranging over a period of 3,000 years, belongs to times both before and after the use of stone in sculpture. Though it is fragile and disintegrates quickly, a continuous stream of art throughout different stages of civilization can still be found. Pottery in India has deep religious significance. Figurines of Gods and Goddesses are made of clay during festivals like *Durga Puja* in Bengal and *Ganesh Chaturthi* in Maharashtra. Also popular are the *gram devtas* (village deities) regularly created by local craftsmen. Delhi is known for its blue pottery which is almost translucent. The Jaipur Blue pottery is even more unique with its arabesque.

d. Toys made of Stone: Orissa was traditionally known as "*Utkal*", land of excellence of art, because of the vast communities of painters, potters, weavers and other artists who were attached to the major temple complexes. In fact the art of stone carving in Orissa dates back to *Kalinga* (previous name of Orissa) period. Stone carving is carried out on sandstone, Nilgiri stone, soft stone (*Kochilla*) and serpentine stone. Popular themes include the images of Hindu gods and goddesses and dancers. Makrana in Rajastan produces fabulous marble dolls and figurines.

e. Glass Toys: It was the Mughals who discovered the decorative potential of glass - the fact that when it is cut, it has the opalescence and the glitter of a myriad diamond. Glass engravings from India, exported to Europe till the 16th century, are said to have influenced the Venetians. Today this art has declined but glass items are still part of everyday life. Saharanpur of Uttar Pradesh makes glass dolls and toys filled with colored liquid called *panchkora.*

f. Paper Mache Toys: Paper Mache is a comparatively new craft in India, which has caught on very well in many parts of the country, since the raw material is easily available and inexpensive. Kashmir is famous for paper mache craft. Kashmir produces some of the most beautifully handcrafted paper mache items. Gwalior in Madhya Pradesh makes paper mache toys, while in Ujjain figures of popular deities are made of this material. Jaipur (Rajasthan) and Chennai are also famous for their paper mache crafts.

g. Shola-Pith Toys: Figurines of *Shola pith* are another popular form of handicraft in certain parts of India. Shola pith is a herbaceous plant growing wild in marshy and water-logged areas. This material is used in West Bengal for making figurines, artistic decorations and headgears for deities during festivals. Craftsmen of Tiruchirapalli in Tamil Nadu make remarkable reproductions of well known temples in pith.

h. Cloth Toys: The cloth doll has been in existence for almost as long as cloth itself. Dolls were made of cloth in ancient Egypt and cloth-dolls have been made ever since. They have been more popular in some periods of history than others, but they have never been forgotten. The main reason for this is that cloth is the easiest of all materials for a woman to find. A mother could always use at least an old rag to fashion a doll for her child. Besides the fact that it is always available, cloth is easy to work with and requires practically no tools.

With the advent of modern technology such as electronics and mechanics, the toy industry also has become highly sophisticated.

i. Electronic & Mechanical Toys: All toys whether electronic or mechanical have either educational or recreational value or both.

j. Tin Toys: All over the world, toys are classified according to their end use.

Toys and Board Games can be further classified in three broad categories.

a. Educational Toys and Board Games – Toys those demonstrate or project the educational principles using simple tools and equipments in the field of science, geography, mathematics, music and others.
b. Mechanical Toys – Toys those are specifically used for development of motor skills fitted with simple mechanical devices. These can be battery or electrically operated also.
c. Other Toys: Toys those are meant to give pleasure to children for their mental and physical development viz, hand coordination, recognition of different size, shapes and colors, etc.

However, in practice the above classifications of toys are overlapping in almost all cases. A Mechanical Toy can also be an Educational Toy. Similarly other toys can also be classified as

Educational Toys. Wide ranging inputs, by-products, recycled material, and anything and everything available as waste products can be used as inputs for manufacture of toys. A scale model or a miniature form of any attractive product, instrument, vehicle, mode of transportation, animal or historical character is generally depicted as a toy.

2.2 Toy Industry in India

The size of the Indian toy industry is about Rs.4000 crores of which Rs.1500 crores of revenue is generated by the organized sector while Rs.2500 crores generated by the unorganized sector. The Indian toy industry is characterized by small-scale establishments and is highly labour intensive. There are about 1500 units operating in the cottage sector alone.

All toys whether electronic, mechanical or board games have either educational or recreational value or both. According to eminent educationists and psychologists, toys & games are instruments for the all round development of the child as a play way method. In the modern era more and more emphasis has been given to educate the child through Toys and Games right from infancy. To cater to the special needs of blind, physically and mentally challenged children, special toys have been recommended by the experts.

2.3 Major Toy Manufacturing Clusters and Major Product Categories

Major Toy manufacturing centres/clusters and the major categories of products manufactured are given in **table 2.1.**

Table 2.1 Toy Manufacturing Clusters and Product Categories

Sl. No.	Place/Cluster	Major Product Categories
1.	Delhi	• Soft, stuffed/ Plush Toys, • Educational & Sports Toys, • Educational Games & Puzzles, • Game Accessories, • Plastic Toy Guns, • PVC Toys & Dolls, • Blocks Game Wooden & Plastic, • Mechanical wind up toys • Battery operated games, • Singing & Moving Eyes Dolls.
2.	Mumbai	• Computer Base Game, • Video Game, • Soft Toys, • Plastic Toys, • Education Building Blocks • Mechanical Pullback etc • Science Kits, • Math Lab Kits,
3.	Ahmedabad	• Video Game, • Computer Base Game,
4.	Kolkata	• Wooden Educational Toys & Games, • Plastic Toys
5.	Noida	• Pre-School Toys, • Educational Games, • Jigsaw Puzzles, • Board Games, • Math Lab Kits, • Wooden Toys,

Based on the discussions with experts, it was estimated that the spread of Toy manufacturing Centres are as follows- Delhi & NCR 55%, Maharashtra 35% and the remaining 10% of the units are scattered all over the country.

During 1999, the organized toy manufacturing sector is said to have produced an output valued at more than one billion rupees. This is a small fraction of the entire world toy market. The factory made toy segment is growing rapidly owing to a large, emerging middle class in the domestic economy. An estimated 100 million children belonging to this middle class group has considerable buying power.

The toy industry in India is a late starter. Till early 1980's Indian toys were not in a position to expand in the domestic market substantially. The toy industry in India is concentrated mainly in the small and cottage sectors, with about 2000 manufacturers in all. The manufacturing units are clustered around Delhi, Mumbai, northern state of Punjab, Uttar Pradesh and Haryana, also some in the Southern State of Tamil Nadu and Karnataka and in other clusters across India's central states. They produce a wide variety of items ranging from plastic and metal toys to electronic items. Dominant players in the toy industry are the plastic toys. The Indian toy market is presently characterized by limited product innovation and insignificant expenditure on advertising or brand building. In the recent years some larger units under the organized sector have come up too. The unorganized/cottage sector products are usually low priced, their products are mostly sold even in small towns and rural areas. These producers, at the lower price end of the market cater to the demand of lower income group by providing toys made from cheaper raw material i.e. recycled plastic or tin. At the middle price range the unorganized sector provides cheaper and crude copies of the toys marketed by the big firms.

2.3.1 Large Toy Manufacturers in India

Some large MNC toy manufacturing units like Mattel and Funskool have their presence in India. Funskool Toys is the largest toy producer in India. Both the big players have linkages with Indian multinationals, with a collective market share of roughly about 16% of entire toy sector. India produces a wide range of toys viz. plastic and mechanical, plastic and soft dolls, stuffed board games, puzzles, educational games, metal and tin wood, electronic toys etc. With improved availability of toys and games in the market and increasing disposable incomes, the average spending on toys has been progressively increasing in India.

Funskool: Funskool was set up in the year 1987. Funskool is the joint venture between the Indian tyre giant MRF, and Hasbro Inc., a leading toy company, undoubtedly the largest toy company in India. Funskool manufacture and export a wide range of toys for their international partner Hasbro. Hasbro is a world leader in children's and family leisure time entertainment products and services, including the design, manufacture and marketing of games and toys ranging from traditional to high-tech. Funskool has two state of the art manufacturing facilitites based at Corlim, Goa (Western India) and at Ranipet , Tamil Nadu (Southern India).

The bigger factory at Goa commenced operations in 1988, and employs over 450 personnel, and as a part of the expansion drive, the factory at Ranipet, started operations in 1999 employing about 200 employees.

Mattel: Mattel is the world's largest toy company in terms of revenue. The products it imports mostly from China, include Barbie dolls, Hot Wheels and Matchbox cars, American Girl dolls, board games, and in the early 1980s, video game consoles etc. It was founded in 1945. Today, the Barbie line alone contributes more than 80% of Mattel's profits.

2.4 Some facts and figures on Toy Industry

The Indian toy industry is fast growing. The past one-decade has revealed that the Indian toy industry has made quick strides in terms of exports and production. The scenario of the toy industry in India has changed substantially after the advent of globalization and liberalization in the nineties. With the lowering of tariff barriers, melting of international trade boundaries, the domestic market is now open and the Indian industries are facing the challenge of competition from distributors and multinational competitors who import cheaper products mainly from the South East Asian Countries and China. Four major players who are having global operations are Mattel, Hasbro, and Bandai. Mattel Toys are the largest toy manufacturer in the world. Bandai of Japan and Mattel have a strategic alliance worldwide for marketing each other's product. The company sells toys under the brand name of Barbie, Hot Wheels, Star Beans etc. The Mattel Company is a US $ 30 Billion company out of which their market share in India is around 5%. These companies prefer to go in for foreign collaboration as it obviates the need to design toys on their own for a market whose behavior is uncertain.

The volume of production in most of the units is not large enough to produce economies of scale and so the cost of production is high.

According to industry statistics, the toy sector is estimated to be growing at 8 per cent, with the organized sector growing at 18 per cent, against a negative growth in the unorganized sector. Per capita spending on toys in India is very low and there is a good potential for the domestic market to grow. The largest share of this market goes to electronic toys segment, followed by plastic Board games & puzzles and stuffed toys. The dominant player in this market is China, which accounts for 52% of the total world production. Like many other industries, the Chinese competition is a major issue for domestic toy manufacturers, which has resulted in a chaotic market condition. With international quality toys available in India, the average spending on toys has increased substantially and this process is supported by an increase in disposable income at the customer end.

2.4.1 Facts

- Traditional toy sector is a Labour Intensive Industry
- Predominantly based in Small and Tiny Sector
- Use of Multiple Technologies & machineries for production Technology and varied Raw Materials
- Estimated Industry turnover is approximately Rs. 1500 crores in the organised Sector and about Rs.2500 crores in the unorganised sector
- Annual growth rate is around 15 to 20%.

2.4.2 What the Toy Industry means to India

- Employment to over two million people
- Workers mostly from economically and socially weaker sections
- Women constitute about 70% of the workforce

2.4.3 Major set-back to Industry in recent past

- Import Duty on Toys and Toy parts under same HSN Code 95 @ 12.5% + 4% + 4% Countervailing Duty (CVD)
- VAT on Toys 4% and Electronic Toys 12.5%.

- Electronic Toys not classified along with Automobiles, Aeroplanes, T.V, and Washing Machines etc.
- Over 2,00,000 different types of Toys are manufactured. Hence it is not feasible for the manufacturer to give information about product wise data, for fixation of INPUT/OUTPUT norms. resulting in no incentive against DEPB.
- Lack of International market intelligence.

2.4.4 Export Prospects

- Due to the merger of Hong Kong with China, American / European Toy Manufacturers / Traders are looking for alternate manufacturing base in South East Asia, and this is the opportune time for India to attract them.
- The cost of production in China is rising faster than in India. They are also facing acute labour problems and escalation of wages.
- It is advantage for India and it is the right time to take full advantage of the situation.

2.5 Future of Toy Industry in India

Over the years Indian middle class has emerged as a major force to reckon with in the consumerist world arena. The purchasing power of Indian middle class has been considered equivalent to the entire European market. Considering the retail boom and the changing consumption habits of the middle class which favor use of toys as a medium for entertainment and education, the toy industry in India is poised for a major upward growth and for a brighter future.

Though the toy industry is mainly driven by designs and marketability, technology remains the backbone for converting the designs into viable and marketable products. Outright purchase of technology or licensing arrangements for toy industry does not appear to be viable. The internationally available technologies are very costly and are beyond the reach of toy manufacturers from the SMEs. Under the WTO scenario, institutional back up can help solving issues of costly technologies, obsolete designs, market intelligence and better tooling. Method of reverse engineering will not be available hence forth to the toy manufacturing companies. As a result, these companies may have to invest in their own design and development. Modern prototype development techniques, better tool room facilities would be

more useful to the toy units. The industry needs to be sensitized and upgraded regularly based on WTO provisions and related opportunities. The toy industry has to develop a culture of innovations and market intelligence.

Setting up of a big toy units with a number of peripheral smaller toy component manufacturers can be a good model for development of Indian toy industry. The smaller ancillary units may feed components to larger companies, as per design & advice of the larger company. The central company can source costly technologies from overseas in a WTO compatible environment. This will lead to a multiple trade in technology wherein the central company seeks technology from a technology provider in the developed country and also provides technology in parts to its vendors / supplier companies.

After removal of Quantitative Restrictions, the imports of toys increased to US$ 31 million in 2000-2001. In 2003, the estimated global market of toys was around US$ 85 billion and the Indian toy industry can try to garner a sizeable share of the world market provided they are based on the latest technologies and are properly marketed for effectively competing in the emerging global market. A study undertaken by International Council for Toy Industry (ICTI) during 2003 had estimated the size of the Indian toy market about US$ 1.1 billion (Rs.4400 crores.) and projected to increase to US$ 1.9 billion (Rs 8000 crores) in 2008. In the year 2000, the Mattel had estimated the size of the market to be about Rs. 4.5 billion, while the Funskool, the Indian joint venture of the Hasbro, estimated the size at Rs. 5 billion in 2002. A more accurate estimate is available from the principal toy associations namely the Toy Association of India (TAI) and the All India Toy Manufacturers Association (TAITMA). TAI estimates the toy market in India at Rs. 4000 crores at 2004-05 prices. TAITMA, which has a stronger focus in the western region of India, including Mumbai also estimates the size of the market at the retail level to be about Rs. 4000 crores..

After the implementation of the US$2.2 million joint project by the National Programme of Development of Toy Industry by the Ministry of Small-Scale Industries, the Toy Association of India (TAI) and the UN Industrial Development Organization (UNIDO), there has been considerable improvement in the quality and design of products, and increase in toy exports.

Chapter 3

Productivity Performance of Toy Manufacturing Sector

3.1 Introduction

This chapter analyses productivity growth performance of organized (registered) toy manufacturing sector in India. The organized factory sector occupies an important position in terms of toy production in India*. Though the share of registered manufacturing is less in comparison to unorganized sector, its importance cannot be under estimated. The registered factory sector consists of both small scale and large-scale enterprises. The developments in the organized factory sector are available through published annual data and can be easily assessed since the data are available on a continuous time series. Considering these facts an attempt has been made in this chapter to analyze the productivity performance of the toy industry (organized factory sector/ registered manufacturing) in India during 1995-96 to 2005-06 period.

3.2 Key Features of Registered Factory Sector

A brief review at the toy sector (registered manufacturing) at the All India level suggests that the toy industry has reported significant growth in terms of Gross Value Added (at 1993-94 prices) during the decade 1995-96 to 2005-06 (**Table 3.1**).It may be noted that both value added and value of output estimated at constant prices nearly doubled during this period **(Table 3.1)**. Number of persons engaged in toy manufacturing sector increased from 28,008 in 1995-96 to 48,321 by 2005-06. However, the number of factories more or less remained stagnant during this period.

It shows that the organized toy manufacturing sector in India did report considerable growth during the study period. This probably indicates that the measures adopted during the economic liberalization period positively contributed to the organized segment of toy manufacturing in India.

*(Factory is one that is registered under sections 2m (i) and 2m (ii) of the Factories Act, 1948. The sections 2m (i) and 2m (ii) refer to any premises including the precincts thereof (a) whereon ten or more workers are working, or were working on any day of the preceding twelve months, and in any part of which a manufacturing process is being carried on with the aid of power, or is ordinarily so carried on; or (b) whereon twenty or more workers are working or were working on any day of the preceding twelve months, and in any part of which a manufacturing process is being carried on without the aid of power, or is ordinarily so carried on).

Table 3.1: Overview of Toy Manufacturing: Registered Factory Sector

(Value in Rs. Lakhs, others in Numbers)

Indicators	1995-96	2000-01	2005-06
Number of Factories	843	748	839
Number of Workers	28008	33899	48321
Gross Value Added (Constant Prices 1993-94=100)	27614	42737	48734
Value of Output (Constant Prices 1993-94=100)	122460	179098	233495
Capital stock (Constant Prices 1993-94=100)	56940	281045	377660

Source: Computed from Annual Survey of Industries (ASI), Summary results of Factory Sector, CSO

3.3 Growth of Registered Toy Manufacturing in India

Table 3.2 provides growth rate estimations for five key variables such as number of factories, number of workers, Gross value Added, Value of Output and Capital stock. It may be noted from **Table 3.2** that the first time period under consideration revealed higher growth rates for Gross Value Added and Value of Output as compared to second time period. In the case of number of factories, we observe a decline during the first period. However, the number of factories during the second period (2000-01 to 2005-06) has increased at the rate of 2.32% per annum. In the case of number of persons engaged, substantial increase has been recorded during the second period under study at the rate of 7.34% per annum as compared to 3.89% per annum during the first period.

Table 3.2: Growth Rate for Variables under Registered Toy Manufacturing Sector

Indicators	Period I (1995-96 to 2000-01)	Period II (2000-01 to 2005-06)	(1995-96 to 2005-06)
	Compound Annual Growth Rate (CAGR) (%)		
Gross Value Added (At Constant Prices)	9.12	2.66	5.84
Value of Output (At Constant Prices)	7.89	5.44	6.66
No. of Factories (Nos)	-2.36	2.32	-0.04
Number of Persons Engaged	3.89	7.34	5.60
Capital stock (Constant Prices 1993-94=100)	37.61	6.08	20.82

Source: Estimated from Annual Survey of Industries (ASI), Summary results of Factory Sector, CSO

3.4 Productivity Growth of Toy Manufacturing sector

Table 3.3 provides labour and capital productivity estimations along with capital intensity (capital investment per worker) for the toy manufacturing sector during 1995-96 to 2005-06 period at the all India level. The detailed methodology adopted for the estimation of partial (labor & capital) and total factor productivity growth (TFPG) rates are given in **Annexure V**. The estimated partial productivity ratios for both labor and capital are given in **Table 3.3**.

It may be noted from **Table 3.3** that partial productivity estimations (labour and capital) (productivity ratios) at the All India level have reported considerable fluctuations during 1995-96 to 2005-06 period. Capital productivity ratio was found to fluctuate in the range of Rs. 0.48 to Rs. 0.03 while labour productivity ratio (Gross Value Added per worker) was found to shift/ impove from Rs. 98594 to Rs. 100855 per person engaged between 1995-96 to 2005-06. In the case of capital intensity it may be noted that it increased from Rs. 2 lakhs per person engaged in 1995-96 to Rs. 32 lakh per person by 2005-06.

Table 3.3: Labour Productivity, Capital Productivity and Capital Intensity across Registered Toy Manufacturing Sector : All India

(Rs)

Year	Capital Productivity (GVA/Capital)	Labour Productivity (GVA/Persons Engaged)	Capital Intensity (capital per worker)
1995-96	0.48	98594	203297
1996-97	0.31	81763	259795
1997-98	0.29	122067	416568
1998-99	0.21	115213	548243
1999-00	0.21	112019	537747
2000-01	0.15	126072	829066
2001-02	0.15	124835	836161
2002-03	0.18	278942	1565308
2003-04	0.03	41173	1521290
2004-05	0.04	125858	3556356
2005-06	0.03	100855	3216500

Note: Productivity has been estimated as GVA/Factor input
Source: Estimated from ASI- Summary results of factory sector, CSO.

Table 3.4 provides year on year growth rate estimations for capital, labour and total factor productivity for the registered Toy manufacturing sector. It may be noted that capital productivity growth for both the time periods reported negative growth. However, labour productivity growth reported positive growth for both time periods at 7.28% during 1995-96 to 2000-01 and 39.21% during 2000-01 to 20005-06 respectively. In the case of Total Factor Productivity Growth, average annual growth rate was reported at 26.00% during 1995-96 to 2000-01 and -10.00% during 2000-01 to 2005-06.

Since the annual growth rates exhibit wide fluctuations, for getting a better picture about the growth of the toy sector during 1995-96 to 2005-06 period the growth rates are presented in an index form in **table 3.5**. Among the three growth rates, capital productivity growth Index was reported at -46.07 by 2005-06, while labor productivity growth Index was reported at 359.42 and Total Factor Productivity Growth was reported to be 169.53 by 2005-06.

Table 3.4: Labor, Capital and Total Factor Productivity Growth of Toy Manufacturing Sector : All India

(%)

Year	Capital Productivity Growth	Labour Productivity Growth	Total factor Productivity Growth
1995-96	--	--	--
1996-97	-35.11	-17.07	43.18
1997-98	-6.89	49.29	36.09
1998-99	-28.28	-5.61	22.44
1999-00	-0.87	-2.77	27.70
2000-01	-27.00	12.55	0.33
2001-02	-1.82	-0.98	12.72
2002-03	19.36	123.45	162.76
2003-04	-84.81	-85.24	2.96
2004-05	30.76	205.68	-230.58
2005-06	-11.40	-19.87	-8.09
Average for the Period 1995-96 to 2000-01	-19.63	7.28	26.00
Average for the Period 2000-01 to 2005-06	-12.49	39.26	-10.00

Source: Computed from Annual Survey of Industries (ASI), CSO, Summary results of Factory Sector, CSO

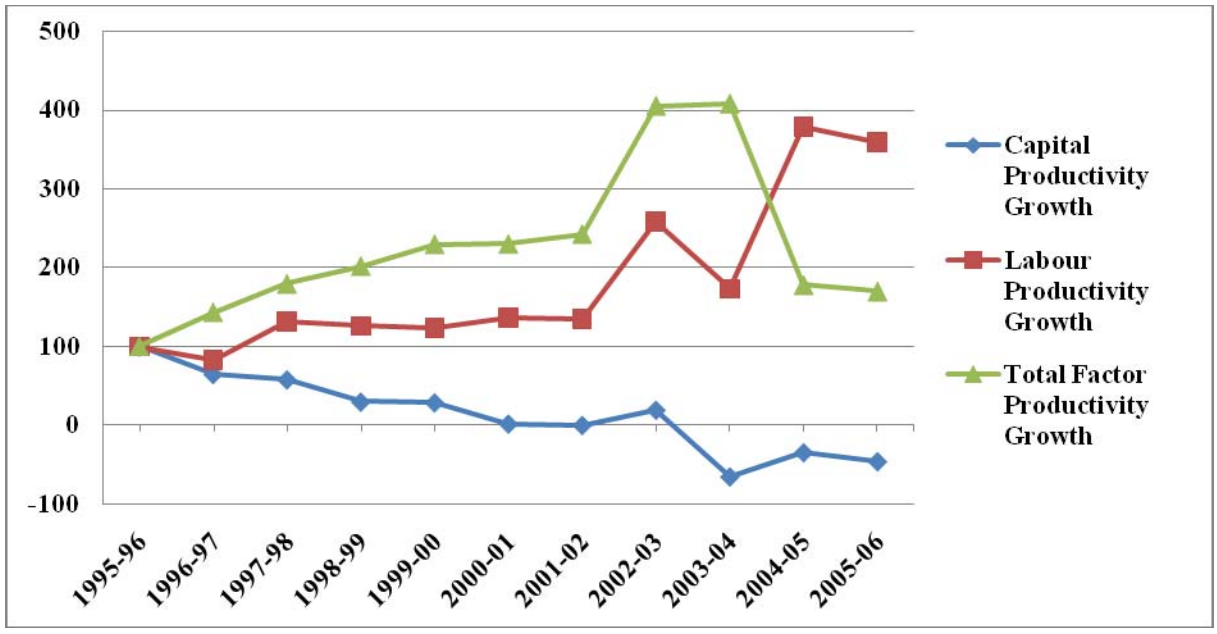
Table 3.5: Labor, Capital and Total Factor Productivity Growth Index

Year	Capital Productivity Growth Index	Labour Productivity Growth Index	Total Factor Productivity Growth Index
1995-96	100	100	100.00
1996-97	64.89	82.93	143.18
1997-98	58.00	132.22	179.27
1998-99	29.72	126.61	201.72
1999-00	28.84	123.84	229.43
2000-01	1.84	136.38	229.77
2001-02	0.02	135.40	242.49
2002-03	19.38	258.85	405.25
2003-04	-65.43	173.61	408.21
2004-05	-34.67	379.29	177.62
2005-06	-46.07	359.42	169.53

Source: Computed from Annual Survey of Industries, CSO, Summary results of Factory Sector

A higher TFP Growth Index as compared to Capital Productivity Growth Index, indicates that technology plays a significant role in the productivity growth of Toy sector in India. It may be concluded from declining capital productivity that more and more capital investment is taking place in the registered toy manufacturing sector as compared to earlier years. The higher capital investment in turn contributed to higher technical progress and contribution to productivity growth resulting in higher total factor productivity growth. Therefore, it may be noted that technology up gradation schemes are vital to make the toy sector more productive and competitive in the globalised setting.

Fig. 3.1 Index of Labor, Capital and Total Factor Productivity Growth



Chapter 4

Competitiveness of Indian Toy Industry *vis a vis* China

4.1 Introduction

Global toys and games market is dominated by large global enterprises, who enjoy significant economies of scale, which reduce their costs and enhance profit margins. Toy market is characterized by extensive product differentiation, that serves to weaken the degree of rivalry amongst manufacturing units to a great extent, and also weaken buyer power. Due to high degree of product differentiation, toys and games market requires innumerable inputs, some of which are technology intensive, for example, electronic components, processors, etc.

China is the biggest toy producing country in the world. China accounted for more than 33% of global exports of toys, games and sports requisites in value terms during 2006 as compared to India's global share of a meager 0.185%.

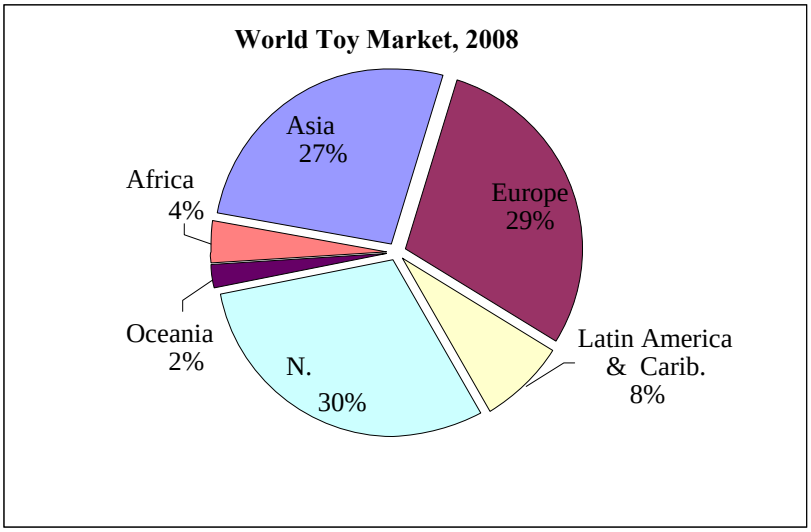
In this chapter we analyze global toy market and India's relative position with respect to export and import of toy products during the last ten years. We also discuss the toy sector in China and trends in India's trade with China in terms of different toy products.

4.2 Global Toy Market

The global toys and games market generated total revenues to the tune of $96.6 billion in 2008, growing at a compound annual growth rate (CAGR) of 4.1% for the period spanning 2004-2008. In comparison, the European and Asia-Pacific markets grew at CAGRs of 3.5% and 7%, respectively, during the same period, to reach the respective values of $33.2 billion and $22.2 billion in 2008 (Global Toys & Games, Datamonitor, 2008).

However, International Toy Council has estimated the market size of Toy sector at US$ 78.1 billion in 2008, region wise break up of which is given in **Fig. 4.1.**

Figure 4.1 World Toy Market 2008



Source: International Council of Toy Industries

Table 4.1: World Toy Market -Top 10 Countries in the World in 2008

Country	Toy Market Size (US $ Million)	Country Share in World Toy Market (%)	Spending per Kid $	Kid Population	Market to 15 years old (%)
United States	21,680.83	27.7	281	61.6	20
Japan	5,823.62	7.5	286	17.4	15
China	4,527.07	5.8	17	267.4	1
United	4,127.57	5.3	348	10.3	13
France	3,585.74	5.1	293	11.9	13
Germany	3,189.37	4.1	223	11.4	21
Brazil	2,091.94	2.7	38	52.9	3
India	1,939.50	2.5	5	361.4	0
Mexico	1,794.85	2.3	53	32.6	4
Italy	1,703.22	2.2	185	7.9	14

Source: International Council of Toy Industries

Table 4.1 provides details regarding ten major toy markets in the world along with the country's share in world toy market, spending per kid etc. It may be noted that USA is the

number one toy market in the world with 27.7% share of the total world market. China ranks third with 5.8% market share while India ranks eighth with 2.5% of world market, among ten major toy markets in the world. In the case of spending per kid, UK reported the highest spending at US$348 while it is only at US$17 in China and at US$ 5 in India. Among the countries considered here, India reported the highest number of kid population at 361 million. This indicates that there is tremendous market potential for toys in India.

4.3 India's Toy Trade with the World

In this section we analyze India's export and import of major toy products to the rest of the world. Export competitiveness has been estimated from the trade ratio i.e. export as a ratio of import.

Table 4.2: International Trade in Toys, Games and Sports requisites, Parts and Accessories thereof between India and the rest of the World [HS Code : 95]

Year	Export (Rs. Lakhs)	Import (Rs. Lakhs)	Trade Ratio (Export/Import)
1996-1997	24,503	5,288	4.63
1997-1998	26,084	8,520	3.06
1998-1999	26,682	9,430	2.82
1999-2000	23,934	16,834	1.42
2000-2001	27,747	17,296	1.60
2001-2002	30,591	18,001	1.69
2002-2003	33,119	20,254	1.63
2003-2004	41,464	22,870	1.81
2004-2005	45,878	29,744	1.54
2005-2006	58,646	50,563	1.15
2006-2007	57,292	71,162	0.80
2007-2008	53,740	70,167	0.76

Source: Ministry of Commerce & Industry, Department of Commerce, GOI

Table 4.2 reports that while exports from India to World markets have more than doubled, imports have increased by more than twelve times during 1996-2008 period. For example, the exports rose from Rs. 24.503 lakhs in 1996-97 Rs. 53,740 lakhs in 2007-08,while imports increased from Rs. 5288 lakhs to Rs. 70167 lakhs during the same period. As a result of fast increasing imports, export/import ratio fell sharply from a highly favorable level of 4.63 in

1996-97 to a very low level of 0.76 by 2007-08. Since 2005-06 import exceeded exports, resulting in the lowest trade ratio during the whole decade at 0.76 by 2007-08. Declining trade ratio indicates that India's global competitiveness with respect to toy products are going down year after year.

Table 4.3: Trade in Wheeled Toys designed for children (e.g. Tricycles, Scooter, Pedal Cars, Dolls Carriages) between India and World Market (HS Code 9501)

Year	Export (Rs.Lakhs)	Import (Rs.Lakhs)	Trade Ratio (Export/Import)
1996-1997	4.13	25.31	0.16
1997-1998	12.7	88.4	0.14
1998-1999	13.67	173.84	0.07
1999-2000	11.12	205.12	0.05
2000-2001	32.88	242.98	0.13
2001-2002	11.55	180.34	0.06
2002-2003	114.66	201.06	0.57
2003-2004	114.51	318.97	0.35
2004-2005	251.91	427.69	0.58
2005-2006	98.02	613.07	0.15
2006-2007	115.91	1,016.44	0.11
2007-2008	98.37	175.23	0.56

Source: Ministry of Commerce & Industry, Department of Commerce, GOI

Table 4.3 reports very low export-import ratio for wheeled toys during the decade 1996-97 to 2007-08 with a slight improvement in 2002-03 and 2004-05. The last year under study reported noticeable recovery, in terms of trade ratio. However, this year reported substantial reduction in the absolute values of both import as well as exports.

Table 4.4 presents data for export and import of dolls representing only human figures, indicates a fluctuating trend. While the scene was somewhat satisfactory between 1996-67 and 2000-01, there was a marked fall in the trade ratio during the later half of the decade. However, the years 2004-05 and 2007-08 reported noticeable improvement in trade ratios. The exports increased by three times whereas the imports increased more than six times during this period. This is the only toy item in which India is a net exporter to the World.

Table 4.4: Trade in Dolls representing only human figures between India and World Market (HS Code: 9502)

Year	Export (Rs. Lakh)	Import (Rs. Lakh)	Trade Ratio (Export/Import)
1996-1997	243.27	42.75	5.69
1997-1998	296.75	124.15	2.39
1998-1999	804.98	146.74	5.48
1999-2000	1,012.57	359.82	2.81
2000-2001	794.12	307.78	2.58
2001-2002	714.17	489.96	1.45
2002-2003	740.12	698.87	1.05
2003-2004	736.68	442.09	1.66
2004-2005	1,672.93	578.48	2.89
2005-2006	1,288.59	1,033.94	1.24
2006-2007	717.45	849.72	0.84
2007-2008	718.27	273.27	2.62

Source: Ministry of Commerce & Industry, Department of Commerce, GOI

Table 4.5: Trade in Other Toys; Reduced Size ("SCALE") Models and Similar Recreational Models, Working/NT; Puzzles of All Kinds from India to World Market (HS Code: 9503)

Year	Export (Rs. Lakhs)	Import (Rs. Lakhs)	Ratio (Export/Import)
1996-1997	1,386.13	705.38	1.96
1997-1998	1,713.10	2,231.53	0.76
1998-1999	1,366.32	2,299.42	0.59
1999-2000	1,125.19	7,363.97	0.15
2000-2001	2,480.30	7,999.87	0.31
2001-2002	2,914.76	7,744.26	0.37
2002-2003	2,515.45	7,217.35	0.34
2003-2004	2,384.01	9,626.25	0.24
2004-2005	3,162.55	12,537.71	0.25
2005-2006	4,065.82	19,277.66	0.21
2006-2007	4,305.96	25,005.06	0.17
2007-2008	4,687.57	31,103.71	0.15

Source : Ministry of Commerce & Industry, Department of Commerce, GoI

Table 4.5 exhibits a consistently declining trend in export-import ratio for Other Toys such as puzzles, small and smaller recreational models during the decade 1996-97 to 2007-08. Exports fluctuated between Rs. 1386 lakh in 1996-97 to Rs. 4688 lakhs by 2007-08 i.e. reporting more than three times increase. In the case of imports it may be noted that it increased from just Rs. 705 lakhs in 1996-97 to Rs. 31104 lakhs i.e. an increase of more than 40 times. Trade ratio plummeted from 1.96 to 0.15 during the period under consideration indicating the alarming levels at which the imports are increasing with respect to ther type of toy product and the decline in India's trade competitiveness.

4.4 Toy Industry in China

History of modern Chinese toy industry dates back to early 1900s. Over the years, Chinese toy industry has developed substantially to compete in the international market. By 2006, benefiting from economies of scale and cheap labor, Chinese toy industry had come to dominate the global market, accounting for about 75% of the world's output. As a result unbranded, cheap toy products started flooding Indian toy market. Unbranded toys do not adhere to guidelines- such as weights and measures- mandatory for indigenous toy companies. Many do not print the addresses of manufacturers/importers, the maximum retail price (MRP) or manufactured date. The inexpensive Chinese toys have replaced the branded Indian toys. It has been estimated that almost 80% of the toy market has been taken over by the Chinese products. The Chinese are offering toys at very low prices with large varieties to choose from. They look attractive and are within the reach of common people. For example a simple toy which is sold by Indian manufacturer at Rs. 25 will be sold at Rs. 20 by their Chinese counterparts.

The Chinese toy industry, the largest in the world, generates billions of dollars in export profits and employs millions of people in thousands of factories. These factories are an important part of the economic boom that has brought many out of poverty in the People's Republic. Chinese manufacturers have been innovative and specialize in novelty items. East and South China are major areas of production and export. Guangdong is the largest exporter of toys, with exports amounting to US$11.9 billion in 2005. Zhejiang has moved up from

third position to overtake Jiangsu as the second largest exporter. Shanghai, Shandong and Fujian rank 4th, 5th and 6th respectively.

As mentioned earlier, China is the biggest toy producing country in the world accounting for more than 33 % of global exports of toys, games and sports requisites in value terms in 2006. Toy producing clusters in China are mainly located in Guangdong, Jiangsu, Zhejiang, Shanghai, Fujian, Shandong, Anhui Provinces, etc. Total number of toy producing enterprises in China are more than 15000 and there are 8000 enterprises with middle or above scale among them. Annual production value is up to 150 billion Yuan and the national export achieved more than 15 billion dollars every year. Guangdong province is a big toy province, it takes up more than 70-80% of national toy production, mainly concentrate in Shenzhen, Dongguan, Guangzhou, Chenghai of Shantou, Foshan of Nanhai, Jiexi of Jieyang, etc. Shenzhen is the biggest toy exit base, the total exports amount achieved being 6.1 billion dollars in 2005, it takes up 40% of national toy exits. There are 1200 toy enterprises in the city, mainly distributed in Bao'an, Longgang, Yantian and Nanshan districts, most of them produce plastic, stuffed and electronic toys.

China's toy exports are mainly Original Equipment Manufactured (OEM) products for foreign brands. The bulk of exports are electronic toys and other electronic games, accounting for 25.6% and 16.2% respectively of the total. Soft toys remain a major category, accounting for 11.1% of total toy exports. From a local perspective, there are 13 Chinese mainland brands, the better known ones being Goodbaby and Auldey. Department stores remain the principal channels for toy sales. There are 244 department stores in 50 cities that boast of a large toy section, including 43 stores with an area of over 200 sqm, 13 with an area of over 500 sqm, and eight with an area of over 1,000 sqm.

Hypermarkets and supermarket chains are also reporting growing sales, mainly from centralised purchasing. Some brand names are also operating concept stores, online sales and other forms of marketing. In 2008, China's domestic toys and games market experienced two-digit growth, while consumers have been really enthusiastic to buy such products. There has been rising demand in the market for pre-school, educational toys, action toys and video games software. Traditional toys are negatively affected by increasing costs, which is leading

to a slow-down in growth of the sales of traditional toys. Sales of video games have been growing faster, however, since they are not affected by the above issues but driven by the booming market in online games. Furthermore, people are more interested in electronic video games than in traditional toys. Meanwhile, a strong distribution network and heavy advertising have led to an increase in the household penetration rate and the growth of loyalty among games consumers.

4.5 Sources of China's Price Competitiveness

Chinese manufacturers have the capability to significantly undercut prices offered by foreign competitors over a wide range of products. Today, as a result of the "China Price," China has captured over 70% of the world's market share for DVDs and toys. The major drivers of China's competitiveness in toy sector are listed below (Peter Navarro, 2007):

i. Low wages
ii. Counterfeiting and piracy
iii. Minimal worker health & safety regulations
iv. Lax environmental regulations & enforcement
v. Export industry subsidies
vi. A highly efficient "industrial network clustering"
vii. The catalytic role of Foreign Direct Investment (FDI)
viii. Superior infrastructure - both general and specific to toy sector
ix. Proximity to Hong Kong
x. Large scale operations
xi. An undervalued currency

4.5.1 Low Wages

In most cases, the wage advantage of a developing country should disappear over time, or at least narrow considerably, as it experiences rapid economic growth and labor market reforms. However, this is unlikely to happen in China, at least for several decades. Short term downward pressure on wages is being exerted by a large "reserve army" of unemployed workers estimated to be anywhere from 100 to 200 million. Many of these workers have been laid off from inefficient state-owned enterprises (SOEs). They have become part of a larger

"floating population" of migrants. With labor unions banned in China, there has been lower bargaining power for workers. The Chinese government seeks to move as many as 500 million peasants off the farm and into China's factories over the next several decades. Thus, despite unprecedented rates of economic growth, wage pressures in China are unlikely to emerge, making low wages a significant and perennial component of the *China Price* for decades to come.

4.5.2 Counterfeiting and piracy

Piracy refers to the unauthorized production, distribution, or use of a good or service. The goal of a pirate is to create a look-alike "knockoff" that can be sold to a customer as such. *Counterfeiting* involves trying to pass off the pirated products as that of the real, branding corporation. Despite tough rhetoric from the Chinese government, much of the country's counterfeiting and piracy is state-sanctioned. Three of the most important elements of the counterfeiting and piracy cost equation are software piracy, reduced marketing and advertising expenses, and lower capital expenditures on research and development. Chinese counterfeiters need not incur either significant research and development expenditures or substantial advertising and marketing costs to promote their "brand/products."

4.5.3 Minimal worker health & safety regulations

The cost advantages to Chinese manufacturers come from lax health and safety regulatory regime range from the use of cheaper equipment for workers and fewer safety-related expenses to savings on training and safety-related large capital. While the Chinese government instituted new health and safety laws in 1995, few enterprises, either public or private, abide these laws.

4.5.4 Lax environmental regulations & enforcement

Many of the polluting factories are small-scale and locally owned. Even when such enterprises are highly unprofitable, they represent important job creators in rural areas plagued by high unemployment. That makes it very difficult for a local environmental protection bureau to either close the polluters down, fine them, or otherwise force them to comply with the pollution control standards. In addition, in many cases, large factories equipped with the latest and most sophisticated pollution control technologies simply don't use the technologies for

fear of driving up production costs.

4.5. 5. Export industry subsidies

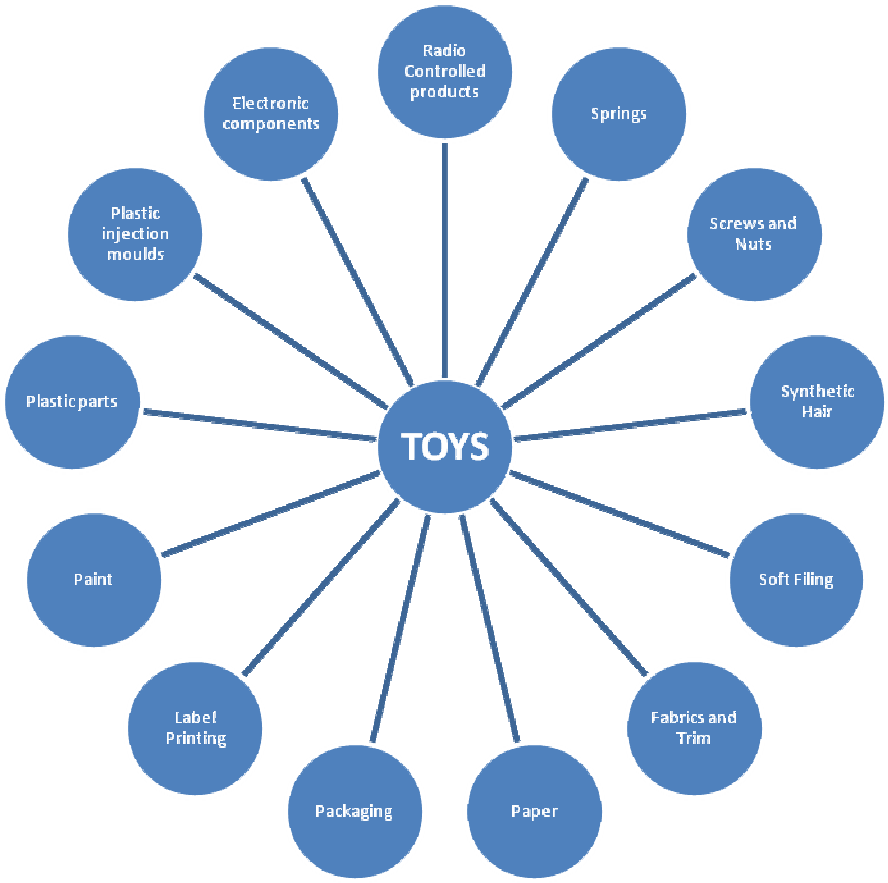
China continues to use an extensive value-added tax rebate system for its export industries. "VAT" is imposed over multiple stages of the domestic production and distribution process, generally in the range of 13% to 17%. In some cases, the Chinese government first collects, and then rebates, the tax for exports. In other cases, exporting firms are simply exempted from the tax.

4.5. 6. A Highly Efficient "Industrial Network Clustering"

Industrial network clustering refers to the practice of locating all or most of the key enterprises in an industry's supply chain in close physical proximity to one another. This type of localization of industrial focus generates significant production and distribution benefits as it speeds up both physical and information flows and extends "just in time" principles to the entire supply chain.

In terms of direct cost reduction benefits to the *China Price*, clustering reduces transportation costs by locating factors of production closer to one another. It reduces inventory costs by speeding up throughput time. It reduces "line down time" costs caused by broken links in the supply chain, e.g., a firm lacking a key input is able to secure that input more quickly. Indirectly, network clustering also generates significant positive information externalities in the form of technology spillovers, knowledge sharing among competitors, and the localized flow of industry information. Firms likewise face reduced search costs while infrastructure costs to both private enterprises and the government are reduced because of the compactness of the supply chain and production grids.

Figure 4.2 Toy Clusters of Guangdong Province, China



4.5.7 The catalytic role of Foreign Direct Investment (FDI)

China's catalytic FDI provides a variety of competitive benefits. It finances the transfer of the most technologically advanced production and process technologies. It has brought with it managerial best practices and skills as many FDI-financed enterprises are managed by foreign talent. FDI is also often tied to the improvement of both marketing and distribution skills. When all of these attributes are tied to one of the least expensive labor forces in the world, FDI becomes a powerful competitive driver.

4.5.8. An Undervalued Currency

Since 1994, China has pegged its currency, the *yuan* , to the U.S. dollar at roughly an 8-to-1 ratio. Under pressure from the U.S. and the international community, China adopted a

"managed float" regime in 2005 based on a market basket of currencies. For all practical purposes, however, the dollar peg remains intact; and the most estimates, considerably undervalued. The import content of most Chinese manufactured goods has been estimated to be quite high, which substantially mutes the currency effect.

Table 4.6 provides the relative contribution of eight price advantage factors in China's competitiveness of Toy products. It may be noted that the wages contributed the largest part (39.41%) in the case of price advantage.

Table 4.6: Different Sources of Price Advantage for China in the Toys Sector

S.No.	Sources of Price Advantage	Percent
1	Wages	39.41
2	Subsidies	16.71
3	Network Clustering	16.02
4	Undervalued Currency	11.44
5	Counterfeiting & Piracy	8.63
6	FDI	3.09
7	Health & Safety	2.44
8	Environmental	2.26
	TOTAL	100.00

Source: Peter Navarro, 2007

4.6 Other Aspects of China's Competitiveness

Besides the above, several other aspects also contribute to China's competitiveness in toy manufacturing. These observations are based on NPC study team's interactions with traders who import toys from China.

4.6.1. Proximity to Hong Kong

Guangdong's status as a prominent centre for toy production came partly from its proximity to Hong Kong, whose companies moved across the border into China. Many of the early investments in toys were by factory owners of Hong Kong, who relocated their operations to China, to take advantage of cheap labour. This proximity has also provided the Chinese

companies easy access to export market, enabling them to sell their goods all over the world and an opportunity to participate in the toy fairs. For example, 2009 Hong Kong toy fair, of the total of 2000 companies that participated, more than 500 were from mainland China giving great visibility to the Chinese toy industry at the global level.

4.6.2 Superior Infrastructure

Like other industries, toy industry also benefited from the superior infrastructure available in China like road transport, power supply etc. Equally important is the availability of facilities required specifically for the toy sector like chain of testing labs, ancillary units to supply parts etc.

4.6.3 Large Scale Operation

An important aspect of the Chinese toy industry is its scale of operation. A significant number of the Chinese toy industry is in the large sector, often employing workers in the range 500 to 5000. This provides them with significant economies of scale and capabilities in terms of quality control etc. For example, it was stated by one of the traders whom the study team interviewed, that each toy tested in China cost about Rs. 3000/- but since the volume of output was typically 10000 pieces or more, the cost per unit was not significant. Since they produce in large volume and supply to the world market, they are able to invest more in-house R & D and also bring out more varieties of toys every year. Compared to the above scenario, number of employees in the largest of the Indian manufacturing units surveyed, did not touch even 300. This shows our manufacturing units are quite tiny in comparison to the Chinese and hence, tough to compete with.

4.7 India's Trade in Toy Products with China

Though China is highly competitive in toy manufacturing as compared to India, still some exports are taking place from India to China. **Table 4.7** reports that India's export of toys, games and sports requisites, parts and accessories thereof to China remained almost stagnant during 2003-04 to 2007-08 period. However, it is less than one percent of India's total volume of toy export to the world. In the case of imports of toy products from China we notice four fold increase during the last five years. Moreover, the import of toy items from China is about

64 percent of total toy products imported from the world during 2007-08. Trade ratio also exhibits a dismal picture as the export competitiveness considerably eroded during the study period as India became a net importer.

Table 4.7: India's Trade with China in Toys, Games And Sports Requisites; Parts and Accessories thereof [HS Code: 95]

Year	Total export from India to World	India's Export to China	Export to China (as % to total)	Total import by India from World	India's Import from China	Import from China (as % to total)	Trade Ratio (Export/Import) of India with China
2003-04	41,463	259	0.63	22,869	11,715	51.23	0.0221
2004-05	45,878	152	0.33	29,743	16,426	55.23	0.0092
2005-06	58,645	138	0.24	50,562	27,287	53.97	0.0050
2006-07	57,292	316	0.55	71,161	43,402	60.99	0.0073
2007-08	53,740	232	0.43	70,167	45,081	64.25	0.0051

Source: Ministry of Commerce & Industry, Department of Commerce, GoI

Table 4.8 reports that India's export of dolls representing only human figures to China almost became negligible during the last five years. In the case of imports, it may be noted that it more than doubled till 2006-07. However, the last year 2007-08 a sudden decline in imports from china have been reported. However, China's share in India's total import has gone up from 63% in 2003-04 to 84% by 2007-08. It may be noted that India is still a net exporter to world in this toy product category, hence India got export competitiveness with rest to the world except to China.

Table 4.8: India's Trade with China in Dolls Representing Only Human Beings (HS Code: 9502)

(Rs. Lakh)

Year	Total export from India to World	Export to China	Export to China (as % to total)	Total import by India from World	Import from China	Import from China (as % to total)	Trade Ratio (Export/Import) Of India with China
2003-04	736.68	64.65	8.78	442.09	278.83	63.07	0.231
2004-05	1,672.93	1.65	0.10	578.48	292.03	50.48	0.005
2005-06	1,288.59	-	-	1,033.94	592.40	57.30	-
2006-07	717.45	0.42	0.06	849.72	608.60	71.62	0.000
2007-08	718.27	12.80	1.78	273.27	236.40	86.51	0.054

Source: Ministry of Commerce & Industry, Department of Commerce, GOI

Table 4.9 reports India's trade with China and rest of the world with respect to other toys, reduced size (scale) models and similar recreational models, working or not; puzzles of all kinds. It may be noted that India's exports to China comprises of only a marginal proportion (1%) of total export of the toy product so. While the total export to world doubled during the study period, imports more than quadrupled. Import of this category of toy product from China constitutes nearly 90% of total imports by India. Since India is a net –importer with respect to both China and rest of the world, there is hardly any export competitiveness for India in this toy product category.

Table 4.9: India's Trade with China in Other Toys; reduced-size ("scale") models & smaller recreational models, working/nt; puzzles of all kinds [HS Code: 9503]

(Rs. Lakh)

Year	Total export from India to World	Export to China	Export to China (as % to total)	Total import by India from World	Import from China	Import fromChina (as % to total)	Trade Ratio (Export/Import) of India with China
2003-04	2,384.01	1.92	0.08	9,626.25	7,663.14	79.61	0.00025
2004-05	3,162.55	10.16	0.32	12,537.71	10,358.93	82.62	0.00098
2005-06	4,065.82	0.33	0.01	19,277.66	16,930.30	87.82	0.0019
2006-07	4,305.96	75.59	1.76	25,005.06	22,807.97	91.21	0.0033
2007-08	4,687.57	2.04	0.04	31,103.71	27,830.51	89.48	0.0073

Source: Ministry of Commerce & Industry, Department of Commerce, GOI

4.8 Revealed Comparative Trade Advantage of India *vis a vis* China

The concept of Revealed Comparative Advantage (RCA) pioneered by Bela Balassa (Balassa, 1965) can be used as an indicator of the competitiveness of individual countries with respect to different product categories. Pattern of trade reflects the differences in relative costs as well as in non-price factors between countries. Hence the pattern of trade is assumed to "reveal" the comparative advantage of trading countries. Balassa (1965) suggested the following method for computing RCA:

$$RCA = \frac{\frac{X_{ij}}{X_j}}{\frac{X_{it}}{X_t}}$$

Where:

X_{ij} = Export of product i by country j

X_j = Total exports by country j

X_{it} = World exports of product i

X_t = Total world exports of all goods

The value of RCA may vary from 0 to a very large number. A value closer to 0 shows extremely low comparative advantage in a product. If RCA takes a value greater than 1, then it indicates that the country has a revealed comparative advantage in that product or it may be taken to indicate the trade competitiveness of that country in the concerned product. RCA for China and India are given in **Tables 4.10 and 4.11**, respectively. The tables show that China has comparative advantage in all the three sub-categories of toy products (HS-9501, HS-9502 & HS-9503) and that India has a comparative disadvantage with respect to all the above sub-categories of toys, since RCA values of India are either zero or close to zero in all the cases.

Table 4.10: China's Exports of Toys, Games& Sports Requisites- 2006

HS- Code	Exports (US$ Millions)	Exports as a Share of World Exports (%)	Growth of Share in World Exports (% p.a.)	Revealed Comparative Advantage (RCA)
9500 – All industries in the sector	22637.39	33.09	8	4.1
9501- Wheeled toys designed to be ridden by children and doll's carriages	355.07	39.88	36	4.9
9502- Dolls representing human figures	499.42	-	-	3.8
9503 – other toys; scale model(puzzles of all kinds, stuffed toys, electric trains etc.	6200.42	33.11	2	4.1

Source: Estimated from www.intracen.org

Table 4.11: India's Exports of Toys, Games & Sports Requisites- 2006

HS- Code	Exports (US$ Millions)	Exports as a Share of World Exports (%)	Growth of Share in World Exports (% p.a.)	Revealed Comparative Advantage (RCA)
9500 – All industries in the sector	126.39	0.1848	7	0.2
9501- Wheeled toys designed to be ridden by children and doll's carriages	0.256	0.0288	-9	0.0
9502- Dolls representing human beings	1.583	0.0981	0.0	0.1
9503 – other toys; scale model(puzzles of all kinds, stuffed toys, electric trains etc.	9.499	0.0507	13	0.0

Source: Estimated from www.intracen.org

Tables 4.10 & 4.11 reveal that in the case of India, there is a complete absence of comparative trade advantage with respect to all the four toy product categories considered in the study. However, in the case of China, a very high comparative advantage is evident as their RCA is much higher for all the product categories considered here.

4.9 Conclusion

There is clear evidence that Indian toy industry is much backward as compared to China in terms of a number of aspects. For instance, if an entrepreneur needs any loan above Rs. 25 lakhs free of encumbrance, the loan has to be taken on mortgage basis. Whereas in China entrepreneurs contribute very less amount, about 15% approximately of total investment, the remaining contribution is taken care of by the government or the financial institution. Another important factor is infrastructure. In India infrastructure is very poor, power shortage is a perennial problem. There is no specific design institute/technology development centre available to toy industry. It is very difficult for the manufacturers to adopt new technologies or hire designing experts, as all these require huge amount of capital investment and this may not be feasible for micro, small and medium toy manufacturers who operate at very low scale of production. Also Indian economy follows rigid labour laws which makes difficult for the

manufacturers to hire required number of laboures and give them adequate facilities. Therefore, due to these factors Indian toy industry lags behind while competing with the leading countries such as China.

On one hand, in a free trade regime, China's comparative advantages in labor costs and industrial network clustering suggest a continued long term shift to China as the world's factory floor, with all the global redistributive implications that brings. On the other hand, it is clear that a significant portion of the *China Price* advantage is being driven by mercantilist policies. If India wants to compete on a level playing field with China, it is all the more crucial that the policymakers take very aggressive policy steps to address China's export subsidies, undervalued currency, counterfeiting and piracy, lax environmental norms and worker health and safety regulatory regimes that are far outside the norms of international standards.

Encouraging FDI into toy sector, creating sector specific infrastructure like design and testing centers, infusion of modern technology and capital into the sector, developing dedicated toy cluster etc., are other learning points from the Chinese Toy industry.

Given the fact that India is the eighth largest toy market in the world, the strategy to be adopted by Indian toy industry should be to gear itself to capture a sizeable segment of this domestic market, rather than global markets, where it has very little comparative advantage vis a vis other exporting countries, especially China.

Chapter 5

Field Survey Findings : Toy Manufacturing Units

5.1 Introduction

In this chapter an attempt has been made to study the problems faced by the toy manufacturing units in India from a detailed field survey of both traditional as well as modern categories of toys. The main objective of the field survey is to understand major constraints that are being faced by the toy manufacturing units in India in terms of productivity and export competitiveness. The field survey has been carried out across 10 selected states with a view to identify sector specific policy recommendations for enhancing productivity and export competitiveness of the toy sector in the country. From the modern segment 184 manufacturing units have been surveyed, while 32 units have been surveyed from the traditional segment. List of manufacturing units are given in **Annexure IX.**

5.2 Profile of Toy Manufacturing Units: Modern Segment

The survey of the toy manufacturing units have been carried out with a structured questionnaire **(Annexure III)**. The questionnaire was designed to capture firm level details such as turnover, employment, domestic and foreign trade, product description, cost related information, factors affecting productivity, factors responsible for competitiveness and specific suggestions by these units.

From the modern segment, field survey covers total 184 toy manufacturing units whereas field survey of traditional segment covers 32 units spread across 10 states **(Annexure I & II)**. Detailed state wise distribution of the responding manufacturing units from the modern segment is given in **table 5.1.**

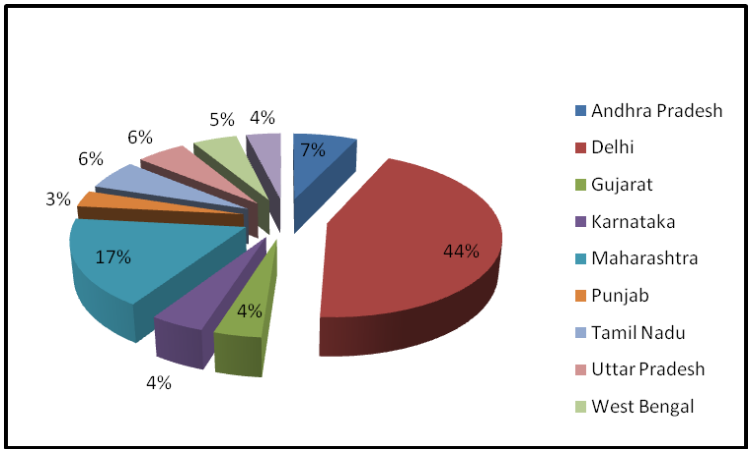
Table 5.1 Statewise distribution of Toy Manufacturing Units

Sl. No.	States	No. of Units	Percent
1	Andhra Pradesh	13	7.07
2	Delhi	81	44.02
3	Gujarat	7	3.80
4	Karnataka	8	4.35
5	Maharashtra	32	17.39
6	Punjab	6	3.26
7	Tamil Nadu	11	5.98
8	Uttar Pradesh	10	5.43
9	West Bengal	9	4.89
10	Haryana	7	3.80
	Total	**184**	**100.0**

Source: NPC Field Survey, 2009

Table 5.1 shows that majority of the toy manufacturing units surveyed are based in Delhi (44%) while the remaining 56% units are scattered across other states. The year of establishment for the surveyed units has been found to be in the range of 1942 to 2007.

Figure 5.1 State wise Distribution of Toy Manufacturing Units



.

The sample survey consists of 97 small units (56.1%), 74 medium size units (42.8%) and 2 large units (1.2%) **(Fig 5.2)**.

Fig 5.3 shows that about 11% of the units are registered, while the remaining 89% are not registered.

Figure 5.2 Category of Toy Manufacturing Units

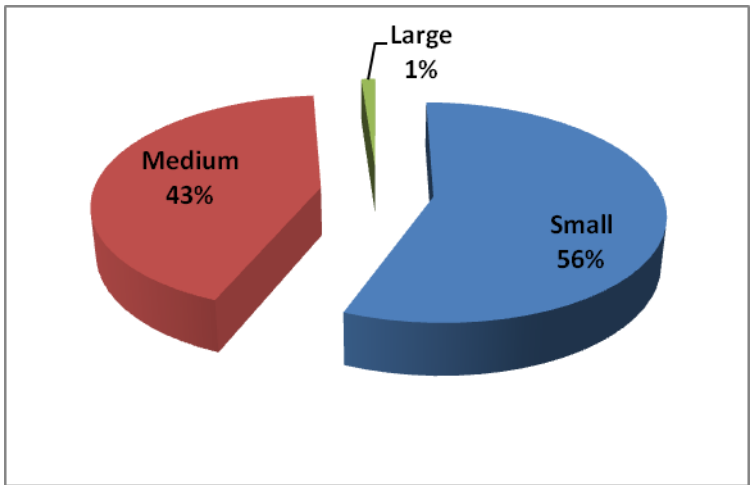


Figure 5.3 Percentage of Registered and Unregistered Units

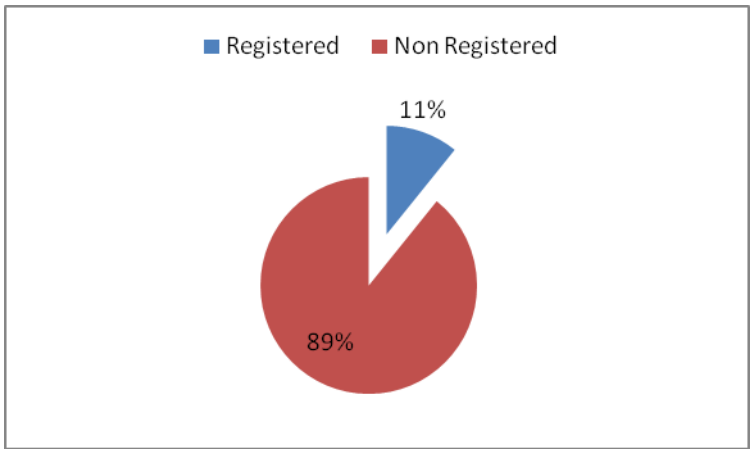
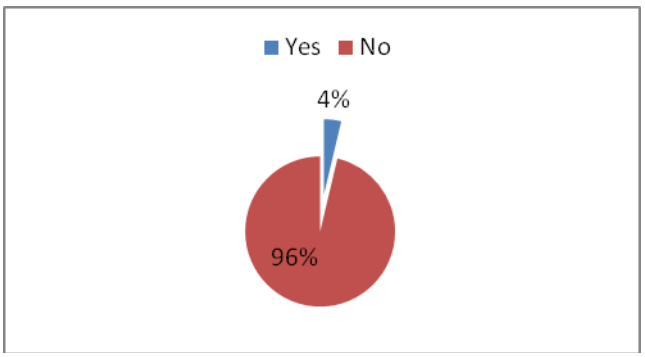


Figure 5.4 Percentage of Units having Quality Accreditation



Only 4% of the units have obtained quality accreditations (**Fig 5.4),** of which 88.9% have ISO 8124 (PARTS I-III) and 5.6% have ASTM F963 (**Fig 5.5)**. Among the units having accreditations only 9.1% reported that it helped in boosting business. Out of total number of units, 63% are members of Toy manufacturing Associations (**Fig 5.6**).

Figure 5.5 Standards and Accreditation (%)

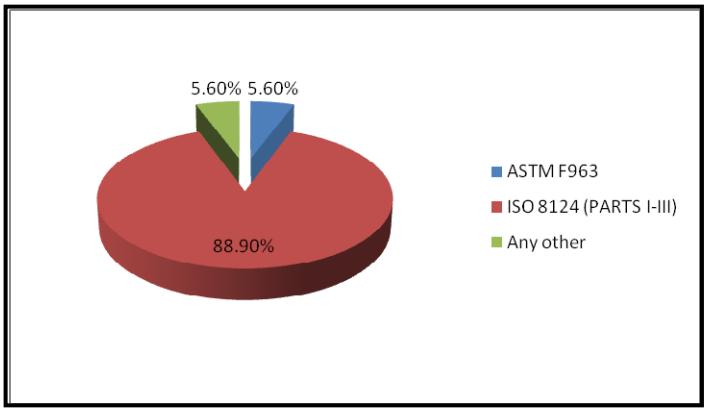
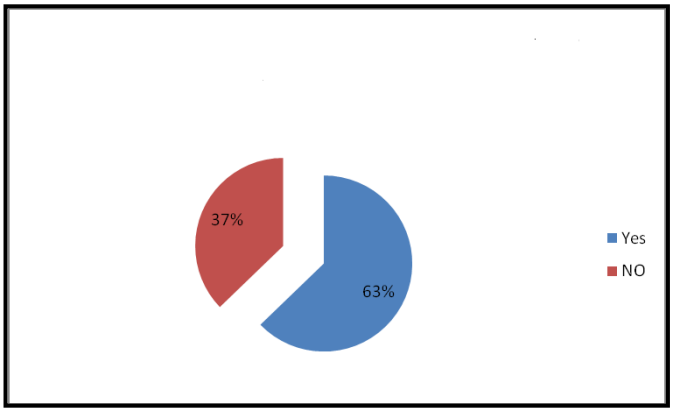
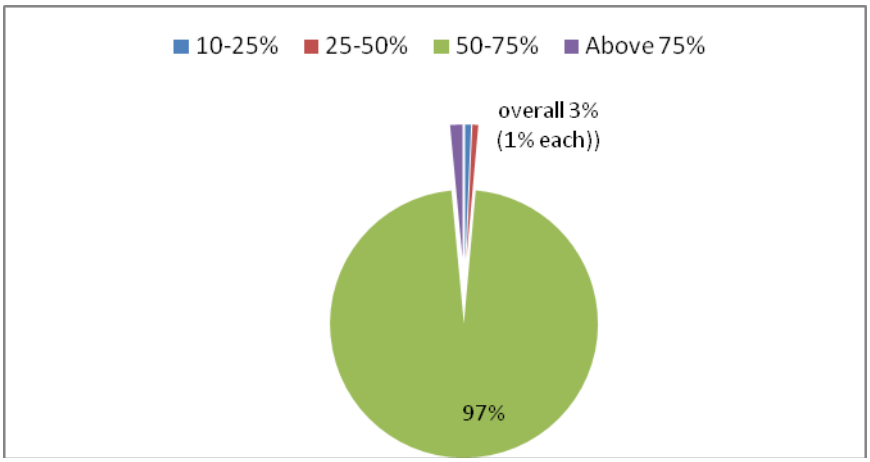


Figure 5.6 Membership in any Toy manufacturing Association



There has been considerable increase in wages/salary during the period 2000-08. About 97% of the respondents reported an increase in wage/salary in the range of 50-75% (**Fig 5.7)**.

Figure 5.7 Wages/salary Growth during 2000-2008



5.2.1. Export & Import of Toys

Figures 5.8, 5.9, 5.10 and 5.11 show details regarding export and import of toys. **Figure 5.8** shows that only 6.3% of the responding units are exporters of toys. The reasons for not exporting has been cited by respondents being no knowledge of export procedures (75%) and no help from authorities/association (25%) (**Fig 5.9**).

Figure 5.8 Percentages of Exporters

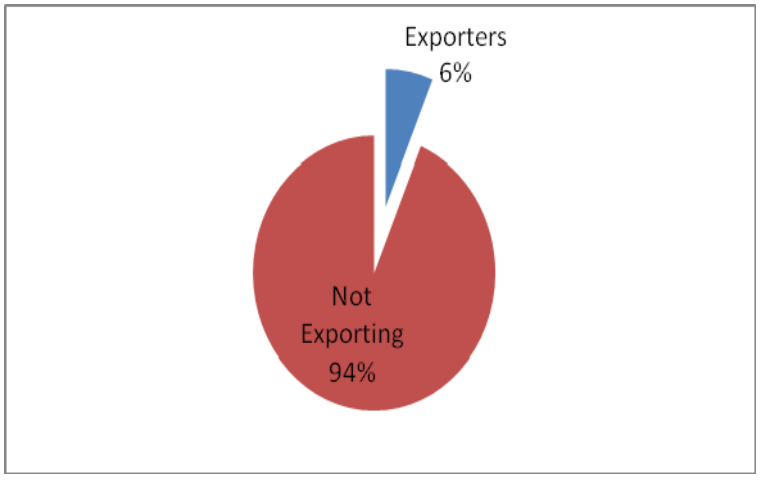


Figure 5.9 Reasons for not Exporting

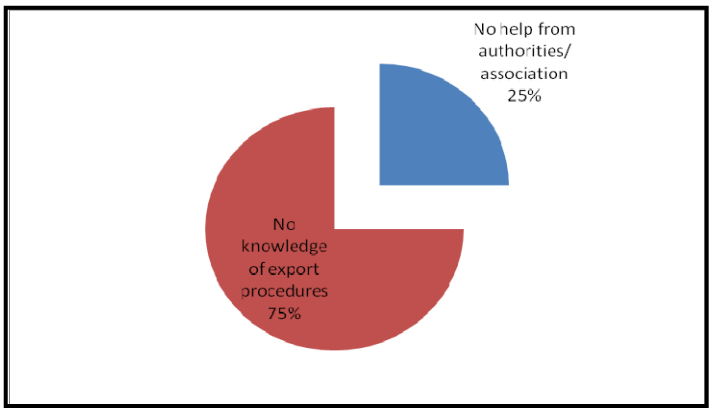


Figure 5.10 reports the share of exports in total sales of toy exporting units. It is found that in 75 % of the cases, exports are 1-10 % of total sales. Exports are in the range 25-50 % in the case of 12.5% of units and more than 50% in the case of 12.5% of the units only.

Figure 5.10 Percentage of Export to Total Sales

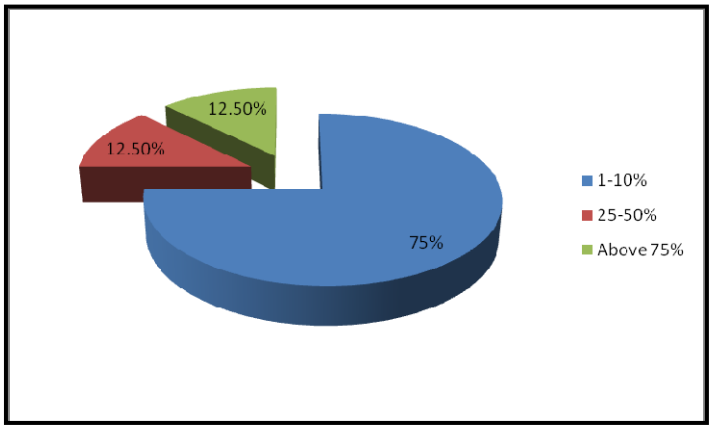
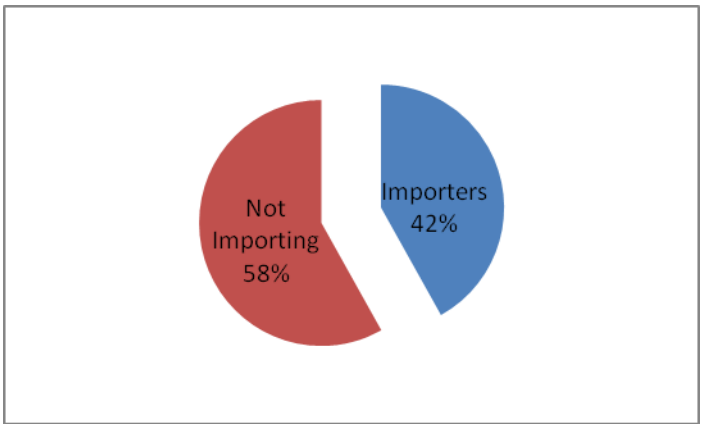


Table 5.2 Import of Toys/Parts and Components

Category	% of Units
1) Not Importing	58
2) Importing	42
Of which, Parts and components Full Product	 20.0 80.0

Figure 5.11 Percentages of Importers



Among the surveyed units around 42% units reported that they are importing either the full product or parts or components from abroad while 58% reported they are not importing at all. Of the units that are importing, 80 % are importing full product, while 20% are importing either the parts or components from abroad (**Table 5.2** and **Figure 5.11**).

5.2.2. Domestic Market

The perceptions of the respondents regarding various aspects of the domestic toy market are presented in **Figure 5.12 to 5.14**.

According to 97 % of the toy manufacturers, demand for toy products has increased in the domestic market in the recent years (**Fig 5.12)**. However, about 53% of the respondents have stated that they face intense competition from imported toy products **(Fig 5.13)**

.

Figure 5.12 Domestic Demand in the recent years

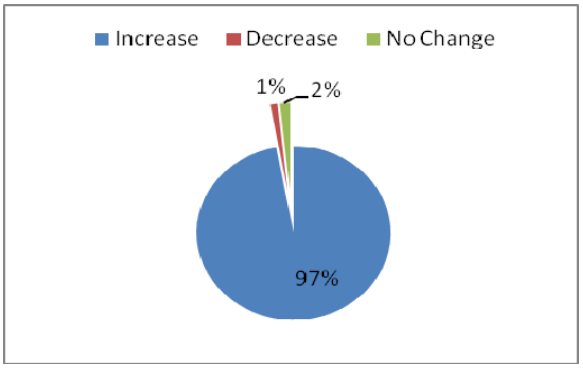
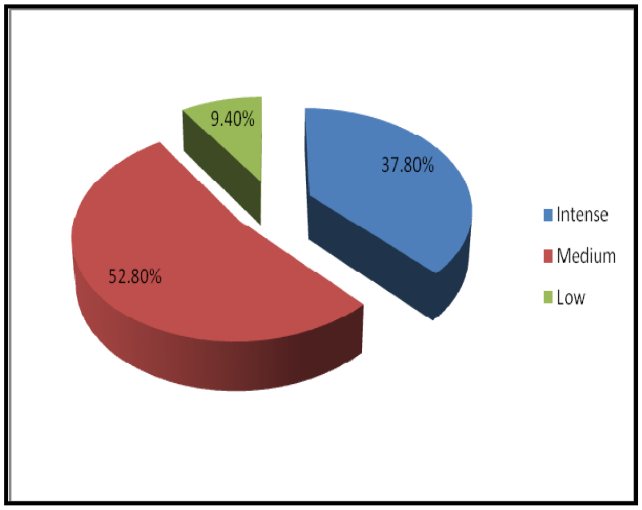


Figure 5.13 Competition in the domestic market from imported products

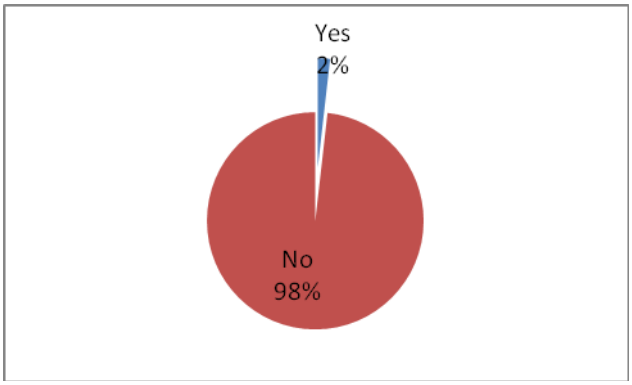


According to the field survey by NPC 82.5% of toy manufacturers were of the opinion that the present educational system meets the requirements of the toy industry **(Table 5.3)**. **Figure 5.14** shows that 98% of the respondents are not satisfied with the quality of infrastructure available for the sector.

Table 5.3 Education system meets the needs of the toy Industry

Yes	82.5
No	15.9

Figure 5.14 Quality infrastructures available for the Toy sector



5.2.3. Competitive Advantage of Competing Countries

More than 63% of toy manufacturers stated that it takes six months for getting clearance to start a manufacturing unit in India. According to 88.8% respondents, the infrastructure condition in India has to be improved at a fast rate in order to compete with other countries **(Fig 5.15).** About 75% of respondents opined that the cost of production in India is very high as compared to China **(Fig 5.16).**

Figure 5.15 Availability of Infrastructure in India

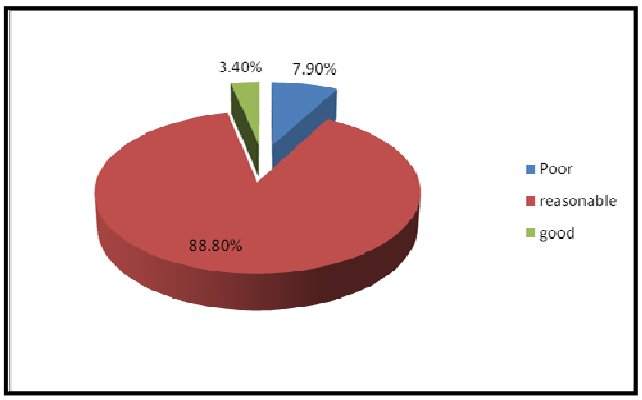
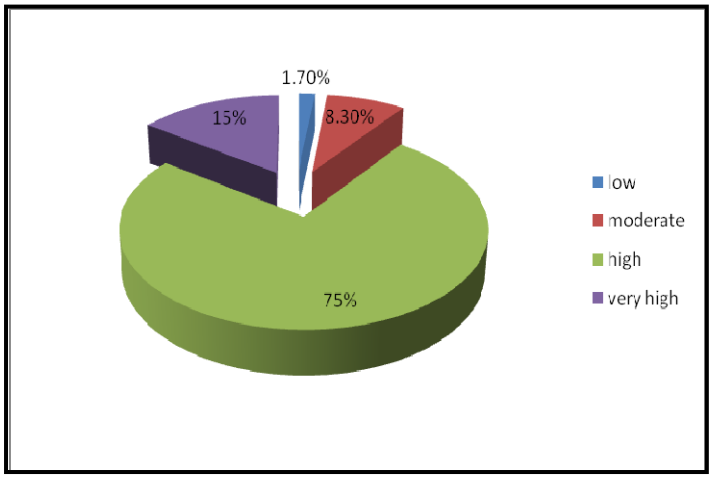


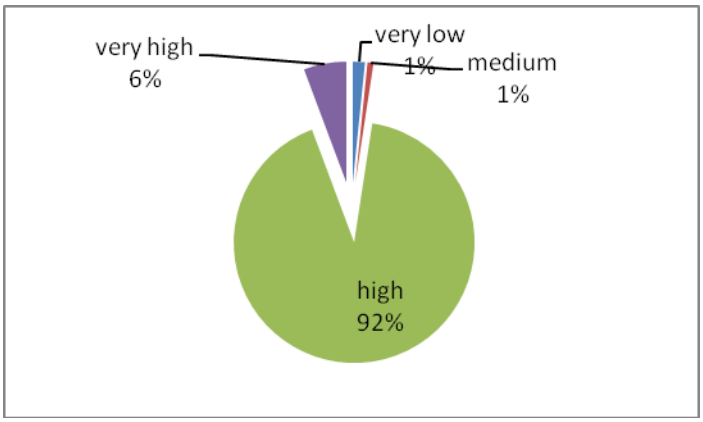
Figure 5.16 Cost of production of India in comparison to China



5.2.4. Innovation

Innovation is perceived as very important by almost all the responding units. The design aspect of toy manufacturing was considered as one of most important activity by 98% (high 92% + very high 6%) of the responding toy manufacturers **(Fig 5.17).**

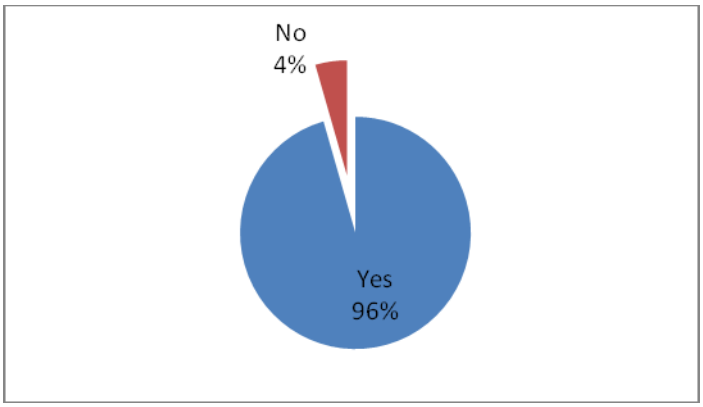
Figure 5.17 Importance of new design to the Company



5.2.5. Competition from Chinese toys

About 96% of the respondents are facing competition from imported Chinese toy products (**Fig 5.18)**. The Chinese toys are reported to be about 10% cheaper than Indian toys according to 38.6% of the respondents while 37% of the respondents were of the view that Chinese toys are 10-25% cheaper.

Figure 5.18 Percentage of Units facing competition from China



5.2.6. Government Assistance

It has been reported that about 27.3% of the responding manufacturing units are aware about the Market Access Initiative scheme of Government for export promotion and only 11% have used the facility. Similarly, 25% are aware of Market Development Assistance (MDA) scheme of Government for export promotion but only 11% have used the facility **(Table 5.4).**

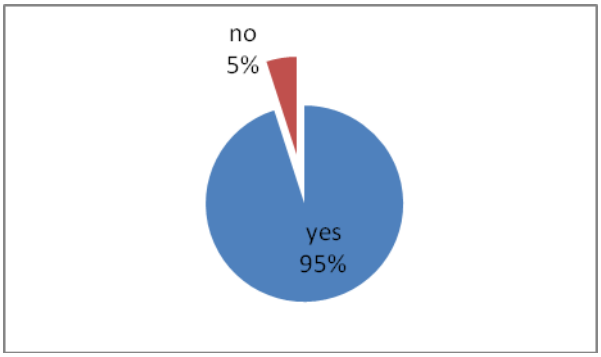
Table 5.4 Awareness about Export Assistance Schemes

S. No.	Schemes	Yes	No
1.	Awareness about of MAI	27.3	72.7
2.	Used MAI to promote export	11.1	88.9
3.	Awareness of MDA	25.0	75.0
4.	Used MDA to promote export	11.1	88.9

5.2.7. Toxic Aspects of Raw Materials

Figure 5.19 shows that 95% of the respondents are aware of the presence of toxic elements such as Lead, Bromine, Chlorine, Cadmium etc., in the toys. The presence of toxic material is identified through complaint or law suit according to 62% of the respondents.

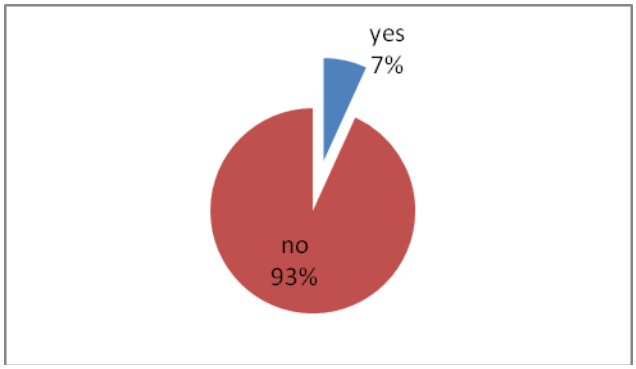
Figure 5.19 Awareness about the presence of any toxic elements



5.2.8. Marketing and Product Promotion Efforts

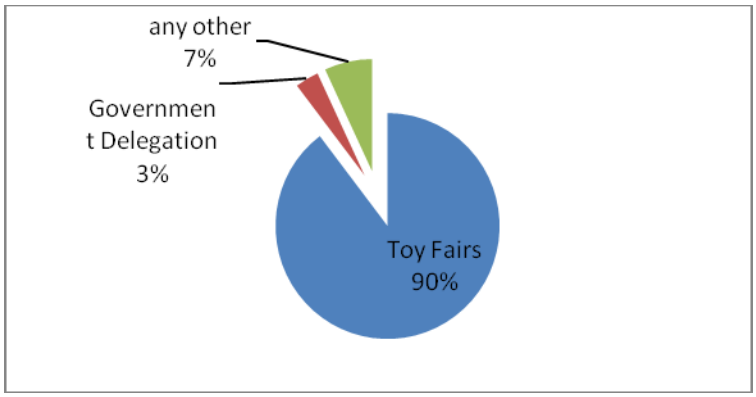
According to the field survey, 6.8% of the toy manufacturers operate websites for selling toys online (**Fig 5.20)**. About 89.7% of the respondents have attended toy fairs both national and international **(Fig 5.21).** About 50% of the respondents say that government agencies /export promotion council ensure/provides enough visibility to the indigenous or traditional toys of the region.

Figure 5.20 Units having a website for selling toys on line (%)



Regarding the online marketing/advertising of the products it was found that only 7% of the responding units having websites for selling toys online.

Figure 5.21 Units participating in Fairs (%)



5.3. Field Observations : Modern Segment

Major constraints faced by Toy manufacturing units are enlisted as follows:

- New Expansion plans are constrained by space limitations within the city limits
- Children stationery should be considered at par with toys and it should be levied at 4 % VAT only instead of the present 12.5 % VAT.
- Further, taxes such as Income tax/VAT/Excise/octroi should not be levied on the toy industry, everything related to children should be categorized under 4% VAT slab.
- Dolls- Handcrafted dresses of India are not comparable to any other country
- Handcrafted dolls, toys and collectibles are very popular as Corporate Gift items

- Major threat- CHINA-has entered in the Indian toy market of Electronic, Mechanical, Plastic, Inflatable and vinyl toys through unorganized sector
- Wholesaler and Importers, under invoicing creates a problem for Indian Manufacturers and Indian Toys.
- Regarding Brands- the problem of Brand Image needs to be tackled and proper brand development strategies for the sector need to be put in place.
- Organized Retail (Corporate Marketing) such as Reliance, Future Group – Payment related issues persist and the payment comes after a long time.
- Media awareness of toys is lacking- awareness with respect to Quality and safety aspect of Toys need to be inculcated among children and parents.
- Finance for the toy manufacturing unit need to be more liberal
- In-house designing for toy sector need to be provided for increasing the product range available.
- Machineries, moulds of good quality are not available in India- Refinement and polishing is a point of concern.
- Industry has suffered due to cheap products and inferior quality
- After arrival of the competition, Pricing, Quality and the range of products available have improved.
- The thickness of building blocks from China is not very good and affects the durability.
- China toy industry has an edge over Indian counterparts due to economies of scale
- Protection in terms of timely & adequate supply of raw materials at reasonable & competitive pricingneed to be provided to Indian manufacturer.
- The small- home scale producers got affected due to sudden flooding of the market by Chinese toys
- As per range- Indian material & quality is better.
- No new entrants in the field for toy manufacturing.
- Older traditional systems of production are being followed by the Indian manufacturers.
- Due to Chinese toys, the Manufacturing lines stopped and Trading lines flourished due to imports.

- Small traders have operational cost advantage.
- Octroi in Mumbai is a point of major concern. Multiplicity of octroi for various level like special octroi for Mumbai and Thane needs to be checked.
- Under Invoicing of imported product is a problem. Therefore, every tax gets reduced.
- Weights and measures create problem for Indian toys but don't question Chinese toys for any labeling.
- Product Design Centre- Involvement of marketing agency for discussing the viability of products is a requirement and a suitable technique for feedback.
- The Associations need to play active role by passing on the information to the members.
- Regulations and standards on the part of government need to be established and implemeted.
- Random checking of the samples by the custom department need to be undertaken.
- 25-50 toy products are imported per container imported by the importer which provides him with the desired product range and the market and the market for toys is totally dependent on variety/ range available with a supplier/importer.
- Only accredited laboratory should be used for testing
- Same machineries & old moulds in India don't cater to the range requirements.
- Upgradation of technologies is a must.
- Bank Interest rates at 13 to 14% should be reduced.
- Trained manpower is very scantily available.
- The Price (MRP) of the products is 140% of the producer price / what producer gets.

5.3.1 Profile of Toy Manufacturing Units: Traditional Segment

Majority of the traditional toy units are located in Uttar Pradesh (53%) and remaining units are based at Rajasthan 32%, Karnataka 4%, Andhra Pradesh 4% and West Bengal 10%. Only 10.8% belong to registered manufacturing categories. Among the sample units 56.1% belong to Small, 42.8% medium and 1.2% large category of manufacturing. Only 7% units have obtained quality accreditations, out of which 75% have ISO 8124 (PARTS I-III) and 25% ASTM F963. Only 7.7% of total units having accreditations that has helped in boosting

business growth. Out of total number of units, only 3.6% are members of Toy Manufacturing Association.

About 96.3% of the traditional toy manufacturers are not exporting. The two important reasons for not exporting are low margins and no knowledge of export procedures.

Figure 5.22. Growth of Domestic demand in recent years

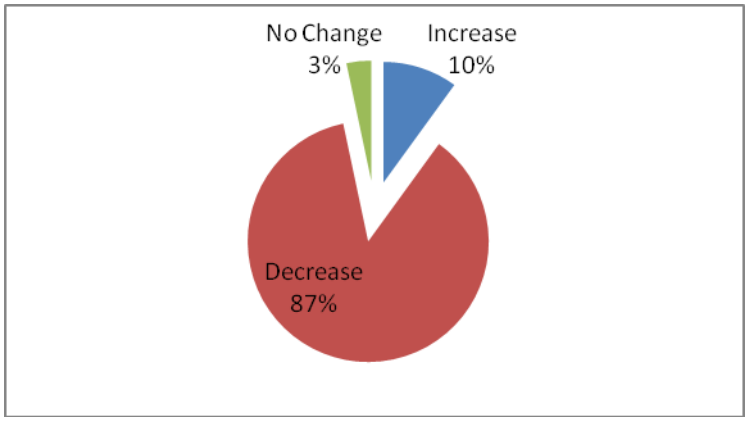


Figure 5.22 shows that 87% manufacturing units have experienced decline in the domestic demand of the product in the recent years. One of the reasons for this has been cited as competition in the domestic market from the imported products.

Figure 5.23 Competition in the domestic market from Imported products

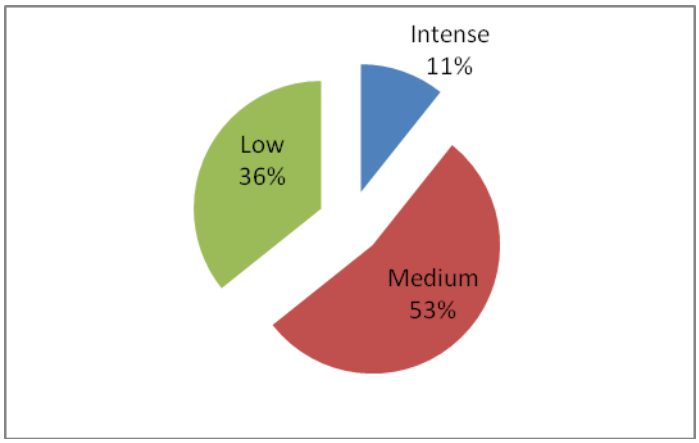
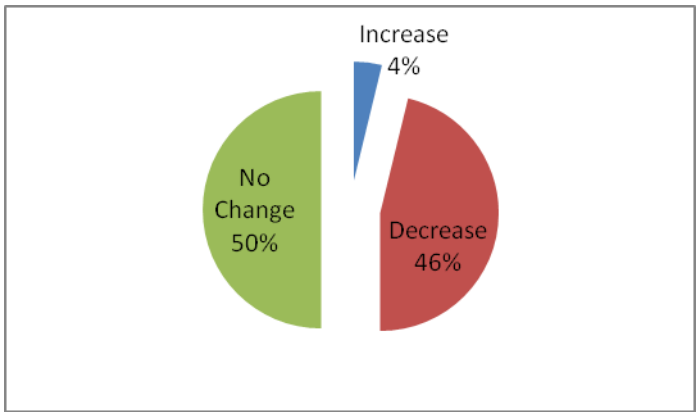


Figure 5.24 Availability of quality manpower during the last five years



Field survey also revealed that the availability of manpower had decreased during the last five years (**Figure 5.24**). **Figure 5.25** shows that about 86% of toy manufacturers sell their products exclusively in domestic market, 9% to export markets and the rest 5% cater to both domestic and export market.

Figure 5.25 Traditional Toys Market (%)

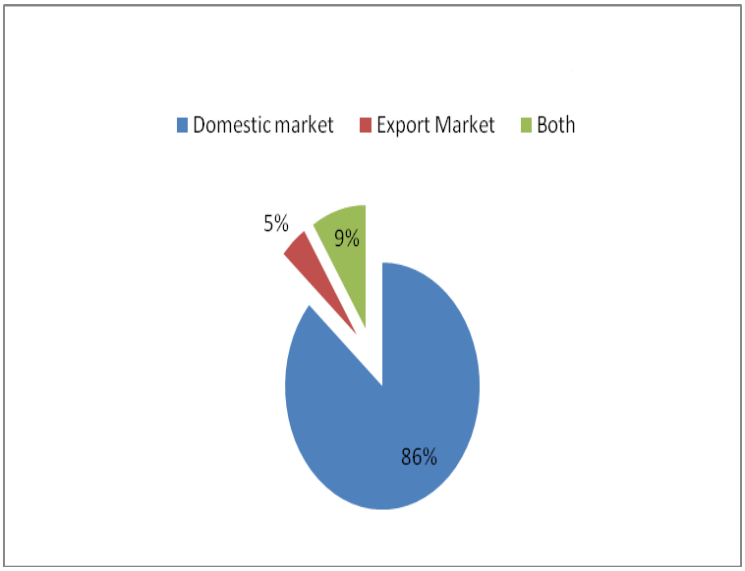
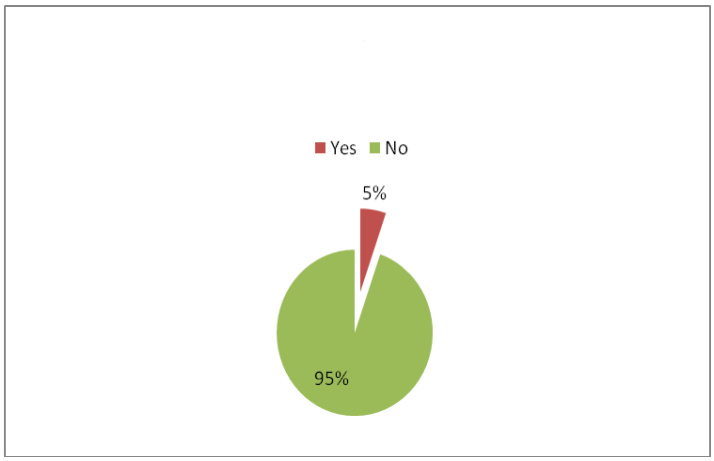


Figure 5.26 shows that only 5% of the responding toy manufacturers have got exposure to international market while 9% of the units had exposure to both domestic as well as well as export market.

Figure 5.26 Respondents attending International Trade Fairs (%)



5.3.2 Field Observations: Traditional Segment

Channapatna (Near Bangalore)

Channapatna toys are a particular form of wooden toys (and dolls) that are manufactured in the town of Channapatna near Bangalore, a Rural district of Karnataka state. Channapatna is known as Gombegala Ooru (toy-town) of Karnataka. Traditionally, the work involved lacquering the wood of the Wrightia tinctoria tree, colloquially called Aale mara (ivory-wood).

The origin of these toys can be traced to the period of Tipu Sultan in the eighteenth century who invited artisans from Persia to train the local artisans in the making of wooden toys. For nearly two centuries, ivory-wood was the main wood used in the making of these toys, though rosewood and sandalwood were also occasionally used.

The artisans of Channapatna work from their home (300 artisans) and small manufacturing units (50 artisans), for making these toys. The Karnataka Handicrafts Development Corporation (KHDC) provides assistance in marketing efforts.

Channapatna toy industry is facing acute financial problems for more than a decade and is currently on the verge of closure due to the following reasons:

- All toy manufacturers from Channapatna whom the NPC study team interviewed expressed their disinterest in continuing with traditional toys because of acute competition from Chinese Toys and rapidly declining domestics/international markets.
- There is disinterest of young generations in toy sector due to slow growth potential in terms of financial earnings as compared to other sectors.
- Maximum manufactures are operating from small units having the size of 200 Sq. ft to 900 Sq. ft.
- All the machines are manually operated.
- Artisans are not adopting new technology due to their poor financial condition.
- Almost 99% laborers reported to have only primary education.
- Products are not exported due to lack of awareness among the artisans (domestic and international marketing policy).
- All manufactures are dominated by suppliers.
- Due to lack of demand for traditional toys in the market, many toy manufacturing units started producing alternate products such as bangles, candles stand, etc.
- Today artisans are producing different products according to suppliers demand (designing/quantity/price) and they are not aware of their own products which are going to different markets.
- All skilled laborers have migrated to Bengaluru city because of low daily wages/low income from toy industry.
- There is no proper transportation facility available between Channapatna and Bengaluru, therefore, labours prefer to work in the city where higher wages are available.
- Establishment of small unit, with Capital investment in the range of Rs. 80 to 90 thousands.
- It is reported that the current pattern of investment on units are as follows:

No. of units (approx)	Amount approx (Rs. Lakhs)
40 to 50	20 to 25
250 to 300	1 to 5

- In Channapatna only 15 units among 300 units have been found producing toys. Remaining 285 units are producing Bangle, candle stand etc.
- A few units have been registered with SSIs and Karnataka Handicrafts Development Corporation (KHDC).
- Limited resources are hampering the operations.
- Due to deforestation, availability of wood (tinctoria) is decreasing and hence negatively affecting the production.
- Formalities for taking loan from the Banks are not simple for the illiterate artisans hence they resort to self financing of the business.
- Drawbacks such as low productivity, low technologies etc, are limiting factors for the traditional sector.
- All artisans are using vegetable/Camel colours which are free from toxic elements.
- No government agencies/Export Promotion Council are providing any sort of help for the growth of indigenous or traditional toys of the region.

Sriniketan, West Bengal

Wooden dolls are manufactured in the town of Sriniketan in Birbhum district, West Bengal. Traditionally, the work involved lacquering the wood of the local tree.

The artisans of Sriniketan work from the home based manufacturing units. NPC study team could find only one purely traditional toy manufacturing unit. Rest of the units were producing handicraft products. DC (Handicrafts), Kolkata and an NGO (Amar Kutir Society for Rural Development, Sriniketan) provide assistance to artisans for marketing and training efforts.

Sriniketan's wooden dolls have been facing difficulties for decades and are currently almost on the verge of dying out mainly due to the following reasons:

- Only one traditional toy manufacturer was found manufacturing traditional dolls however, other units stopped production due to lack of market demand or competition from Chinese Toys.

- Young generation is not interested in toy sector due to low profit margin and the educated ones prefer to work in cities.
- Most of manufacturers operate from one room having the size of (15x8) =120 Sq. ft
- The machinery is manually operated.
- New technology is not adopted due to poor financial condition.
- Due to lack of demand in the dolls market, all doll manufacturing units started producing handicrafts.
- All skilled laborers have migrated to Kolkata city because of low daily wages/low income in the doll sector.
- There is good transportation network between Sriniketan and Kolkata, therefore, labors prefer to work in the city and get good wages.
- For establishing a small unit there is a need for investment on machinery in the range of Rs. 10 to 40 thousands.

5.7. Summary

Many important observations emerge from the field surveys. First one is that Delhi/NCR and Mumbai have major concentration of toy manufacturing units. Also, among the total number of units surveyed, only two units (1%) were large units, the rest of them being small or medium units.

Second, there is not much emphasis on quality accreditation among the toy manufacturing units and the units having quality accreditation being 4% only. This is not surprising, considering the fact that 99% of the units are small/medium units, who may not have the required resources for such accreditation.

Only 6% of the toy units surveyed are involved in exports. Lack of knowledge about export procedures and lack of government/industry association support have been cited as the important reasons for not exporting. Also, exports constitute only 1-10% of total sales in the case of 3/4th of the units that are into exports. It may also be noted that more than 70 % of the respondents are not aware of export incentive schemes like MAI and MDA. Hence steps needs to be taken to spread awareness about MAI and MDA among prospective exporters, in addition to making the schemes more liberal.

Almost all the respondents have expressed dissatisfaction with the available infrastructure in the toy sector. Other major constraints affecting the sector were reported as high taxes and controls, high production costs compared to other countries, such as China and long delays in getting clearances etc. Again almost all respondents reported that they are facing intense competition from the Chinese products. About 97% units reported more than 75% increase in expenditure on wages and salaries, which is a major reason for the escalation of cost of production. This especially affects the competitiveness of Indian toys vis-a-vis Chinese toys.

Field Survey of the traditional toys sector reveals that about 95% of the traditional toy manufacturing units are located in the states of U.P., Rajasthan and West Bengal. Of these only 3.6% were members of toy manufacturing associations and 56% were small units.

Even though it is generally understood that traditional toys have high demand abroad, the field survey reported that only about 4% of the units are engaged in exports. Also, the fact that only 5% of the respondents have ever attended international toy fairs/shows hence more efforts are required to showcase these products abroad. In addition, the traditional toys are also facing decline in demand in the domestic market as well.

Channapatna (town near Bangalore) is famous for traditional wooden toys, all the artisans with whom the study team interacted had discontinued production of toys. Competition from Chinese toys and poor financial prospects are reported as the reasons. In fact due to lack of demand, these units had converted themselves into producers of other items such as bangles, candle stands etc. The units also faced problems in obtaining raw materials like wood etc. They also found formalities associated with bank loan very much complicated and hence relied on other alternate sources of finance. Government agencies/export promotion councils had no visibility in the area.

The problems faced by the units at Channapatana are typical of traditional toys sector in the present scenario and can be generalized for other traditional toy manufacturing centers as well. For example, it was found that units in Sriniketan, a famous wooden toy manufacturing centre in West Bengal, is on the verge of dying out. Hence urgent policy interventions are required to revive the traditional toy manufacturing units, which are currently at the cross roads.

Chapter 6

Summary of Diagnostic Case Studies

6.1 Introduction

This chapter provides summary of diagnostic case studies conducted across of fifteen toy manufacturing units selected from different product categories with a view to understand unit specific problems such as production, raw material availability, marketing, finance, productivity, export competitiveness etc (**Report II: Diagnostic Case Studies**). These fifteen manufacturing units are selected from the following eight major product categories of toy sector.

Major product categories are:

1. Plastic Toys
2. Electronic Toys
3. Vinyl Toys
4. Metal toys
5. Educational Toys
6. Wooden Toys
7. Soft Toys
8. Traditional Toys

The cities/states covered for developing diagnostic case studies are Mumbai, Delhi, Uttar Pradesh, West Bengal and Karnataka. Toy manufacturing units from the clusters at Nadia village and Shatiniketan in West Bengal, Channapatna in Karnataka, Saharanpur in Uttar Pradesh, Chandni Chowk at Delhi, and the toy cluster in Mumbai were explored and studied.

For developing diagnostic case studies, a detailed case study format has been prepared **(Annexure IV).** The format included questions regarding background of the company, present status, objective, marketing, finance, technology, government policies and manufacturing scenario over last few years etc., in order to get details regarding the unit and

to assess the productivity levels of the unit. Major findings of the case studies are summarized in the following sections.

6.2 Summary of Industry requirements: Traditional segment

- Development of proper market channel for the sale of traditional toys.
- Representation in international markets through participation in various international exhibitions.
- Assistance for production and marketing.
- Representation of traditional dolls and toys in various national exhibitions.
- Financial assistance to artisans
- Toy Cluster development is needed/essential.
- Technology for large scale production is the need of the hour.
- Financial help and market support is needed for selling and marketing in domestic and international market.
- Training centres are required for improvement in the production.
- Facility of fairs to display products at low cost but selling at good prices.

6.3 Summary of industry requirements: Modern segment

6.3.1 Government Policy Interventions :

- Industry to be given special category status with extra benefits and facilities.
- Space requirement.
- Power crisis to be solved to ensure un- interrupted power supply.
- Finance at low interest rates. Desired rate of interest is between 7-9%.
- Marketing Development grants for exporters to participate in foreign exhibitions & Buyer Seller meet to develop new export markets.
- R & D and Design clinics
- Need of a Toy Mart or a common place where all toys can be put on display at both national and international level.
- Cost of raw material should be controlled and made uniform
- Sample Testing facility for quality control at reasonable prices.

- Availability of Raw Materials
- Shortage of labor and skill development need to be addressed
- Requirement of a cluster scheme so that machine value can be explored. The cluster scheme should be permitted to start with a minimum ten members.
- Pile fabric should be produced in India and there should be less custom checking.

6.3.2 Easy and cheap availability of Raw materials

Toy manufacturers face frequent shortage of raw materials for production, or the raw material prices have been hiked up artificially due to vested interests by major corporations, this makes it impossible for them to keep the price commitment given to foreign clients.

An organized Body is required to look after the Raw material requirement and to negotiate rates & supply of raw material to the manufacturers on behalf of the Toy industry, as requirements would be in bulk quantities which would give the bargaining power to get material at competitive price. This method of cooperative buying is followed by certain countries and has been very successfully.

6.3.3 Availability of Space for expansion

Every toy manufacturer in India is miniscule in size as compared to their counterparts in China. The smallest Chinese company has 10 times the size of the largest Indian Toy manufacturer. Land prices in Industrial areas are very high and is out of the reach for the MICRO & Small & Medium toy manufacturers. Due to the small quantities being produced the profits are less than 10% of total distribution price. An international company recently enquired in India for OEM manufacturing facility to shift a part of its production from China. They were impressed with the manufacturing set up. However, they had a minimum requirement of 120 moulding machines. This was beyond the comprehension of the Indian Toy Manufacturer due to the shortage of Space & finance.

6.3.4 Shortage of Labour

Toy Industry is facing shortage of labour since many migrant workers have gone back to their villages to avail the National Rural Employment Guarantee Scheme (NREGS). **The National**

Rural Employment Guarantee Act enacted on August 25, 2005 provides legal guarantee for one hundred days of employment in every financial year to adult members of any rural household willing to do public work-related unskilled manual work at the statutory minimum wage.

6.3.5 Free Training Seminars

A majority of Toy manufacturing units are from tiny, micro & small sector. These units are mainly proprietary concerns. As the scale of operations are very small they cannot afford to employ professionals for designing, manufacturing & marketing.

6.3.6 Setting up Awareness Centers

Toy Industry in India is backed by traditional business practices. Present production & business procedures have changed drastically and specialization in each field has become very important. The industry requires awareness programmes/workshops in technical up gradation, modern production techniques, costing, production planning, inventory management systems & Marketing.

6.3.7 Cheap and easy availability of funds

To run a company efficiently & smoothly there is a requirement of constant funds. Nationalized Banks should release funds up to Rs 100/- lac without asking for any hypothecation and such funds should be provided at minimal interest rates.

Chapter 7

SWOT Analysis of Indian Toy Industry

7.1. Strengths

- Growing large domestic market.
- Increase in demand due to rise in the disposable income of domestic consumer
- Growing confidence of both- domestic and international buyers in the Indian toy industry
- Availability of most of the raw materials
- Availability of skilled manpower at comparatively lower cost
- Emergence of India on global toy scene
- Support structures available for obtaining finance
- Innovation skills
- Less overhead costs
- Wide range of products
- Business acumen of the entrepreneurs
- Manufacturing industry network & linkages
- Pool of support institutions
- Capacity to compete under adverse conditions

7.2. Weaknesses

- Many toy manufacturing units are tiny in size hence Low Volume of Production
- Lack of Research and Development facilities
- Toy specific designers are not available
- Fragmented Technical knowledge
- Absence of strong & professionally managed Toy Industry Associations
- Lack of synergy and coordination amongst various toy manufacturers-critical for Component Approach
- Poor process capability because of low technology, inferior tooling and use of general-purpose machines for specialized jobs

- Absence of focus on export
- Inadequate technical capabilities particularly in electronic toys and video games
- Quality parameters are not followed
- Surface finish and other features are poor
- Higher production cost due to lack of economies of scale
- Lack of range /poor presentation
- Insufficient/ inconsistent vendor support
- Comparatively higher cost of funds
- Costly Special Purpose Machines/ Very high cost of foreign technologies
- Lack of pride in workmanship
- Insensitivity to customer needs/ poor channels of customer feedback and customer complaint redressal system.
- Minimal expenditure on brand building, advertising.
- Lack of professional management.
- Reluctance to introduce new product designs because of unfavorable economies of scale.

7.3. Opportunities

- Well developed market -- domestic as well as overseas
- Growing domestic market & buying capacity
- Liberalized economy, “Make or Buy” decisions easier
- Low cost manufacturing base- enabling strategic alliances/ Potential co-operation with large customers and multinationals
- Better support from government
- Increasing surplus income of Indian middle class
- Toys recognized as a better medium for education in a play way method

7.4. Threats

- Competition from international players as they started manufacturing operations in India.
- China and other countries corner major market share of the growing Indian toy market

- Technology obsolescence is creating road blocks to rapid changes in product design and also for adjusting to consumer preferences.
- Slow response to safety & quality standards based on international market requirements
- Toy units diversifying to other sectors leading to poor component base.
- Shift in market demand to electronic toys in which India does not have competitive edge.
- Enhanced brand consciousness amongst Indian consumers.
- Children devoting more time to computers/ internet/ studies, leaving less time for games and toys
- Increasing concern among international buyers about quality aspects of Indian toys
- Low scale of operation capabilities with Indian manufacturers

Chapter 8

Traditional Toy Sector

8.1 Introduction

Few products are as essential to human development as toys. Yet this sector has not received its due institutional support. Development, production and sales of toys covers a vast range of economic activities from tiny cottage craft unit to the sophisticated electronic products manufactured on a mass scale. India has a great, rich tradition of craft toys produced locally by the artisans and crafts communities all over India. Much of this great heritage has been eroded due to neglect and lack of support.

Traditional Toy Sector is not in competition with the formal toy manufacturing sector. The product line is different. The problems are different, yet both sectors need relevant institutional supports such as availability of materials, markets, design and development support and promotion. In fact the traditional and the modern or formal sector can and should co-exist and strengthen each other.

A study sponsored by Development Commissioner of Handicrafts, Government of India undertaken by National Institute of design (NID) team in 1981-83 (Indian Toys: The Crafts Sector, NID, 1983, A Reference project document) had documented various traditional toy crafts available in India. The study included visits and meetings with traditional toy-making communities all over India as well other stake holders. The study re-confirmed that there is great potential with the family community trained artisans and crafts people who make toys using locally available materials, skills and themes. It was found that the difficulty in getting the institutional assistance de motivated the sector.

Some concrete measures are needed to be taken to ensure healthy development of the crafts and artisan communities so that they are motivated to let their children carry forward this traditional wealth of knowledge. But how this to be initiated and accomplished?

A widespread network of toy making crafts and cottage industries exists in India. There are two broad types of such development and production communities.

- Communities focused largely on making utility products but also produce toys as a seasonal or side activity.
- Those well established communities whose main products are toys. These communities work with many materials, including terracotta, wood, reeds, grass, pith, bamboo and paper mache.

8.2 Major Toy Products and Clusters in India

In India, traditional toys can be categorized state wise as each state has its own specialty products.

- **Sambalpur in Orissa** is one of the many places in our country well known for its wooden toys and dolls. The simul tree grows in abundance in the district. The village carpenters collect the wood and carve out a wide range of attractive toys. Toy making is a traditional craft of the carpenters who practice it in their spare time. People from abroad also come to purchase these beautiful toys. However in local market there is no demand for such toys. Being soft, the simul wood amenable easily to the carpenter's chisel. The size and use of two or more bright indigenous colors distinguish the Sambalpur toys from those of other parts of the country. The colorful Sambalpur toys are excellent specimen of the village carpenter's craftsmanship (www.indiastudychannel.com). Puri in Orissa is also famous for paper mache and stone toys. Raghu Gajpur near Pura in Orissa is a landmark place for a variety of traditional toys.

- **West Bengal** is famous for its clay toys. Clay toys are also made in Jamnagar and Rajgarh and Krishnanagar in Nadia district and in Shantiniketan. The features of Krishnanagar toys is that they are very sharp and beautiful as where the toys from Shantiniketan in Bolpur are very realistic. The designs are predominantly rural and have scenes and figures of the rural houses apart from temples and domestic animals. Clay Dolls, Clay Animal Figures, huts and religious deities are commonly made. Making clay figures involve a lot of detailing and has been done by hand since ages. Once the moulds

are made by hand, the toys are dried and then fired. The fired clay toys are then painted with bright colors. This is a hereditary art form. [1]

- Handmade clay toys of **Madhya Pradesh** are generally cast in hollow shapes though solid figures are not uncommon. Animal figures like horses, elephants, dogs, lions, birds, deer and bulls fixed on wheels are very popular with children. The figures are usually small and artistically made with the solid figures being more popular than the hollow ones. 2 These dolls which are sold in pairs are all time favorites and when they are dressed traditionally then nothing like it. Gwalior, in Madhya Pradesh makes rag dolls which are made in a very traditional way by painting onto them facial expressions which liven up the features. The costumes are traditionally made out of paper with boat shaped turbans on their head and are draped in saris made out of paper with proper jewellery. Budhnighat had about 20 families traditionally making turned wood lacquered toys since generations. Some of them are still in the traditional craft making.

- **Tamil Nadu** is famous for terracotta toys and the craft is flourishing in Chennai, Kanchipuram and parts of Arcot district. The craft has passed down from generation to generation and the artisans have a tradition of excellent workmanship and fine coloring.

- Clay toys are made in two stages; the first of which involves plaster of Paris mixed with tapioca powder to form a paste which is dried till it can be rolled into layers. This is pressed into the die to get the moulds. The raw material used is rock clay which after being properly moistened, is pushed into the mould dusted with French chalk powder so that it can be easily removed. It is then dried in the Sun before coloring. The work is divided between the men who knead the clay, roll it into layers, make the moulds and the women who use brushes to do the colorings with coolers that are kept in coconut shells.[3]

- The cloth and wire dolls of **Karnataka** are extremely traditional and a perfect piece of art by the local artists. These dolls covey the traditions of Karnataka and also some of the figures are of Indian legends. Dolls are made in many different patterns, such as wire

[1] http://www.craftandartisans.com/cloth-dolls-toys-of-west-bengal.html
[2] http://www.craftandartisans.com/clay-toys-of-madhya-pradesh.html
[3] http://www.craftandartisans.com/clay-toys-of-tamil-nadu.html

dolls, soft dolls, cone dolls and stuffed dolls. Artist first very carefully bent the wire to form the frame of the proposed doll and the figure is wrapped tightly in cloth and stitched into a 'skin' of brown poplin cloth. Designing and decoration is done once the main dress is put on the skeleton. Their hair and make is done very carefully as these things enhances the beauty of the dolls. [4]

- The horse and the rider toys of **Darbhanga** (Bihar) are very famous. Toys are composed of many different materials such as clay , mud, wood, cloth etc. The making of clay toys and images is done seasonally. Once the festive season is over then the artists make the necessary household utensils. Crafted images are made in many different designs. Bamboo dolls are also crafted in Bihar.

- Crafts persons at **Ranchi (Jharkhand)** make attractive wooden toys which are painted in nice and soothing colors. The figures of King- Queen and mother and child are the famous ones. Spinsters and housewives make cloth dolls and are sold during the festival seasons. These dolls are seen during the festive seasons. Chota Nagpur also has artists who work on the wooden toys. The figures which have religious sentiments where in the artists spend lot of time in making the features of each doll which make them look beautiful. Black lines are used to outline the features. [5]

- Toys in **Assam** are made in the most ethnic and the traditional way. Craftsmen of hills design cane and bamboo toys using their skilled hands and few local tools. Figures of Gods and Goddesses, animals and many mythological figures are crafted by the local craftsmen of Golapara districts and are made out of clay. Pith toys are also made in this region.

  There is a tradition of making cloth dolls by the women folk of almost every family and this craft is passed from mother to her daughter and this is how this craft is preserved in Assam. Bamboo shotgun which can shoot up to 150 yards is a very demanding toy. Toys made out of bamboo and wood are crafted in the shapes of birds, human figures and

[4] http://www.craftandartisans.com/cloth-wire-dolls-of-karnataka.html
[5] http://www.craftandartisans.com/dolls-toys-of-bihar-jharkhand.html

animals .Craftsmen also make dolls for the theatre craft .Bride and groom dolls are made and attracts a lot of attention. These are made out of bamboo, mud, cloth and wood.[6]

- Dolls are the attraction for every age group. The artisans of **Haryana** share the rural image through their dolls. These dolls range from 6 inches to 32 inches. The dolls are designed in the utmost rural beauty depicting the real scenes of village. Designing is such that one has to see the handiwork to accept the truth that these are dummies. Doll images of Sita and Ram are also made wearing proper costumes and jewellery.

- Bright colored wooden toys of Haryana are famous which include infant walkers and many other pull and push toys made by the local artists.[7]

- **Udaipur** (Rajasthan) is a big centre for wooden toys. The craftsmen used local wood 'doodhia' which is soft and can be finely chiseled and shaped. The toys are lacquered and polished with leaves of a flowering cactus to give them a better look and increase their life. The large variety of toys made in Udaipur include the cart drawn by a sparrow, kitchen sets, grinder, cradle on a stand, gas lantern, gramophones, trains, cars, jeeps, aero planes, counting stands, and clock towers. Animal figures include horses, camels, and elephants. Udaipur is also famous for imitation dry fruit which bear a striking resemblance to the real fruits.

- Bassi in **Chittorgarh** (Rajasthan) district is another noted centre for wooden toys where the entire village is engaged in wood-carving and in making wooden products. Jaipur too is very well known for cloth dolls and toys which are generally dyed and stuffed with waste material. These toys are beautifully decorated with colorful paper with expression writ large on their faces. [8]

- The craftsmen of **Tripura**, the bamboo rich state, have made indigenous toys using the most abundant resource of the state to include the bamboo pop gun. The pop gun releases a small pellet which is made of bamboo and is developed for the innumerable bird and animal traps that are used locally.

[6] http://www.craftandartisans.com/dolls-toys-of-assam.html
[7] http://www.craftandartisans.com/dolls-toys-of-haryana.html
[8] http://www.craftandartisans.com/dolls-toys-of-rajasthan.html

- Tiny bamboo whistles made from small diameter cum lengths and bamboo flutes of different types are also made which are used as toys or for professional use. Apart from these, Agartala has a tradition of making small animals from bamboo splits. [9]

- Larger toy-making units operate at Chennapatna in Karnataka. There are household units as well as factories engaged in making toys and gift items with the "turned wood" technique. An equally impressive tradition exists in Udaipur in Rajasthan, at Idar and Mahava towns in Gujarat, and at Budhanighat village in Madhya Pradesh. There were over a hundred home-based workshops in Udaipur, Rajasthan. In recent times, these communities face the major problem of shortage of raw material. At Budhanighat village, there are about 20 home units that have for several generations now, been producing various types of turned- wood lacquered toys. The toy makers have to face not only the shortage of wood but they also lack the knack and marketing ability that is needed to sell their products. There are many communities working with paper- mache in India. Dynamic toys are traditionally sold at fairs and melas. Although cheap plastic toys have flooded the market but still we may come across some of the traditional toys.

Table 8.1 Traditional Toy Clusters

Andhra Pradesh		Adilabad	PRO Terracotta	Pottery and animal and bird figures
		Kondapalli		Wooden carved toys
	Nirmal	Adilabad	Toys & Dolls	Human forms, forms, birds, fruits, vegetables, models of village activities, mythological figures, Kondapalli toys

[9] http://www.craftandartisans.com/dolls-toys-of-tripura.html

Karnataka		Bangalore	Cloth and wire dolls	Dolls and toys & dolls from pulp
	Channapatna	Bangalore Rural	Lacquer ware	Toys, boxes, birds and decorative
	Khanapur	Belgaum	Pottery & Clay	Pottery & Clay
	Khanapur	Belgaum	Terracotta	Terracotta
		Belgaum	Gokak Toys	Toys
		Bellary	Kinhal toys	Printed wooden toys and decorative
Manipur		Imphal	Toys & Dolls	Typical dancing design of dolls
Chhattisgarh	Raipur	Raipur	Rag Dolls	Rag Dolls, Raja/Rani dolls, Batto Bai doll
Rajasthan		Chittaurgarh	Toys and Dolls	Cart drawn by a sparrow, kitchen sets, singardan (a box with articles of toilet), grinder, cradle on a stand, gramophone, train, car, jeep, aero plane, counting stand, clock tower, figurers of , imitate
		Chittaurgarh	Woodwork	Carved furniture, ritual items, chowkies, sindoor box, figures of birds
		Udaipur		Wooden Toys
Himachal Pradesh	Palampur	Kangra	Dolls & Toys	
Uttar Pradesh		Azamgarh	Toys	Terracotta/clay toys
		Varanasi	Toys	Wooden & Clay Toys
		Lucknow	Toys	Miniature Toys
		Agra		Paper mache birds and animals

West Bengal		24 Pargana	Clay Folk Toys Cane & Bamboo Craft	Household articles, peasant figures, dolls and toys, images of gods and goddesses, flower-pots, huts, carts, temples
	Chandraketugarh	24 Pargana North	Terracotta	Divinities including Nagas & Naginis, yakshas & Yakshis, Apsaras Kinnaras, Vyantara, Devatas, toys,
	Barrackpur	24 Pargana North	Soft Dolls	Toys and dolls
	Katwa	Burdwan, Hoogly, Murshidabad	Clay Folk Toys	Household articles, peasant figures, dolls and toys
		Krishnanagar		Clay Dolls
		Shantiniketan		Coloured wooden toys
Assam	Gauripur	Dhubri	Toys & Dolls	
		Dhubri	Terracotta Pottery	Vessels for storing grains, water pots, chaupatia, Handi, Surahi, Images of godss and goddesses, Dolls and Toys
Bihar		Ranchi		Dolls and Toys, Wooden toys
Orissa		Sambalpur		Wooden toys and dolls
		Puri		Paper mache & wooden toys
		Raghurajpur		Paper mache, clay and wood toys
Madhya Pradesh		Gwalior		Rag Dolls

Gujarat		Idar & Mahura		Wooden Toys/tuned wood lacquered toys
		Patan		Scientific clay toys
		Kutch		Clay /Terracotta & Rag Dolls

Toys made from wood or clay or cloth may not match the sheen and finish of their mass-manufactured counterparts, but they certainly help develop a child's motor and cognitive skills. Made from natural materials - such as wood, cane, palm leaf, clay, soft soap stone and cloth - these playmates are safe and enable an understanding and appreciation of nature very early in life. Coated with natural dyes or vegetable colors, the toys are toxin-free. Even the parts of the toys are joined together by natural gums or tamarind paste, rather than a synthetic adhesive.

For instance, stackers can aid in the ability to recognize similar objects, the 'pallankuzhi' (traditional board game played in South India) helps sharpen mental calculation abilities and the abacus improves mathematics. Different toys are recommended for different age groups. Thus children between one and five years can amuse themselves with stackers, while pre-schoolers can take their first steps towards accounts with the help of a colorful abacus.

For decades, the small town Chennapatna, Karnataka thrived on the earnings of the making of toys. However, the lack of investment, initiative and even skill to incorporate new designs, along with the use of poor raw materials, resulted in a drop in demand for such toys.

Capitalizing on the knowledge and skill of the artisans and after studying market trends, a local NGO namely Maya Organic recently developed a brand of wooden educational toys called Moogli toys. All the toys go through strict quality checks established by the NGO. There is a technical department that does the R&D and develops new designs.

The artisans are given extensive training in quality norms and standards before they begin work in groups of 60 to make toys in adherence to the norms. Once the toys are made and delivered to the NGO, they are put through another quality check before being dispatched to shops.

Another non-profit organization in Bangalore, Sutradhar, has been responsible for reviving traditional Indian board games. The organization develops methods to make learning a fun with the help of toys, games and storybooks. Each toy or game has a link with Indian culture and traditions. Sutradhar has revived 'Chausar' (the early source of the western Ludo) and 'pallankuzhi'. The games are packaged with a detailed booklet of the rules.

Having standardized the quality, organizations such as Maya and Sutradhar use technology to their advantage. Both have a catalogue of their products on their websites, where orders can be placed - a huge step from the days when traditional Indian toys were available only at small retail outlets, ‘haats’ (bazaars) or ‘melas’ (fairs). The emphasis on quality and innovation along with Indianness has helped both children and profit margins.

The Traditional toys have many special advantages. The materials and process are usually eco-friendly and inexpensive. There is design diversity, the batch production facilities change and flexibility. The crafts people are usually very skilled and talented.

The negative point can be safety and hygiene aspect and that some NGOs or business houses would need to handle the export of business on behalf of local producers.

Some NGOs have already established successful in exporting Indian traditional toys. They are:

- Maya Organic , Bangalore
- Sutradhar, Bangalore
- Kreeda, Chennai, producing redesigned traditonal Dohan Gania
- Kalaraksha, Kutch (Gujarat) Redevelopment of local games and toys

The main factor is taking into account the hygiene and safety factors. Otherwise, the sector has good scope for export provided agencies and NGO get interested to organize and manage export business.

The main factors for export suitability is the diversity in design and development and quick response to new orders and new design ideas. Each product or the batch can be marketed as a unique one. The handwork is being valued and crafts people and usually very skilled in innovation, design and development. What is needed is the involvement of trained designers and NGOs interested to work in this sector.

8.3 Export Potential for Traditional Indian Toys

The Export Potential for Traditional Toys is very good, in the present eco-friendly era these traditional items though have less value for children but have a very large requirement by parents wanting to keep them as collectables, to show children the different stages of Toy developments and the shape and sizes of toys during their playing days.

- Suggest Traditional Toys are promoted through Indian Emporiums abroad.
- Taking Shelf space with big Toys & Handicraft stores abroad.
- Having exclusive stands at Gifts, Handicraft, Toys International Fairs & India Stand.

The safety and toxicity aspects for the traditional toys has to be studied and the measure taken for this sector. At this moment, traditional toy sector is being co-ordinata mainly by the Development Commissioner of Handicrafts.

Chapter 9

Toxicity & Safety of Toys

9.1 Introduction

Toxicity and Safety aspects have become a major concern among parents all over the world while buying toy products for children. The product must live up to the expectations in relation to functionality and durability, and they must perform as expected, without hidden dangerous properties that can cause injury and harm when in use. There has to be emphasis on the word 'hidden' as all adults know that:

- A knife can cut
- Petrol can burn, even explode
- Medicine and chemicals must be handled with care
- You can fall off a bicycle

A hidden dangerous property is one we do not expect to find, one which can impose a risk of injury or danger to us. In other words, it is something we cannot guard against. We expect to be able to enjoy a meal or a soft drink without being injured. We expect the brakes in our car to work and we expect to give our children the products we buy for them without fear of causing injury. Of course, those products must be used as intended, or at least in a way that children may be normally expected to use them.

Much work has gone into the making of safe toys. This includes design guidelines, natural and process properties, equipment and facilities for testing and training. The European Standards are being practiced as per EN 71 and detailed information is available.

The organized segment of the toy industry in India is growing and are aware of the safety norms and expectations. Government of India's Ministry of Small and Medium Enterprises (MSME) under the National Programme for Development of Toy Industry (NPDTI) has established a Toy Testing facility at Okhla, New Delhi. This is to facilitate toy industry to develop and produce toys confirming to National and International Standards. Comprehensive toy testing facilities as per segments of Indian Standard Specifications, 98, 73, Part I, II and

III and as per the segment of EN 71 (Part I, II and III) of the European Standards on Safety, have been set up and maintained.

The tests prescribed under the toxicity following safety specifications can be conducted in the centre.

- Safety aspects related to mechanical and physical proportion as per IS:9873 (Part I)
- Safety of Toys : Flammability Test as per IS : 9873 (Part II)
- Safety of Toys : Migration of elements (Part III)

At present, the development and production of Toys conforming to Indian Standard Specifications on safety is voluntary. But in course of time, with due awareness, interest in developing new design concepts and expanding markets, it would be necessary to consider this. With the growth of Toy Industry gain of confidence and expansion, it would be expected that toy manufacturers and distributors need to pay attention to ensure the toys are within the permissible level of toxicity and due consideration to overall safety aspects as well.

Safety and Toxicity aspect would be one of the important aspect which would supervise and advise on the growth and development of this sector. Suitable measures need to be worked out to motivate toy manufacturers and distributors to take up this as a part of the business development.

The materials used in toys like plastics, paints and fabrics are made up of chemicals, and may also contain added chemicals to impart specific properties such as rigidity, durability, flexibility or flame resistance. When children put these products into their mouths, some of these chemicals may enter their bodies. The chewing, licking and swallowing behavior of children allow the substances, which are not always chemicals bound to the products, may also be released directly into skin, or into the air that children breathe. Children's bodies are more vulnerable to the effects of toxic chemicals. It is widely accepted that no level of lead or cadmium in the blood should be considered safe for children.

Toys made of **polyvinyl chloride (PVC)** are potentially toxic to children as PVC contains both lead and cadmium. Lead and cadmium are known poisons, being neurotoxins and nephrotoxins respectively. Lead and cadmium compounds act as stabilizers but they readily

reach out. They can also be used in pigments to impart bright colures to toys in order to attract children. Chewing and swallowing behavior of children is a common source of lead and cadmium exposure. Lead is not biodegradable. It persists in the soil, in the air, in drinking , and in homes. It only accumulates where it is deposited and can poison generations of children and adults unless properly removed. At high levels, lead poisoning causes coma, convulsions and death. At low levels far below those that present obvious symptoms – lead poisoning in childhood causes reductions in IQ and attention span, reading and learning disabilities, hyperactivity, impaired growth, behavioral problems, and hearing loss. These effects are long- term and may be irreversible.

Based on a research conducted by a Delhi based organization **Toxic-Links (2000)**, lead and cadmium were found in varying concentrations in all toy samples. The samples of toys were collected from three metropolitan cities of India – Mumbai, Delhi and Chennai. These cities were identified for the sample selection, as they are one of India's largest manufacturer and supply centers for unbranded toys to their surroundings urban and rural areas, accounting for nearly 95% of the toy output in India. The study establishes that Indian unbranded PVC toys do contain lead and cadmium. Overall Lead seems to be largely in use as stabilizer in PVC toy manufacturing. Such high quantities of lead in toys pose a threat to children's health. Hence children playing with toys having both lead and cadmium are exposed to both toxic metals.

9.2 The Indian Standard on Toxicity

Toy Material	Element (ppm)							
	Sb	**As**	**Ba**	**Cd**	**Cr**	**Pb**	**Hg**	**Se**
Any toy material given in clause 1, except modeling clay and finger paint	60	25	1000	75	60	90	60	500
Modelling Clay and finger paint	60	25	250	50	25	90	25	500

The existing Indian standard for maximum lead content in paints is governed by a standard set by the BIS. This requires adherence to an "Eco-Mark" scheme, which in turn requires that the

manufacturers ensures that the Lead Concentration is below 1000 ppm. The paint samples studied by Toxic Link showed concentrations as high as 14000 ppm. Currently there is no regulation making it obligatory for the toy manufacturers in India to comply with any safety standard. Bureau of Indian Standards (BIS), is essentially a scientific –technical body which recommends parameters and standards. It is up to the relevant ministries to make standards mandatory by bringing in necessary legislation. Thus, industries have the option of complying with BIS standards if they want compliance certificates, but they are still free to manufacture and sell their products without compliance marks. Also manufacturers don't register for the ISI mark for their products because it is an expensive procedure.

9.2.1 BIS guidelines:

A. IS 9873 (part 1): 2001/ISO 8124- 1:2001 covers safety requirements of toys, safety aspects related to mechanical and physical properties.

The requirements in this part apply to all toys and acceptable criteria for structural characteristics of toys, such as shapes, size, contour, spacing and criteria for properties peculiar to certain categories of toys are specified. The standard specifies the requirements of test methods for toys intended for use by children of various age groups from birth to 14 years. A drop test may be carried out to know the physical strength of the toy. Eye of a doll toy may be pulled with a predetermined force to know the behavior of this accessory when the toy is being played with by the child.

B. IS 9873 (Part 2): 1999/ISO 8124-2.1994 covers safety requirements of toys, flammability requirements

This standard specifies the categories of flammable materials, which are prohibited in all toys and requirements concerning flammability of certain toys when they are submitted to a small source of ignition. The standard includes general requirements relating to all toys and specific requirements and methods of testing relating to some of the selected toys. This type of test will be very much important for push toys and other toys which have a tendency to catch fire in adverse conditions.

C. IS 9873 (Part 3): 1999/ISO 8124-3:1997 covers safety requirements of toys, immigration of certain elements

This part specifies maximum acceptable levels and methods of sampling & extraction prior to analysis for migration of the elements antimony, arsenic, barium, cadmium, chromium, lead, mercury and selenium from toy materials and from parts of toys. This is also governed by ISO 8124, adopted by International Organization for Standardization. The migration of elements is specified from the following toy materials:-

- coatings of paints, varnishes, lacquers, printing inks, polymers and similar coatings
- Polymeric and similar materials, including laminates, whether textile reinforced or not, but excluding other textiles
- Paper and paper board upto maximum mass per unit area of 400 gms per sq. mt.
- Natural or synthetic textiles
- Glass / ceramic / metallic materials, excepting lead solder, when used for electrical connections
- Materials intended to leave a trace (e.g. the graphite materials in pencils and liquid ink in pens)
- Pliable modeling materials, including modeling clays and gels
- Paints to be used as such in the toy, including finger paints, varnishes, lacquers, glazing powders and similar materials in solid or liquid form.

On August, 2007 Mattel's Fisher-Price subsidiary recalled almost one million Chinese made toys because of potential hazards from parts of the toys which were colored using lead-based paint. In worst cases, lead in paint was found to be 180 times the limit. The paint on the toys was up to 11% lead, or 110,000 parts per million. U.S. Federal law allows just 0.06% lead, or 600 parts per million. Later in the month, Mattel again recalled over 18 million products because it was possible that they could pose a danger to children due to the use of strong magnets that may detach. In September 2007, Mattel recalled a further 530,000 affected toys in US and 318,000 outside the US- after its intensive testing found that the Chinese made products contained levels of lead in painted parts that were above the acceptable limit set by the company. This third recall in a month included accessories for Barbie dolls and Fisher-Price toys.

9.3 Toxic Aspects of Raw Materials

9.3.1 Lead

Lead is a heavy metal that continues to be used in a wide variety of children's products. Lead is often used as a stabilizer in PVC products and for pigmentation in paint, rubber, plastics, and ceramics.

Health effects:

- Scientists have found there is no safe level of lead for children-even the smallest amount affects a child's ability to Learn. Children are more vulnerable than adults to Lead.
- Lead impacts brain development, causing learning and developmental problems including decreased IQ scores, shorter attention spans, and delayed learning.
- When children are exposed to Lead, the developmental and nervous system consequences are irreversible
- In addition to neurological damage, excessive amounts of Lead can lead to muscle weakness, anemia, and kidney damage.

8.3.2. Chlorine (PVC)

Detection of Chlorine in a toy component indicates the likely use of PVC (polyvinyl chloride) or vinyl, a widely used type of plastic. PVC is of concern to the environment and public health during all phases of its life cycle.

During the production phase, workers at PVC facilities, as well as residents in surrounding areas, may be exposed to vinyl chloride (a building block of PVC) and/or dioxin (an unwanted byproduct of PVC production), both of which are carcinogens. At the end of a product's life, PVC can create dioxin when burned. PVC is not easily recycled.

Lead and other heavy metals are sometimes used as a stabilizer or to impart other properties to PVC plastic.

Since PVC is an inherently brittle material, it requires additives to make it flexible and to impart other desired properties. Another group of additives commonly found in PVC products

are phthalates. Phthalates are used in many plastics, especially PVC products, as a softening agent to make the plastic flexible. Over 90% of all phthalates are used in PVC products. However, there is evidence that toy manufacturers are shifting away from the use of phthalates. The CPSC will also begin regulating six phthalates in children's products in 2009, and may choose to increase this number in the future.

8.3.3. Cadmium

Cadmium is a heavy metal used as a stabilizer in PVC and in coatings and pigments in plastic and paint (ATSDR 1999).

Health Effects

Depending on the level of exposure, cadmium has been linked to:

- Cadmium exposure is associated in animal studies with developmental effects, including possible decreases in birth weight, delayed sensory-motor development, hormonal effects, and altered behavior (Schantz 2001).
- Cadmium can cause adverse effects on the kidney, lung and intestines (ATSDR 2005).
- Cadmium is classified as a known human carcinogen, associated with lung and prostate cancer. (Huff 2007).
- Exposure to cadmium can result in bone loss and increased blood pressure (Gilbert 2004).
- Acute toxicity from ingestion of high levels of cadmium can result in abdominal pain, nausea, vomiting and death (Gilbert 2004).

9.3.4. Mercury

Mercury is a metallic element. Its compounds are often used in inks, adhesives, and as a catalyst in reactions to form polyurethanes (ATSDR 1999). HealthyToys.org has detected low concentrations of mercury in a number of different toy components. Mercury can exist in different forms and some forms are more toxic than others. Methylmercury is a form of mercury that is particularly hazardous to the developing brain. The main pathway of exposure to methyl mercury is from eating contaminated fish and it is unlikely that this form would be present in children's toys. However, the use of mercury in children's products means potential exposure of workers to this compound and release to the environment when the product is discarded.

Health Effects:

- Mercury is a persistent toxic chemical that can build up in the body.
- All forms of mercury can affect the kidneys (ATSDR 1999).
- Organic, inorganic, and metallic mercury are toxic to the nervous system, each affecting different regions of the brain (ATSDR 1999).

9.3.5. Arsenic

Arsenic is an element that can be present in both organic and inorganic compounds. Arsenic trioxide, an inorganic arsenic compound, is primarily used as a wood preservative. It is now imported and not domestically produced. In recent times, it has been found in children's products, though the reason for its presence is not clear. It may be used as a dye in plastics and textiles. The XRF technology does not allow us to assess the form of arsenic detected, although it is possible that the arsenic is in children's products in the more toxic inorganic form.

9.3.6. Phthalates

Phthalates are a group of industrial chemicals that add flexibility and resilience to many consumer products, which includes children's toys. Depending on the level of exposure, phthalates have been linked to :

- Exposure to phthalates is linked to birth defects of the genitals and altered levels of reproductive hormones in baby boys.
- Phthalates in building products have also been linked to asthma.

India must provide safe environment to children so that they are not exposed to toxic chemicals. This can only be achieved by implementing a robust regulatory mechanism and preventive approach through using safe and non-toxic materials. At present India has no enforceable standards for lead, cadmium and other toxic metals permissible in toys. Toys, particularly soft PVC toys, which are intimately linked to children's environment, have not

been investigated as one of the possible sources of lead, cadmium and other heavy metals exposure to children.

Safety & Toxicity in toys need to be considered as integral component of design development, training and awareness programmes as part of the overall programme for the development of toy industry sector. This is essential but complex area particularly if tiny and cottage industry is also included.

Chapter 10

Summary & Recommendations

Toy Industry in India is in its nascent stages and requires governmental support and protection by way of upgrading existing technologies, R & D, Designing, Toy Safety norms etc. It has tremendous scope and potential for expansion in exports as well as in the domestic markets. All policy recommendations suggested in this report are formulated after having detailed interactions with the major Toy Associations in Delhi & Mumbai and also a detailed field survey both traditional and modern Toy manufacturers from different toy clusters across India and also based on case studies of 15 toy manufacturer and traders from different product segments.

During the course of the study, NPC study team had three rounds of discussions with Toy Industry Associations and leading manufacturers to discuss various issues emerging from the study. Summary of such meetings are given in **Annexures VI, VII & VIII**.

The Toy Industry in India is in urgent need of a two way policy intervention such as 1) Short term & Immediate Interventions and 2) Long term interventions to make it a major International force.

10.1. Short Term and Immediate Interventions

10.1.1. Infrastructure Requirements

- The Toy Industry in India comprises of manufacturing units manly from the MSME sector; hence needs to be given a **Special Status** as it relates with education and human development. This sector has a significant role to play towards education and development of children and youth which account for more than 50 % of India's population. This aspect has not been given due consideration and this may be one of the reasons why the sector has not grown despite its inherent special nature of product development. The Toy Industry has tremendous scope for expansion in Exports as well as in domestic markets

and a FIVE year dedicated programme would provide a good base for development of the sector.

- Extension of National Programme for the Development of Toy Industry (NPDTI) recommended with a minimum financial allocation of Rs 40 crores. The first NPDTI had a financial allotment of US $ 2.2 million, and started in 2000 by the Ministry of MSME in association with UNIDO & The Toy Association of India. Project document is available in the office of Additional Secretary & Development Commissioner MSME. The deliverables of the programme need to be reworked in consultation with the industry to suit the present day requirements. Toy industry needs to build its capability and capacity for a range of professional skills. The industry needs to be far better equipped for the design, development, testing and promotional activities. The NPDTI Programme under UNIDO was a logical process. Such a programme needs to be restructured and the Industry and Associations must be given further opportunities. These programmes can be in the form of projects, workshops and clinics by involving concerned institutions and professionals. National and international experts and professionals can be involved in a planned manner. The aspects of generation of new idea/concepts, design development detailing, prototyping, testing and product promotion need to be much more rigorous and continuous.

- As there are no dedicated R&D and design centre for the industry, it is suggested that two such centers, one each in Delhi & Mumbai, may be set up. During 2004 facility was created under the NPDTI programme both at MSME SI Okhla & MSME SI Mumbai. These centers at MSME SI Okhla & Mumbai could be continued or any other convenient location easily accessible to the Industry could be identified on a pilot project basis.

- While constituting Product Design Centre , help could be taken from National Centre for Design & Product Development (NCDPD) set up by Ministry of Textiles, Govt. of India, which is operating on the lines visualized for the Toy Design & Development Center.

- Toy Industry in Delhi & NCR has requested tie up with NID & IIT Delhi for Technology & Design Development. They had such a programme earlier under NPDTI.

- Toy Industry in Mumbai has requested collaboration with IIT Mumbai for Technology & Product Design Development. There was such a programme under NPDTI earlier.

- There are no internationally accredited Labs available to the Toy Industry. Under NPDTI programme, MSME created testing facility in Regional Testing Centre (RTC) Okhla & MSME SI in Mumbai. But these Labs are not fully accredited. It is suggested that MSME interact with BIS and get the RTC Okhla & MSMESI Mumbai accredited with NABL duly authorized by BIS. We also recommend 3 Common Facility Centres (CFC) in accordance with Govt. of India, SPV Cluster development programme under PPP mode, 2 CFC, in Delhi, (one at North & East Delhi and one in NCR). These CFC's can have R&D facilities, Testing, Product development etc.

- Subsidy on Toy testing may be provided to the tune of 70% by MSME. There is no need of getting the products tested for industries exporting to Europe as their buyers get them tested at their recognized labs.

- Rigid labour laws are a major constraint and are not suitable for Toy industry which is employing more than 70% unskilled labour. Special concessions are required for the Toy Industry.

- The concept of single window clearance may be introduced for all procedures viz. getting factory licence, Non polluting certificate/ VAT /ST Registration etc.

10.1.2. Toy Safety and Toxicity

- As mentioned in chapter 9, toxicity has been found to be a major concern for the toy products manufactured in India. Safety aspects are also not given adequate attention. Hence it is suggested that both TAI and TAITMA may organize awareness programmes on Toy safety and Toxicity.

- It is also recommended that testing/certification for toxicity and safety may be made mandatory for all manufacturers. A time frame may be set for phase wise implementation of the same. Industry may be given a moratorium period of ONE year to ensure 100% safe and toxic free toys, and after that heavy penalty may be imposed for defaulters.

10.1.3. Toy Mark

It is suggested that Government may constitute an independent committee comprising of IIT Delhi, NID, industry consultants BIS and Toy Associations of Delhi & Mumbai to formulate Toy Mark certification for Indian Toys. such certifications should be controlled by a Government agency only. Industry can register on voluntary basis for certification of there products towards TOY MARK.

10.1.4. Marketing & Promotion

- Participants to major International toy fairs such as Hong Kong, Nürnberg (Germany) and New York may be provided a grant of 75% towards space and stand rent (as was given under NPDTI) for the next 3 years. Toy Industry is attached to the Sports Goods Export Promotion Council for export promotion. As per the MAI Scheme a minimum of 10 companies must participate in International exhibitions. As there are very few companies who could afford the cost to participate in more than one fair in an year, special grant may be given to companies interested to participate in International fairs on single company basis. Such grant could be given to Individual companies also to participate in any 3 International fairs on the production of audited financial statements having a minimum turnover of Rs 30 million for two consecutive years.

- Under the MDA scheme SGEPC may be advised to organize Buyer Seller meet for the Toy Industry to Africa & Latin America.

- Toy Industry has no data base about foreign buyers/ sellers, Raw material suppliers etc. It is recommended that a renowned International marketing consultant may be appointed as facilitator between Indian exporters and foreign buyers. SGEPC may monitor the consultants.

- The Toy Association of India used to organize TOY BIZ International Fairs. Four TBI's were organized at Pragati Maidan, New Delhi and one each at Mumbai & Kolkata. NPDTI used to subsidize these fairs by grant of 25 to 30% of total fair cost. TAI has not been able to organize TBI after 2008 as no subsidy is available. It is suggested that TBI should be organized jointly by SGEPC & Spielwarenmesse eG. Toy Fair Organizers of

International Toy Fair, Nürnberg, Toy Russia, Moscow, World of Toys, Hong Kong. They can be contacted through Indo German Export Promotion, Mumbai. Government of India should subsidize stand rent by 60% on behalf of Indian Toy Manufacturers exhibiting their products for the next 3 years.

- The Notification issued by DGFT regarding Import of Toys specifics that the toys imported upto 31.03.2010 must have Toy safety certification as per EN- 71 / ASFT. It is recommended that the time may be extended up to 2012. This will help build confidence in the Indian Toy manufacturers to expand and establish better business and encourage new companies to enter the Toy Manufacturing line.

- From the field survey, it was found that only 6% of the units were engaged in exports and only 25% were aware of export incentive schemes. To encourage more firms to export, it is recommended that MAI and MDA schemes should be made more liberal and attractive.

- Traditional toys may be promoted through Indian Emporiums abroad. They should also be provided shelf space with Toys & Handicraft stores abroad.

10.1.5. Financial Matters

- Lack of cheap and easy availability of Finance: As per MSME guidelines all nationalized banks are required to give loans up to Rs**.** 5 million to MSME companies without any hypothecation. Banks are not forthcoming with such loans. The Loan amount should be increased to Rs 1 million and MSME should negotiate with scheduled banks to disperse loans to Micro & SME units recommended by MSME. If they are able to overcome this issue then they can easily overcome factors like up gradation of Technology, Lack of space, Inventories, Stock keeping, Vendor management. etc.

- Reduced Custom Duty on Raw Material i.e. HDPE, PP, Board , Paper, MDF wood, Duplex board, Pile fabric, Non Toxic Paints etc., and duty free import by the actual User/ manufacturers.

- Board Games and Puzzles which has been notified under HS Code chapter 95.03 has been misinterpreted by the Central Excise Authority as HS Code 95.04 covering Articles for

Fun Fair, Table and Parlour Games. Classifying Board Games and Puzzles under 95.04 brings it under the ambit of Central Excise. As Board Games and Puzzles are purely educational in nature, it is recommended that Board Games and Puzzles should be notified under HS Code 95.03. India is far ahead of China in Board & Educational Games mainly because of English Language advantage, hence excise exemption will help maintain continuity.

- Raw Materials are available but fluctuation in price makes it impossible for Manufacturers to compete with China.

- Export incentive of 15% as a single entry under HSN Code 95 as given in China may be adopted in India.

- Electronic Toys are at present taxed at 12% under VAT. It is recommended that the rate should be reduced to 4% as it is the case in Toys. This will also encourage Indian Toy Manufacturers to start production of Electronic & battery operated toys.

10.1.6. Octroi Related Issues

Octroi in Mumbai is a point of concern. Multiplicity of octroi at various levels like special octroi for Mumbai and Thane need to be looked into. All the raw material and semi finished goods they use are octroi paid which makes products costlier.

- The Container freight from Delhi to Mumbai is higher than the freight from Mumbai to Shanghai. This requires dialogue with the Ministry of Railways to find out ways to reduce the Container freight cost from Delhi to Kandla/Nhava Shera Ports.

- Since the technology has become critical element of competitiveness; it is recommended that technology up gradation fund may be created with SIDBI as a nodal agency. A capital subsidy of 25% and interest subsidy of 5% is recommended. The existing norms of SMEs in this regard may be modified.

1.2. Long term Interventions

10.2.1. Infrastructure Requirement

- It is recommended that 100 acres of land in and around Delhi & NCR and 75 acres of land in and around Mumbai should be made available to establish Toy manufacturing & vendor base development, cluster formation as is the prevalent modus operandi in China.

- The Cost of Power in any Industrial area is Approx Rs 5/- per unit, this goes up to Rs 7/- per unit, when generated by Diesel Generators, also creating pollution problems. While allotting land availability of uninterrupted Power and proper connectivity of highways should also be ensured.

- Clusters should contain all facilities viz. Common Facility Center, R&D center and Tool Room. Ministry should provide grant of 50-55% fund for development of land.

- During our discussion with the Toy Association of India, it was strongly recommended to Set up Toy Design & Development Institute (TDDI) at Greater Noida at an early date. Five acres of land has been given free of cost by GNIDA as its equity towards Toy Design & Development Institute during 2000, but due to procedural delays TDDI could not be established yet.

- Building Brand Image: Toy Companies exhibiting in the Nurnberg Toy Fair for the past few years have noticed a very evident fact that people do not trust an Indian company to give the right quality and products at the right time. This is the right time for Indian Toy Industry to establish Brand Image.

It is suggested that a Monitoring Committee may be constituted comprising of Senior Government officials from DIPP along with SGEPC (representing Ministry of Commerce and industry) , Representative from MSME and members from Toy Associations (Delhi & Mumbai) and Industry consultants National & International. Further the Monitoring Committee may be empowered to co-ordinate and start implementing the approvals given by Government.

References

1. Agency for Toxic Substances and Disease Registry (ATSDR), www.healthystuff.org/departments/toys/chemicals.cadmium.php
2. The Toy Industry in China : Undermining Workers' Right and Rule of Law, a Report by China Labor Watch, September 2005.
3. Prof. Peter Navarro, Report of "the China Price Project", Merage School of Business, University of California Irvine, 2007, http://www.peternavarro.com/sitebuildercontent/sitebuilderfiles/chinapricereport.pdf
4. Toxics Link research, Project Brief of Trust Fund Agreement between the United Nations Industrial Development Organisation and Ministry of small scale industries and agro and rural industries, Government of India, July 2000.
5. Children's Britannica by Dale Hoiberg and Indu Ramchandani, 2000
6. The Indian Toy Story by Chitra Balasubramaniam, 2007
7. Toys and Tales with Everyday Materials, Sudarshan Khanna, Gita Wolf, Anushka Ravishankar, Tara Publishing and National Institute of Design, 1999
8. Dynamic Folk Toys, Sudarshan Khanna, Office of the Development Commissioner for Handicrafts, New Delhi, 1983
9. http://books.google.co.in/books?id=xzljvnQ1vAC&pg=PA81&lpg=PA81&dq=toy+industry,+india&source=web&ots=BeQsOOAdKL&sig=0TLwpcQ2pW4A18_djvBqC58-UVY&hl=en&sa=X&oi=book_result&resnum=4&ct=result#PPA78,M1 Children's Britannica by Dale Hoiberg and Indu Ramchandani, 2000
10. Balassa, Bela (1965): "Trade Liberalisation and "Revealed" Comparative Advantage" The Manchester School, Vol. 33 Issue No. 2 pp.99-123.

11. http://www.indiastudychannel.com/resources/7010-TOY-MAKING-OF-SAMBALPUR-DISTRICT-ORISSA.aspx

12. Schantz, 2001, http://74.125.153.132/search?q=cache:xbJp-u2mGWEJ:www.nypirg.org/Consumer/toysafety08/NYToyList.pdf+%EF%83%98+Cadmium+exposure+is+associated+in+animal+studies+with+developmental+effects,+including+possible+decreases+in+birth+weight,+delayed+sensory-motor+development,+hormonal+effects,+and+ altered+behavior+(Schantz+2001).&cd=3&hl=en&ct=clnk&gl=in

13. Huff, 2007, http://74.125.153.132/search?q=cache:svMV-PX5Q4J:www.healthystuff.org/ epartments/toys/chemicals.cadmium.php+%EF%83%98+Cadmium+exposure+is+associated+in+animal+studies+with+developmental+effects,+including+possible+decreases+in+birth+weight,+delayed+sensory-motor+development,+hormonal+effects,+and +altered+behavior+(Schantz+2001).&cd=1&hl=en&ct=clnk&gl=in

Annexure – I

Distribution of Toy Manufacturing units considered for field survey: Regionwise & Productwise

Region	State	Stuff Toys	Metal Toys	Plastic Toys	Educational Toys	Mechanical Toys	Computer Games	Wooden Toys	Vinyl Toys	All types of games & Toys	Total Units
Northern	Delhi	22	2	50	12	9	1	5	4	4	82
	Punjab	2	5	6	3	4		2	1		6
	UP	4	-	5	1	-	-	-	-	-	10
	Haryana	5	3	7	5	4	2	1	1	-	7
Sub Total		**33**	**10**	**68**	**21**	**17**	**3**	**8**	**6**	**4**	**105**
East	West Bengal	4	4	7	6	6	-	3	2	-	9
Sub Total		**4**	**4**	**7**	**6**	**6**	**-**	**3**	**2**	**-**	**9**
West	Maharashtra	5	-	18	11	2	2	3	-	1	32
	Gujarat	1	3	6	6	3	-	2	2	3	7
Sub Total		**6**	**3**	**24**	**17**	**5**	**2**	**5**	**2**	**4**	**39**
South	Tamil Nadu	3	4	9	7	7	1	2	2	4	11
	Karnataka	2	1	4	3	1	-	2	1	-	5
	Andhra Pradesh	13	1	6	9	5	-	2	3	-	13
Sub Total		**18**	**6**	**19**	**19**	**13**	**1**	**6**	**6**	**4**	**36**
Central	MP	-	-	-	-	-	-	-	-	-	-
Sub Total		-	**-**	**-**	-	-	-	-	-	-	**-**
Total		**61**	**20**	**118**	**63**	**41**	**6**	**22**	**16**	**12**	**184**

Annexure - II

Sample distribution of Traditional Units

State	Product	No. of units
Channapatna (Karnataka)	Wooden toys	1
Shantiniketan (West Bengal)	Terracotta, leather	3
Sharanpur (U.P)	Wooden + Glass toys	17
Jaipur (Rajasthan)	Cloth dolls	10
Andhra Pradesh	Wooden	1
Total No. of units		**32**

Annexure - III

Survey Questionnaire: Company/Manufacturing Unit

*National Productivity Council is carrying out a Nation wide survey of **Indian Toy Manufacturing Sector** on behalf Ministry of Commerce and Industry, GoI. The objective of this survey is to identify and understand major concerns and issues of the sector that affect productivity and export competitiveness of the sector. The study is expected to come out with sector specific recommendations with a view to enhance productivity and export competitiveness of the sector.*

(Please fill as per instructions given with each question.
Write codes/ values in the box provided at the right hand side)

1.0	General Information	
1.1	**States and Union Territories Code :** (1=Andhra Pradesh, , 2=Bihar, 3=Delhi, 4=Gujarat, 5=Karnataka, 6=Kerala, 7=Maharashtra, , 8=Punjab, 9=Rajasthan, 10=Tamil Nadu, 11=Uttar Pradesh, , 12=West Bengal)	
1.2	**Product Category** (1=soft toys, 2=metal toys, 3=plastic toys, 4=educational toys, 5=mechanical toys, 6=computer games, 7=wooden toys, 8=Vinyl toys, 9=Others)	
1.3	**Company Name & Address:** _____ _____ _____ Contact Person's Name:_____ Telephone if any:_____ e-mail address/website if any:_____	
1.3.1	**Year of Establishment**	
1.3.2	**What is the category of your company?** (1= Small, 2=Medium, 3=Large, 4=Other,)	
1.3.3	**Is your company registered? (**1= yes, 2=no)	
1.3.4	**Does your organization have Quality Accreditation, like ISO 9000, HACCP etc?** (1= yes, 2= no)	
1.3.4.1	**If yes, please specify the standards/ accreditation:** (1=ASTM F963, 2=ISO8124 (parts I-III), 3=IS9873 (parts I-III), 4= Any other please Specify _____	
1.3.4.2	**Has the standards/ accreditation helped in boosting business growth? (**1= yes, 2=no)	
1.4	**Are you a member of any Toy manufacturing association?** (1= Yes, 2=No)	
1.4.1	**If no, please specify reasons:**_____ _____ _____	
2.0	**Input Related Information**	
2.1	**Percentage Growth in wages/salary from 2000 till 2008.** (1-10%, 10-25%, 25-50%, 50-75% Above 75%)	
2.2	**Employment & Capital related information**	

Sr. No.	Years	Skilled workers (Number)	Un Skilled workers (Number)	Wages & Salaries (Rs. Lakhs)	Capital Investment (Book Value) (Rs. Lakhs)
	2004-05				
	2005-06				
	2006-07				
	2007-08				
	2008-09				

3.0	**Trade Related Information**	
3.1	**Are you an exporter?** (1=Yes, 2= No)	
3.2	**If No, reasons:** 1) Cumbersome 2) Low margins 3) No help from authorities/association 4) No ISO/ other certifications 5) No knowledge of export procedures 6) Others specify _____	
3.3	**If yes, what is the percentage of your Export in your Total Sales** (1-10%, 10-25%, 25-50%, 50-75% Above 75%)	
3.4	**How do you undertake export activity?** (1=Directly export to foreign buyers, 2=Through buying houses in India, 3=through agents in India, 4=Others (specify)_____ _____	
3.5	**Data on production and foreign trade during last five years.**	

Sr. No.	Years	Sales Value (Rs. Lakhs)	Production Cost (Rs. Lakhs)	Export (Rs. Lakhs)	Import (Rs. Lakhs
	2004-05				
	2005-06				
	2006-07				
	2007-08				
	2008-09				

3.6	**Please mention your export destinations**	
3.6.1	**Product Description***	**Countries you are exporting to**
	* (1=soft toys, 2=metal toys, 3=plastic toys, 4=educational toys, 5=mechanical toys, 6=computer games, 7=wooden toys, 8=Vinyl toys, 9=Others)	
3.7	**What type of changes have you made in the products or otherwise to make them more saleable in the countries you export to:** _____ _____	
3.8	**What measures have you taken to compete with the foreign producers?** _____ _____	
3.9	**What are the bottlenecks in the Toy Export business?** please specify_____ _____	
3.10	**Are you an Importer?** (1=Yes, 2= No)	
3.10.1	**If yes, what are you importing?** (1=Parts and components , 2= Full product)	
3.11	**If yes, what is the percentage of Import to Total Sales** (1=1-10%, 2=10-25%, 3=25-50%, 4=50-75% 5=Above 75%)	

3.12	**How do you undertake import activity?** (1=Direct import from foreign sellers, 2=Through buying houses in India, 3=through agents in India, 4=Others (specify)_____		
3.13	**Please mention your import destinations**		
3.13.1	**Product Description***	**Countries you are importing from**	
	***(**1=soft toys, 2=metal toys, 3=plastic toys, 4=educational toys, 5=mechanical toys, 6=computer games, 7=wooden toys, 8=Vinyl toys)		
4.0	**Domestic Market Related Information**		
4.1	**Domestic demand for your products in the recent years shows :** 1=Increase, 2=Decrease, 3=No Change		
4.2	**Competition in the domestic market from imported products?** [Intense (>50% market share imported toys), Medium (25-50 %), Low (0-25 %), No Competition]		
4.3	**Whether the educational system meets the needs of the toy business community?** (1=Yes, 2= No)		
4.4	**Availability of quality manpower during the last five years:** 1=Increase, 2=Decrease, 3=No Change		
4.5	**Are you satisfied with the quality of infrastructure available in your sector?** (1=Yes, 2= No)		
4.5.1	**If no, please specify** _____ _____ _____		
5.0	**Competitive advantage of Competing Countries**		
5.1	**Clearance to start a manufacturing unit in India takes.** (6 months, One years, More than One year)		
5.2	**Availability and quality of basic infrastructure such as power, water, road, rail etc. in India.**(poor, reasonable, good, excellent)		
5.3	**Taxes and other controls in India** (low, moderate, high, very high)		
5.4	**Cost of production in India in comparison to China.** (low, moderate, high, very high)		
6.0	**Innovation by the Company**		
6.1	**Latest innovations reported in your company?(year)**		
6.2	**Type of design or innovations in your company (Choose one or more):** (1=Technology innovations, 2=New Product development, 3=Production/process innovations,4=Marketing 5=Others (pl specify) _____ _____		
6.3	**Sources of product design and innovations in your company?:** (1=In-house R&D and innovation processes, 2=Suppliers, 3=Customers/buyers, 4=Employees, 5=Media 6=Others (pl specify)		
6.4	**Importance of new designs to your company** (1=very low,2= medium, 3= high, 4=very high)		
6.5	**Compared to your competitors, how would you rank usage of technology in your company? (**1= Uses technology more than competitors, 2= Uses technology as much as competitors, 3= Uses technology less than competitors)		
6.6	**How quickly do you adopt technologies compared to your competitors? (**1= Adopts technology before most, 2= Adopts technology at about the same time as most others, 3= Adopts technology after most others)		

7.0	**Competition from Chinese Toy Products**	
7.1	**Are you facing competition from toy products from China?** (1-yes, 2=No, 3=Not aware)	
7.1.1	**If Yes, how would you compare quality of your products with Chinese products? (**1= Quality is better than Chinese products, 2=Quality same as Chinese products, 3. Quality is lower than Chinese products)	
7.2	**China scores over India in terms of:** (1= Cost, 2= Quality, 3= Innovation, 4= Others) _____	
73	**How much cheaper are Chinese toys as compared to Indian toys? (1=** <10%, 2=10-25%, 3= 25-50%, 4= >50%)	
7.4	**In which of the following categories do Indian toys have an overall advantage over Chinese toys**? (1=Plastic & Soft Dolls, 2=Plush/Stuffed Toys, 3=Board Games/Puzzles, 4=Educational Games & Toys, 5= Wooden Toys, 6= Metal/ Tin Toys, 7=Electronic Toys/Games, 8=Collectibles and Stationary items converted into playthings.)	
8.0	**Government Assistance**	
8.1	**What are the sources of finance for funding your business?** (1= Banks, 2= Government Agencies (Pl specify) …… 3= Private sources (pl specify) ---------- 4= Self, 5= Others,	
8.2	**In your opinion, which of the following areas need government intervention** (1= Developing training facilities for the industry, 2= Design and development centers to be set-up, 3= Quality of infrastructure, 4= Interface with business, 5= Labor relations, 6= Marketing of traditional toys, 7= Exports marketing, 8= Easy Availability of capital, 9= Others (Please specify_____	
8.3	**Are you aware of Market Access Initiative(MAI) scheme of Government for export promotion** (1= Yes, 2=No)	
8.3.1	**Have you ever used MAI to promote your export?** (1= Yes, 2=No)	
8.3.2	**If yes, please give details** _____ _____	
8.4	**Are you aware of Market Development Assistance(MDA) scheme of Government for export promotion** (1= Yes, 2=No)	
8.4.1	**Have you ever used MDA to promote your export?** (1= Yes, 2=No)	
8.4.2	**If yes, please give details** _____ _____	
8.5	**Have you ever utilized following incentive schemes:** (1= Duty Drawback, 2= EPCGS (Export Promotion Capital Goods Scheme), 3= Export credit, 4= Any other(specify))	
9.0	**Toxic Aspects of Raw Materials**	
9.1	**Are you aware of the presence of any toxic elements (e.g. Lead, Bromine, Chlorine (PVC), Cadmium, Arsenic, Mercury, Antimony, Chromium, Tin, Others) in raw materials used for toy manufacturing?** (1= Yes, 2= No)	
9.1.1	**If yes, how do you identify the presence of the toxic material** (1= testing in Laboratory, 2= Complaint/Law Suit, 3= Any other (please mention_____	
9.2	**Are you aware of the permissible limits of toxic chemicals in toys in India?** (1= Yes, 2=No)	
9.3	**Are you aware of the permissible limits of toxic chemicals in toys in the countries you export to?** (1=Yes, 2= No)	

9.4	**Do you test samples of your toys for toxicity, if any?** (1=Yes, 2= No)	
9.5	**If Yes, give details like: how many samples are tested in a year, % of samples rejected etc.-**_____ _____	
10.0	**Marketing and Promotion Efforts**	
10.1	**Please mention the marketing channels currently being used** (1=Electronic Media, 2= Print media, 3= Online , 4= Word of mouth, 5= Others (Pl Specify_____	
10.2	**Do you own a website for selling toys on line** (1=Yes, 2= No)	
10.3	**Please mention the share of marketing and advertisement cost in total sales. (**1= Zero, 2= 0 – 3 %, 3= 3 – 5 %, 4= more than 5 %)	
10.4	**Have you ever participated in any of the following (1=** Toy Fairs (National/International), 2= Expo Marts, 3= Government Delegation, 4= Any other (please specify)_____	
10.5	**Does the government agencies/Export Promotion Council provide enough visibility to the indigenous or traditional toys of the region? (1=** Yes , 2= No)	
11.0	**Traditional Toys**	
11.1	**Are you a manufacturer of traditional toys?** (1=yes, 2= No)	
11.1.1	**If yes, Please specify the product category** (1=terracotta, 2= wooden toys, 3= paper toys, 4= cane and stick toys, 5= tin toys, 6=others please specify……..)	
11.2	**Do you have common facility centres/ Testing centres in your locality?** (1=Yes, 2=No)	
11.2.1	**If yes, please give details**_____ _____	
11.3	**Where you sell your products?** (1= domestic market, 2= Export market, 3=Both)	
11.4	**Please specify the share of the products sold in the domestic market** (1= less than 10% 2= 10-20 %, 3= 20-40%, 4=40-60 %, 5= above 60 percent)	
11.5	**Is there any change in the demand for traditional toys in the recent years** (1=Yes, 2=No)	
11.5.1	**If yes, please give reasons**_____ _____	
11.6	**Do you attend national trade fairs organized by government/other agencies** (1= Yes, 2= No)	
11.6.1	**If yes, please specify your experience** _____ _____	
11.7	**Do you attend international trade fairs organized by other agencies** (1= Yes, 2= No)	
14.7.1	**If yes, please specify your experience** _____ _____	
11.8	**Do you feel that the trade fairs or *melas* are helping to promote traditional toys** (1= Yes, 2= No)	
11.8.1	**If No, please specify the reasons:**---------- ---------- ----------	

11.9	**Please specify the areas where government can provide help to the sector :** ---------- ---------- ---------- ---------- ---------- ----------	
12.0	**Information on Industry Cluster**	
12.1	**Are you located in an industrial cluster?** (1=yes, 2= No)	
12.1.1	**If yes** a) Name of the cluster: ---------- b) Agency which set up/manages the cluster---------- ----------	
12.2	**Approximate number of units in the cluster:** a) Toy manufacturing units:---------- b) Other Units: ----------	
12.3	**Since how long this cluster has been functioning?** _____	
12.4	**What are the common facilities available in this cluster?** Please specify: ---------- ---------- ---------- ----------	
12.5	**Has there been any increase or decrease in the number of units functioning in the cluster in recent years?** (1=Yes, 2=No)	
12.5.1	**If yes, please specify** _____ _____ _____	
12.6	**What are the common problems faced by the units in this cluster? Please specify**_____ _____ _____	
12.7	**In your opinion, what kind of support is needed from the government for this cluster? Please specify** _____ _____ _____	

13. What are your suggestions to improve Productivity and Competitiveness of your Industry? (Please mention a few)

_____
_____
_____
_____
_____
_____
_____
_____

14. Policy Interventions urgently required for enhancing productivity and competitiveness of toy sector.
(Please mention five)

1._____
2._____
3._____
4._____
5._____

15. Any other comments: (Please specify)

_____
_____
_____
_____

Thank you

Name of the Official/Investigator: ----------

Signature : ----------

Place of Survey : ----------

Date : ----------

Annexure - IV

Format for developing diagnostic case studies of Toy Manufacturing Units in India

- Name of the manufacturing unit:
- Address:
- Company background
- Present status of the company
- Products
- Objective of the company
- Human resource management(management ,employees, incentive system etc)
- Business model used-marketing strategy(market share ,channels of distribution ,pricing.sales,service,brand loyalty)
- Analyzing past and present strategies adopted by the unit to face opening up of trade under WTO and its impact.
- Productivity model
- Financial valuations(finance and accounting ability to raise short term as well as long term capital, accounting practices, tax planning ,cost band barrier to entry)
- Factor productivity/factor ratios
- Export/import technology used
- External influence
- Competitive analyses(forces driving competition ,gaining competitive advantage, generic competitive strategies such as overall cost leadership, product differentiation, focus on product segment or market segment,etc)
- Impact of the government policies on the growth of unit
- SWOT analyses
- Manufacturing scenario during the last 10 years

Annexure - V

Methodology Adopted for Productivity Estimation

Productivity can be measured in terms of both partial and total factor productivity methods. Most commonly used partial productivity measures are Labour Productivity and Capital Productivity. The partial productivities are measured as a ratio of output or sales or value added per worker or per unit of capital used.

The partial productivity has been estimated under the assumption that there are only two major factor inputs such as labour and capital:

Labour Productivity

- Labour input can be measured on the total number of persons engaged in the production process. Thus to calculate labour productivity we have used Total Number of Persons Engaged in the production process and Gross Value Added data. The data has been compiled from Annual Survey of Industries data base for various years. The Gross Value Added data has been first deflated by the whole sale price index. The formula for calculating the labour productivity can be given as follows:

$$\text{Labour Productivity (LP)} = \left[\frac{\text{(Gross Value Added)/price index}}{\text{No. of Persons Engaged}} \right] \times 100$$

Labour Productivity Growth

- Once the labour productivity has been calculated we can estimate the labour productivity growth using he growth rate computation such as :

$$\text{Labor Productivity Growth} = \left[\frac{\text{Labour Productivity}_{t} - \text{Labour productivity}_{t-1}}{\text{Labour Productivity}_{t-1}} \right] \text{X } 100$$

Labour Productivity Growth Index:

To understand the trends in productivity growth, we can construct an index of Labour Productivity Growth Rate, the initial value of series has been considered equal to 100 then add subsequent years Labour Productivity Growth Rate cumulatively. This will give us the index value of Labour Productivity Growth Rate.

Capital Productivity

- **Capital Stock Estimation**
  To calculate capital stock we have used Perpetual Inventory Method. Capital stock has been estimated from the book value of Gross Fixed Capital

  The capital stock has been estimated as follows:
- We took fixed capital data from ASI for the years 1995-2005.
- Fixed capital + depreciation=Gross fixed capital.
- Gross Net Ratio =Fixed Gross capital/Fixed Net capital
- The book value of fixed capital at 1995-96 multiplied by Gross net ratio and taken that value as the initial year capital stock.
- Incremental capital for the year 96-97 at constant prices is added to estimate capital stock of 1995-96 for getting the capital stock for 1996-97.
  Incremental capital = ((Fixed capital 1996-97 - Fixed capital 1995-96)
- Fixed capital stock=Incremental capital stock + estimated initial year capital stock calculated above.

The above procedure will give us the value of capital stock calculated from Incremental capital method. Now, to calculate the capital productivity we have to divide the constant value data of gross value added by fixed capital stock calculated above. The formula used to calculate the capital productivity is as follows:

$$\textbf{Capital Productivity} = \left[\frac{\textbf{(Gross Value Added)/Price Index)*100)}}{\textbf{Fixed Capital Stock}} \right]$$

Capital Productivity Growth

$$\text{Capital Productivity Growth Rate} = \left[\frac{\text{Capital Productivity}_{t} - \text{Capital Productivity}_{t-1}}{\text{Capital Productivity}_{t-1}}\right] \times 100$$

$$\text{Gross Value Added (constant) Growth Rate} = \left[\frac{GVA_{t} - GVA_{t-1}}{GVA_{t-1}}\right] \times 100$$

Capital Productivity Growth Index:

To make the index of Capital Productivity Growth Rate, first of all assume the initial value of series equal to 100 then add subsequent terms of the Capital Productivity Growth Rate cumulatively. This will give us the index value of Capital Productivity Growth Rate.

Total-Factor Productivity Growth (TFP) is a measure of the contribution of technical progress in the production process.

TFP = GVA – [W_L x Labour Productivity Growth Rate – W_K x Capital Productivity Growth Rate]

WL + WK = 1
Where WL = Wage Share in total cost
WK= Capital Share in total cost or 1- WL

Annexure - VI

Discussion with Toy Industry Representatives

Venue: NPC HQ, New Delhi Date: 08.04.09

S.No	Problems faced by the Industry	Suggestions by Toy Industry Representatives
1.	Working Capital	Working capital is not a problem. Rate of Interest very high. Entrepreneurs free of encumbrance loan limit Rs 25 Lac only. Above Rs 25 lac loan on mortgage basis. However, it depends on financial institution. In China entrepreneurs contribution only 15% of total investment the remaining is taken care of by Government/financial institution. In India collaterals are required.
2.	Financial Assistance	SIDBI scheme is available only to particular machinery of Toy Industry but not available to all categories. Assistance is required for certain period. Setting up infrastructure is one of the major concern areas since it is very expensive for small entrepreneurs. Currently no financial assistance schemes are available or designed specifically for Toy Sector by government. Financial Assistance is required in the area of technology up gradation/design etc.
3.	Taxes (VAT) etc	VAT on Electronic toys (12.5%) is unjustifiable. VAT on other toys products at 4%. Importing raw material & capital goods is more expensive due to taxes (excise duty) whereas taxes levied on imported toys are less (Counter veiling duties).
4.	Availability and quality of basic infrastructure such as power, water, road, rail etc	Infrastructure in India is poor. Power Shortage a major problem. In China there is not much of power failure.
5.	Raw material availability	Raw material supplied by Reliance (Poly propylene) is less expensive in China (Rs.64/kg) whereas in India it is (Rs.66/kg). In other cases there is a price difference of upto10 percent.
6.	Technology related issues	There is no specific design institute/technology development centre available to Toy Industry. Toy design and development centre was originally planned

		at greater NOIDA under NPDTI Programme which never took shape. Technology is very expensive hence may not be viable for small toy manufacturers at low scale of production. No common facility centre is available. China has many Toy design Centers.
7.	Toxicity in raw material etc.	It is not a major issue as of now. For testing the toxicity the machines should be made available in the common facility centre. Present system is not conducive for the sector.
8.	Impact of global financial crisis on Toy Industry	Currently the sector is yet to get affected. India is importing cheaper products from China in bulk. Since Indian toy industry in exporting in small quantities to Europe and USA with specific design, demand it is not affected as of now.
9.	Government Assistance	Research and development through CFCs. Assistance for three to five years in designing. Lower interest rates - 4% construction, 7 % capital goods, 8% for working capital. Level playing ground is required vis a vis China. Service tax is levied on movement of Export containers from Delhi to Mumbai (though it is refundable it is causing much hassles). Labour is major issue due to labour laws. China follows hire and fire. @30% of production cost is towards labour.
10.	In which category of toys Indian toys manufacturers have advantage over Chinese toys?	In terms of educational and board games. China is into mass production, it doesn't cater to low orders. Therefore Importers from countries like USA, UK Europe with less quantity requirements have to Import Indian toys.
11.	The extent of competition from toy products from China	Not much now days. There is minor price difference.
12.	What are the advantages of China over India in terms of toy manufacturing?	Infrastructure – good power supply, government assistance, flexible labour laws, loan facilities.
13.	Whether the Chinese toys are cheaper and better quality as compared to Indian toys?	Chinese toys are cheaper but the margin between Indian toys and Chinese toys are not much now days.
14.	Whether the industry requires skills up-gradation	Yes. There is a requirement of skilled labours, designers, designing centres and new upgraded machinery.

15.	Do you know any measures adopted by Government to counter dumping of Toy products from China.	Govt has recently banned Import of toys from China and linked it with ASTM F963 certification for importing toy to INDIA.
16.	Any other issues faced by Toy Sector. Please specify.	Toy Design Development Institute in urgently required.. ITIs, to provide providing training for Toy Industry Skilled workers in Manufacturing process & IIT to provide Toy designing MSME RTC, Okhla is taking more time in providing the test results.

Annexure - VII

Discussion with Toy Industry Representatives

Venue: TAITMA , Mumbai Date: 29th July 2009

S.No	Problems faced by the Industry	Suggestions by Toy Industry Representatives
1.	Working Capital	Scarcity of working capital. As suggested, the limit of Rs.25,00,000/- for working capital without any mortgage fixed by the govt. maybe increase to Rs.50,00,000/-without any collateral.
2.	Financial Assistance	Preferential rate of interest for Toy industries and the rate of interest should be 3-4% lower than the prevailing market rates
3.	Taxes (VAT) etc	Octroi exemption (0%) for educational production VAT should be 4% for all the toys. Rajasthan While considering GST, there needs to be suitable provisions for lower GST for toy industry.
4.	Availability and quality of basic infrastructure such as power, water, road, rail etc	Requirement of land for building up a Toy Park the land will also be identified by the TAITMA itself, the payment may also be at existing rates, ths government may procure the land for the toy park and the industrialists will be paying the same to the government through soft loans to be paid over a period of 15-20 years. Scarcity of power availability, rail, roads etc. is of immediate requirement for preventing delays.
5.	Raw material availability	Irregular supplies from Reliance India Limited and Haldia and general delay of three to six months from payment and supplies. HDPE,PPE, ABS, Boards are the major raw materials Non toxic paint manufacturers needs to be identified. New vendor development for raw materials is also required through manufacturer vendor meets. Experts in R& D such as Spain should be consulted.
6.	Technology related issues	More machinery items need to be included in the existing list of subsidized machinery. The list based on the product category is going to be provided by TAITMA to NPC at the earliest possible. The technology upgradation of the existing machinery available with the industry needs to be considered.
7.	Toxicity in raw material etc.	Non toxic paints are available, all paint and plastic manufacturing companies should give the paints with non–toxic certificates The raw material manufacturers should be asked to provide non–toxic components.
8.	Impact of global financial crisis on Toy Industry	Large manufacturing units have problems with the economies of scale. China has received a major jolt. India did not get much part of the Impact. Unorganized retail continues to be resilient. Organized retail didn't have much business growth.

		Presently the Indian situation is much better when compared to other competitors. Mattel is willing to have discussions with the govt. of India on the subject of development of toy sectorand specific segments.
9.	Government Assistance	Raw material, land availability& requirement –Toy City-40 Acres with additional warehousing and common facility centres, SEZ provisions with custom clearance within SEZ.
10.	In which category of toys Indian toys manufacturers have advantage over Chinese toys?	Board games and puzzles, Paper Based games, Soft Toys (Competitive)
11.	The extent of competition from toy products from China	Electronic toys are not manufactured in India so the Chinese toys dominate the market in that category. Very stiff competition in all the categories of plastic products except Board games and puzzles, Paper Based games
12.	What are the advantages of China over India in terms of toy manufacturing?	Scale of production, Range of the products, Govt. of china is a partner in all the projects so lesser number of inspectors Labour laws are less stringent Electronic toy and components are the niche of china
13.	Whether the Chinese toys are cheaper and better quality as compared to Indian toys?	Chinese Product at par with the Indian products is costlier.
14.	Whether the industry requires skills up-gradation	Skilled workers through the ITI would be good proposition. The involvement of IIT Povai for development of toys is a viable proposition for development of toy sector. Development of knowledge of industrialists on Sustainability issues-Eco friendly biodegradable product / green products need to be developed.
15.	Do you know any measures adopted by Government to counter dumping of Toy products from China.	Certificates of the importers alongwith the import items
16.	Any other issues faced by Toy Sector. Please specify.	The industry representatives wants that one ministry in the government should be made the nodal agency for the Toy Industry. Sustainability issues-Eco friendly biodegradable product / green products need to be developed. On the standards aspect safety standards should be mandatory. A time period should be given to the industry to migrate to the standards.

Annexure - VIII

Discussion Meeting with Exporters/Importers/Manufacturers/Experts on Toy Industry

Venue: NPC Conference Hall, New Delhi **Date: 19th August 2009**

S.No	Issues & Problems	Industry suggestions
	Working Capital & Financial Assistance	Fund for 3-4 months is a problem for small manufacturers.Organised sector production is less than unorganized sector. Prime Lending Rate (PLR) can be set as a benchmark for fixing the rate of interest PLR is high (12-13%) Industry needs 8% PLR Interest rate for domestic should be same as that for export. It should be a priority sector Requirements: 1. Metal detector (important for export) (machines from Japan, LNW from UK required) cost 10-12 lakhs Rs. 4-5 lakhs for Indian metal detectors 2. Lazer cutting Machine (start up cost is Rs.6-8000) Rs. 10 lakhs to 45 lakhs Common Facility Centre may provide these machines in Toy City
	Taxes (VAT) etc	GST is expenditure tax Uniform VAT for electronic and other toys
	Raw material availability	Mr. Raj Kumar will provide the list of raw materials required. Duty on raw material is more and on finished goods is less. Raw material prices are very low in China i.e. about 20% A simple mechanism need to be developed for importing raw materials.
	Technology related issues	Guidelines for CFC scheme under PPP mode is under preparation by MSME

		Research and Design Centre has to come up at the earliest.
	Toxicity in raw material etc.	Dr. Panigrahi : - Quality - Allow the industry to grow - Testing takes atleast three days and only 4-5 samples can be handled in a day. Trying to purchase ICP
	Impact of global financial crisis on Toy Industry	- Lot of factories have been shut in China - When the demand starts perking up Indian factories can try to push our exports None of the Indian companies are able to supply the US & UK
	Government Assistance	1. Scanner 3 D (Rs. 50 lakhs) 2. CFC need to be made available. Distance between the unit and CFC should be minimum 3. For setting up a CFC, earlier a minimum of 50 units but now flexible.
	What are the advantages of China over India in terms of toy manufacturing?	Volume is the competitive advantage Basic facilities are given to the labours such as food, shelter. Most of the units are assembling houses so a unit does not produce a whole product so the whole process of manufacturing is easy. Labour laws are flexible. High duty drawback 15%. Turnover Tax- based on turnover of the unit- favourable taxation policy in terms of toy industry. Import of raw material is tax free Southern China has major power problem Now China has started taking low volume orders
	Whether the industry requires skills up-gradation	- ITI suits the requirements of the industry. Mainly operator level beginning salary is rs. 5000/- There is a need for about 1500 ITI trained person.

Annexure - IX

List of Toy Manufacturing Units included in NPC Field Survey

S.No.	Name of the Unit
1	Smart Kid's (India)
2	Jayna Plastics
3	AGS Enterprises
4	Jain Plastic Ind. Regd
5	Shivangi Toys
6	Girnar International
7	Vicky Collection
8	Arihant Plastic Product
9	Shrubhi Collection
10	Geeta Toys
11	Rainbow Agencies
12	Four Diamonds
13	A.M. Enterprises
14	Toy Club Products
15	Chuni Lal Gian Chand
16	Unique Marketing
17	Knight Sun Impex Pvt. Ltd.
18	Dureja Cycle Mart
19	Little Genius Toys Pvt. Ltd.
20	Megha World
21	Richie Rich Products
22	Tarun Sales Corporation
23	Mahendra Mechanical Industries
24	Krona Liquate Ltd.
25	Nice & Nice
26	Frank Educational Aids Pvt. Ltd.
27	Khazana
28	V K Enterprises
29	Romance Hammer Toys Company
30	Saira Toys
31	Parveen Toys
32	Magnets Manufacturing Company
33	National Agencies
34	Jainex India
35	Micros Natkhat Play Zone
36	BPI India Pvt Ltd

37	**Classic Industries**
38	**Rich Line**
39	**Amardeep & Co.**
40	**Honey Dew Corporation**
41	**Maskeen International**
42	**Jainex Agencies**
43	**New Born Soft Toys**
44	**Somya Products**
45	**Gudia Toys & Games**
46	**Aaryaman Enterprises**
47	**Gulshan Industries**
48	**S R & Sons**
49	**Khalsa Cycle Works**
50	**Tinny Educational Aids**
51	**Nupur Collection**
52	**The National Trading Co. of Delhi**
53	**Naeem Eng. Works**
54	**Jainson Toys**
55	**Little Genius**
56	**Diwan Games & Toys**
57	**Shree Balaji Stuff Toys**
58	**Funny Pets**
59	**Warsi Toys Centre**
60	**manto Toys**
61	**K.Y. Plastics**
62	**Rajhans Industries**
63	**Asian Agencies**
64	**Ideal Toys Pvt. Ltd**
65	**Espi Toys**
66	**Navkar Products**
67	**Childfun**
68	**Sagar Industries**
69	**Hanung Toys & Textiles Ltd**
70	**Santa Claus Toys Pvt. Ltd**
71	**Classic Industries**
72	**Kids Creation**
73	**Agrawal Group of Toys**
74	**Soni Plastic Works**
75	**Kids Toys**
76	**Hilife Marktech Pvt. Ltd.**
77	**Gupta Enterprises**
78	**Fun Zoo Toys (India)**
79	**Shakti Rubber Industries**

80	**Zee Toys**
81	**Fun Plast (India)**
82	**Pushkar Enterprises**
83	**Zedco Handicrafts**
84	**A P Enterprises**
85	**Le Trends Pvt. Ltd.**
86	**Shree Jee Toys**
87	**Suman Plast**
88	**The Popular Toys**
89	**Gandhi Toys & Game**
90	**Olympia Games & Toys Pvt. Ltd.**
91	**Shadilal & Sons**
92	**Rup Ratna Marketing**
93	**Sharnam Corporation**
94	**Vardhaman IQ Toys Mfg. Co.**
95	**Lovely Toys**
96	**Perfect Soft Toys**
97	**S K Toys and Games Depot**
98	**Mitashi Edutainment Pvt. Ltd.**
99	**Raj Trading Company**
100	**New Box Toys (I) Pvt. Ltd.**
101	**Nishit Enterprise**
102	**Shrikrishna Plastic**
103	**Bhavani Traders**
104	**C J Enterprises**
105	**Ami Enterprises**
106	**Premsons International**
107	**Mattel Toys (I) Pvt. Ltd.**
108	**Veer Creation**
109	**Canara Toys Agencies**
110	**S.K. Games & Toys**
111	**Toy World**
112	**Choice Gallery**
113	**R.K. Plastic**
114	**Twisha NX**
115	**Pratap Plastic**
116	**HIROO Mfg. Co.**
117	**Apsara Plastic**
118	**Aladdin Multimedia Pvt. Ltd**
119	**M.V. Trading Co.**
120	**MANGALCHAND Hitendar Kumar & Bros**
121	**Monopoly Marketing**
122	**Nainmal Babulal & Co.**

123	**SAP Marketing**
124	**Hindustan Plastic House**
125	**Pathak Brothers**
126	**Mahavir Agencies**
127	**hanuman Toys Centres**
128	**SB Traders**
129	**Dhanesh Agencies**
130	**Kavita Toys**
131	**Kapadia Marketing Inc**
132	**Ajay Enterprise**
133	**Clay Kids**
134	**Shrinath Enterprise**
135	**Pal Enterprises**
136	**P R Brothers**
137	**Rishab Marketing**
138	**Tara Toys**
139	**Goodluck Store**
140	**Smart Toys Trade Pvt Ltd**
141	**Mera Toy Shop Chota Bhai Reality Shop (P) Ltd**
142	**Ramdev Novelty Centre**
143	**Rajender Agency**
144	**Ganesh Toys & Gift centre**
145	**Radha Gift & Toys**
146	**Om Toys**
147	**Syham Plastics**
148	**Kamdar Plastics**
149	**Park & Company**
150	**Alpaks Kids World**
151	**Riviera Traders**
152	**Priyanka Enterprises**
153	**Om Enterprises**
154	**Khurana Gift Centre**
155	**Goyal Store**
156	**Royal Gifts**
157	**Aneja Stores**
158	**Raja Toys**
159	**Dashmesh Gift centre**
160	**Maxwell (India)**
161	**Sunit Marketing**
162	**Sanjay Toys**
163	**Vasant Kumar & Co. R D Associates**
164	**Wonderland Toys**
165	**K P S Toys Agencies**

166 **Softys**
167 **Vikash Toys**
168 **A.P. Products**
169 **Sunny Industries**
170 **Tayebally Ebrahim & Sons**
171 **Plastech International Private Ltd**
172 **Min Toy Pvt. Ltd**
173 **Chirantan Enterprise**
174 **Anmol Toys Pvt. Ltd.**
175 **Darshan Toys**
176 **Wood-O-Plast**
177 **Prakas Jadu Magic**
178 **Ashrafi Fashion**
179 **Bharath Art & Craft**
180 **Afterskool Toys & Games**
181 **Toy Box**
182 **Uttam Jadugar Easy Magic Toys**
183 **Orpat Educational Toys**
184 **KIDO Enterprises**
185 **Prestige Handicrafts**
186 **Krishnagar, Distt.Nadia**
187 **Ghurni, Krishnanagar**
188 **Krishnagar, Distt.Nadia, West Bengal**
189 **Style Council Arts Crafts**
190 **Habibi Wood Carving Emporium**
191 **Shariq Ahmed & Sons**
192 **Super Wood Handicrafts**
193 **Rana Handicrafts**
194 **A R Enterprise**
195 **Chaman Crafts**
196 **India Expo Handicrafts**
197 **Saba Handicrafts**
198 **Furqan Handicrafts**
199 **New Light Wooden Article**
200 **Shri Durga Handicrafts**
201 **Sagar Handicrafts**
202 **Hashmi Wood Handicrafts**
203 **Shilpi Handicrafts**
204 **Standard Handicrafts**
205 **Guddu Wood Handicrafts**
206 **Jain Crafts**
207 **Radha Govind Hast Kala Kendra**
208 **Deepak Sports Suppliers**

209	**Radha Govind Hast Kala Kendra**
210	**Manoj Bhatt s/o Mohan Lal Bhatt**
211	**Ajit Kath Maf. Co.**
212	**Rajasthani Cultural Programme**
213	**Jai Bhawani Popat Show**
214	**Pappu Katputli Popat Show**
215	**Jagdish s/o Amardeep Katputliwale**
216	**Dhani Ram s/o Rattan Ram Bhatt**

STUDY TEAM

PROJECT ADVISORS

1. **Shri. N.C. Vasudevan, IAS**
   Director General
2. **Shri. O.P. Joshi**
   Deputy Director General
3. **Shri. V.K. Soni**
   OSD (Economic Services & Admin.)

STUDY/CORE TEAM

Team Leader: **Shri. Indrajit Frank Agarwal**
Senior Consultant, Toy Industry

Project Director: **Dr. K. P. Sunny**
Group Head (Economic Services)

External Consultants:

1. **Dr. V.J. Sebastian**
   Associate Professor(Economics)
   IMT, Ghaziabad
2. **Prof. Sudarshan Khanna**
   Formerly Professor, NID

Team Members:

1. **Dr. Rajat Sharma**
   Deputy Director (Economic Services)
2. **Mr. Deepak Gupta**
   Asstt. Director (Economic Services)
3. **Mr. Eno Rai**
   Research Associate
4. **Ms. Asmita Raj**
   Research Assistant

Field Survey: **NPC consultant/Research Associate/**
Anbhav Enterprises