

FINAL REPORT

Study to Assess the Impact of Chinese Imports on MSMEs in Toy Industry and to suggest remedial measures for corrective action

SUBMITTED TO:

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LIST OF ABBREVIATIONS

MSMEs: Micro Small and Medium Enterprises

SWOT: Strength, Weaknesses, Opportunities and Threat

GOI: Government of India

NSIC: National Small Industries Corporation

NPC: National Productivity Council

TAI: Toys Association of India

TAITMA: The All India Toys Manufacturers Association

DIC: District Industries Centre

MOMSME: Ministry of Micro, Small and Medium Enterprises

MSEs: Micro & Small Enterprises

TOR: Terms of Reference

NCR: National Capital Region

CAD: Computer Aided Design

CAE: Computer Aided Engineering

CAM: Computer Aided Manufacturing

CNC-EDM: Computer Numerically Controlled – Electric Discharge Machine

CMM: Coordinate Measuring Machine

CDMIA: China Die & Mould Industry Association

DMC: China International Exhibition on Die & Moulds

RMB: Renminbi (Chinese Currency)

SGEPC: Sports Goods Export Promotion Council

IPR: Intellectual Property Rights

CETP: Common Effluent Treatment Plant

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EXECUTIVE SUMMARY

➤ Major Problems & Technology gaps existing in Indian toys manufacturing MSMEs viz a-viz Chinese toys manufacturers

S No.	Parameter evaluated	Problems faced , Technology & other gaps existing in Indian MSME toys manufacturing industry viz-a-viz Chinese toys manufacturing industry
1	Product Range & Variety	<p>a) Electronic toys & games and battery operated toys are missing from the product range of Indian toys manufacturers that are being imported primarily from China & constitute almost 50% of the total market of toys in India.</p> <p>b) The Indian toys manufacturers are unable to provide a wide variety of toys on a regular basis & launch new products due to lower scale of operations, high investments in moulds and small size of the Domestic market.</p>
2	Product Conceptualization & Design	<p>a) Merely 12% of MSME Toys Manufacturers have their own full fledged in house Design studio & team of trained designers for product conceptualization, prototype development and R&D on design with proper setup of CAD/CAM tools & other software.</p> <p>b) About 73% have their own ideas/ product concepts but utilize the design services available from other design studios/ freelance designers that poses a great threat of copying of their product designs by others.</p> <p>c) About 15% of the balance MSMEs Toys Manufacturers just copy the designs of other domestic manufacturers & Chinese toys available in the Indian market.</p> <p>d) The toys manufacturers are in a great need of outside professional design support for designing new types of toys but are unable to afford the Design services provided by institutes like IITs, NID etc on an individual level as they are quite expensive for them.</p>

		<p>e) The toys manufacturers are virtually not spending any amount out of their annual earnings on R&D for development of innovative & novelty toys and games, thus unable to offer new products as per fast changing needs/requirements of the domestic as well as export markets for toys.</p>
3	Prototype Development of products	<p>a) Since majority of the Indian toys manufacturers (almost 90%) do not have prototype development facilities at their units for toys based on concepts, they have to approach outside organizations for product prototype development that exposes them to the risk of their product concepts & designs being copied by others.</p>
4	Procurement of critical Raw Materials	<p>a) Plastic Raw materials-</p> <ul style="list-style-type: none"> ➤ Prominent plastic raw materials including HDPE, LDPE , PP etc are easily available in India in the open market in small quantities from traders as per desired quality but the prices are higher than China by approximately 25% (Rs 120/kg in India vs Rs 90/kg in China open market for HDPE/LDPE/PP) that leads to higher cost of production of plastic toys. ➤ There are a hand full of manufacturers of plastic raw materials including RIL, GAIL etc hence they control the prices & there is a lot of price fluctuation on a regular basis that adversely affects the performance of the toys manufacturers. ➤ Since majority of the toys manufacturers have requirements of plastic raw materials in quantities that are less than one truck load / container, they directly cannot order & procure the same from Distributors of domestic plastic granules manufacturers directly or even import them directly and have to purchase the same from open market in smaller quantities from e.g. Tilak Bazar in Delhi at much higher prices.

		<p>b) Cardboard & Wood based Raw materials-</p> <ul style="list-style-type: none"> ➤ Although majority of the cardboard games manufacturers procure cardboard from Indian manufacturers, the availability of good quality cardboard as needed, in domestic market is a problem. ➤ Indian cardboards quality is lacking since they have higher water content and punching them is not easy, whereas cardboards available in China are harder and of good quality that results in superior product quality. ➤ MDF board of good quality is not available in India & has to be imported from Malaysia that leads to higher cost of production by 25%. <p>c) Rubber Raw Materials-</p> <ul style="list-style-type: none"> ➤ Availability of rubber latex, the main raw material, of good quality and at appropriate prices is a huge problem. With domestic rubber latex the thickness of rubber toys is difficult to maintain. ➤ Kerala, the main supplier of rubber latex, has a monopoly and price fluctuations are as high as 40 percent increase that upsets cost of production of toys units. ➤ Import duty on rubber latex is high and for import, clearance from RUBBER BOARD is essential for units, that is cumbersome to obtain. ➤ Another important raw material is Poly Urethane fabric (synthetic leather) that is widely used in toys & games and other products (bags etc) manufacturing, which is presently not being manufactured in India & has to be Imported from China. <p>d) Soft toys raw materials-</p> <ul style="list-style-type: none"> ➤ Major raw materials such as Fur fabric & synthetic
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		<p>fabric for manufacturing of soft toys are not being manufactured in India & have to be imported from China that takes long delivery time of 45-60 days , delays the production & launch of new products. In addition, soft toys manufacturers also loose on export orders/opportunities.</p> <ul style="list-style-type: none"> ➤ There is an inverted import duty structure i.e. the total import duty on fur & fabric is 29% as compared to 15% for finished soft toys , that discourages soft toys manufacturing & promotes importing and trading. ➤ Since toys manufacturers in India on individual basis have less requirement than a container load , they have to procure the same from traders / importers located in India that sell the products at a huge margin of 45-50 % above the imported cost , which results in higher cost of production for soft toys manufacturers. ➤ The traders/ importers are also resorting to direct import of soft toy skins (fabric cut according to pattern & stitched according to toys shape) since skins attract much lower import duty of 15% as compared to 29% for fur fabric & synthetic fabric. These skins are then supplied to local manufacturers that just stuff them with some inferior filling & stitch them and sell them in the market.
5	Skilled manpower	<ul style="list-style-type: none"> ➤ In India it is extremely difficult to find skilled & trained manpower for the toys industry including product designers; machine operators and mould designers & manufacturers, thus the toys manufacturers hire 12th grade workers and provide them in house on the job training. ➤ After few months of experience, the expectations of the workers rise & they expect higher salaries and retaining them is a big challenge for MSMEs. ➤ There are a very few Institutes , that are offering specialized manpower training courses related to toys

		<p>manufacturing in the areas of toy design ; mould making etc and NID is the only known design institute offering PG Diploma in toys designing.</p>
6	<p>Manufacturing technology adopted & machines deployed for toys manufacture</p>	<p>a) Manufacturing of plastic toys</p> <ul style="list-style-type: none"> ➤ Majority of the Indian plastic toys manufacturers (about 88%) have deployed manual & semi automatic injection moulding & blow moulding machines of lower tonnage that result in lower productivity, higher wastage and enhanced cost of manufacture and also limit the size of the part that could be moulded. ➤ In moulding, usually multi cavity moulds up to say about 5 cavities are being used by toy manufacturers (vis-à-vis upto 64 cavities in China) that lowers the productivity. ➤ In India, the moulds manufacturing units are inadequate in numbers considering huge demand (there are about 20,000 moulds & dies manufacturers in China). In addition the units deploy conventional mould manufacturing technology & equipments that result in lower output/productivity/capacity; inability to manufacture multi cavity precision moulds & complex moulds ; cannot deliver moulds in reasonable time(take about 4 months or so vis-à-vis about 15 days in China) ; are expensive by almost 30 percent as compared to China, there by posing a lot of problems for Indian toys manufacturers. <p>b) Manufacturing of cardboard & wooden games-</p> <ul style="list-style-type: none"> ➤ Majority of the cardboard & wooden games manufacturers in India have deployed manual punching machines, grinders , cutters & hand held tools for operations that are conventional in nature & inefficient , whereas in Chinese manufacturers have deployed auto feed cutting machines , CNC grinders, Semi automatic screen printers for high end print quality in large volumes.

		<p>c) Manufacturing of soft toys</p> <ul style="list-style-type: none"> ➤ Barring 1 or 2, majority of Indian soft toys manufacturers are using manual processes i.e. cardboard & foam based product patterns by sketching/hand; hand-cutters for pattern cutting; manual PSF filling in stitched fabric that are outdated and inefficient. ➤ Very few soft toys manufacturers have installed metal detectors to ensure product safety ie no broken needle part accidentally goes into soft toys. <p>d) Material movement</p> <ul style="list-style-type: none"> ➤ The product parts, sub-assemblies are being manually transferred within the factories and are not mechanized at all, there by leading to lower productivity for toy manufacturers.
7	Testing, QC, certification of Toys	<ul style="list-style-type: none"> ➤ Although BIS has laid down National product quality standard for toys ie IS 9873 (Part I-III) that is equivalent to International quality standard for toys e.g. EN71 (Part I-III), this standard has not been adopted by Indian toys manufacturers for testing & certification of their products for Domestic market as it is presently not mandatory. This may lead to manufacture & sale of inferior/unsafe toys in the Indian market and adversely affect the children. ➤ For Export of toys, testing & International certification as per EN 71 (Part I-III) is very expensive to obtain for MSME toy manufacturers (charges about Rs 15000 per sample) that is acceptable to foreign buyers only from accredited and approved International testing labs i.e. SGS, UL, B & V etc. Thus the toys manufacturers can take this certification for only selected products out of their entire range (say 30 percent of products) that in turn limits export opportunities for them. ➤ There is no testing lab at Mumbai that has facilities

		<p>for testing toys as per EN 71 requirements, hence the toys manufacturers have to approach SGS, Gurgaon; UL, Gurgaon; B & V, Noida that is highly inconvenient for them.</p>
8	Product marketing strategies	<ul style="list-style-type: none"> ➤ Participation in International Toy fairs /Exhibitions is quite expensive & unaffordable for MSE toys manufacturers, hence majority of them (almost 95 percent) do not participate in such events there by leading to dismal export of toys from India. ➤ MSME toys manufacturers are interested in exporting their products but lack knowledge wrt export procedures & documentation needed for various countries and need guidance for the same. ➤ Various schemes of Ministry of Micro, Small and Medium Enterprises; Ministry of Commerce-GOI for facilitating participation of MSMEs in International fairs/exhibitions & subsidizing the same have not been propagated well among MSME toy manufacturers; they lack awareness and hence unable to reap the benefits. ➤ Latest trends in marketing i.e. E-Commerce i.e. online marketing through own website or other web portals are still to be adopted by toys manufacturers in a big way, that has been a prominent avenue of marketing adopted in China. ➤ In India lesser Number of Exhibitions/ fairs focusing on toys industry are held each year (may be 2 Nos), whereas in China, on an average 4 such International level toy fairs are held every year that helps manufactures in promoting their products.
9	Support from design & technology development Institutes/ Organizations	<ul style="list-style-type: none"> ➤ There are not many specialized Institutes/organizations that are providing either toy design support or improvement in manufacturing technologies, the ones who are there e.g. IITs, NID are unaffordable by individual toys manufacturers.

10	Support Infrastructure for the Industry	<ul style="list-style-type: none"> ➤ In china working sheds are provided by the Government to the industry in proper industrial areas on rent at concessional rates i.e. the cost of rentals is only 2% Per annum viz-a viz in India which is 16-17% Pa. ➤ In China, it is easy to set up a manufacturing enterprise and a new factory can get all clearances in about 1 month where as in India it takes more than 6 months. ➤ In China the labor laws are quite liberal whereas in India they are stringent. ➤ Chinese Govt is encouraging export of toys & is providing 14% duty drawback as compared to 7% provided by Indian government. ➤ The industrial areas in India lack facilities of proper connectivity; transportation; adequate power supply that affect the smooth functioning of manufacturing enterprises unlike China that has excellent support infrastructure for major manufacturing hubs including good connectivity with ports to boost exports.
11	Finance from Institutions	<ul style="list-style-type: none"> ➤ Finance is a major hurdle for MSME toy manufacturers to grow, expand, modernize as it is quite expensive at @ 11-12 % pa in India vis-à-vis about 3-4 % pa in China.
12	Industry size , Scale of operation of manufacturing units & Cost of production	<ul style="list-style-type: none"> ➤ For micro & small toys manufacturing enterprises in India, their scale of operation is very low that leads to higher cost of production and wafer thin margins. ➤ The average sales turnover per toy manufacturing enterprise in China is almost 10 times that of India. ➤ The number of toys manufacturing enterprises in China is almost 10 times that of India.

		<ul style="list-style-type: none"> ➤ The cost of production in India for toys manufacturers is quite high and their net profits are 9-10 % of sales turnover as compared to about 24-25 % for Chinese toys manufacturers. ➤ The domestic market for toys in China is almost 18 times that of India at present. ➤ The export of toys from China are almost 180 times that of India at present.
13	Distinct clusters for toys manufacturing	<ul style="list-style-type: none"> ➤ The success of the toys manufacturing industry in China is primarily due to Cluster approach (their entire industry is concentrated in self sufficient clusters in 5 provinces) and in India this is nonexistent and is the need of the hour atleast in major hubs like Delhi and Mumbai. Clusters lead to efficient supply chain mechanism for raw materials, parts and better cost economics for suppliers as well as toys manufacturers.
14	Import of Toys	<ul style="list-style-type: none"> ➤ As per law, all toys being imported into India need to be tested & certified as per any of the product quality standards including ASTM F 963; ISO 8124; EN 71 or IS 9873 but this has not been strictly implemented by Indian customs, there by un-inspected Chinese toys of inferior quality without proper certification are being imported in the country. ➤ There is a heavy under invoicing of Chinese toys (by almost 50 percent of actual value) that has created non-level playing field for Indian MSME toy manufacturers and also results in loss of revenue for the Indian Government.

➤ **Suggested Remedial Measures to Overcome Problems, Technology Gaps & to Face Challenge from Chinese Toys by Indian Toys Manufacturing MSMEs**

1) Product Range & Variety

- Electronic toys & games and Battery operated toys have a huge market in India (almost 50 % market share) that is currently dominated by Chinese toys, hence it is suggested that the Indian toys manufacturers should focus on the development of Electronic toys & games and battery operated toys that could be sold at cheaper costs in India. In order to achieve this, an R & D project could be formulated by Toys Industry Associations (TAI; TAITMA) that could be supported by the Government and technological support for design, development and manufacturing of component assembled PCB, remote control mechanism etc could be provided by IITs, CDAC, electronic products manufacturing industry etc.
- The MSME toys manufacturing industry will have to add new products and types of toys in their product range like sensor based toys, solar toys that are being imported at present and have a good market in India. In addition the Toys industry Associations should also undertake National & International level Market surveys under professional assistance, from time to time in order to assess the toys market sizes; rate of growth; trends & requirement for various types of toys; market competition; regions where Indian made toys would have a good acceptance based on their concepts etc that will help the toys manufacturers in tapping the Domestic as well as Export market to a larger extent.

2) Product Conceptualization & Design

- Majority of the Indian MSME toys manufacturers do not have their own Product design set ups , design teams and also toys prototype development facilities due to low scale of operations and limitations of funds but desperately need Professional Toys design support for their product concepts , hence it is recommended that a National level Toys & Games Design and Manufacturing Technology support Institute could be set up at New Delhi for the benefit of the industry under Government support that offers services to MSME toys manufacturers on confidential basis and at reasonable charges. The proposed Institute should also be able to carry authentic R & D related to innovative & novel toys and pass on the

same at a cost and patent to toys manufacturers interested in undertaking the manufacturing of the same.

3) Procurement of Critical Raw Materials

- Plastic raw materials (HDPE, LDPE,PP) are the prominent raw materials that are being consumed by the MSME toys manufacturers, collectively in huge quantities. It is suggested that the Toys industry associations ie TAI based at Delhi and TAITMA based at Mumbai could procure plastic raw materials directly from manufacturers i.e. RIL and GAIL, in bulk quantities (atleast one truck load) on behalf of their interested members in order to get bulk discount, that will be highly beneficial for toys manufacturers.
- The availability of good quality Card board with low moisture content, another important raw material for manufacture of games & puzzles also needs to be improved in the country and the Toys industry Associations on behalf of their members could approach prominent domestic manufacturers of Card board in order to highlight this issue & problems being faced by the toys industry so that they could improve their product quality & supply as per domestic toys industry needs. Improvement in Card board quality shall also lead to enhanced exports of Card board games from India.
- Other critical raw materials that are needed by the Indian MSME toys industry but are unavailable in the country include MDF board ; Poly Urethane fabric (synthetic leather) ; Fur fabric & synthetic fabrics for soft toys etc could be made available in India as importing them is quite expensive and cumbersome for toys manufacturers. Hence there is a need for setting up of manufacturing plants for these raw materials.
- At present there is an Inverted/ unfavorable Import Duty structure for Raw materials as compared to finished products in India for the toys industry that has lead to flooding of domestic toys market with imported toys, particularly from China. For example the import duty on finished toys ranges between 10-15 % , where as all critical raw materials for toys manufacture attract a much higher import duties in the range of 29-70 % and this anomaly could be reviewed at Ministry Of Commerce , GOI level and suitably corrected so that the Indian toys manufacturers are not at a disadvantage.
- The price of plastic granules in India (HDPE,LDPE,PP etc) are higher than China by almost 25 % that makes domestically produced toys expensive as compared to

China. One of the major factor for this is the high Indian Govt taxes & duties ie Excise duty of 12.36 % ; CST of 2 % and VAT of 4% and it is recommended that Ministry of Finance and Ministry of Commerce , GOI could look into this aspect and if possible reduce these taxes and duties for MSMEs.

4) Skilled Manpower

- In order to enhance the availability of trained skilled manpower for the Indian toys industry that is in short supply in fields including conceptualization & toys designing; operation of automatic & semi automatic moulding machines and cutting & stitching machines etc, it is recommended that specialized courses could be introduced at Government Industrial Training Institutes (ITIs) with the help of experts so that this gap could be bridged and students passing from ITIs are also absorbed by the toys industry.

5) Manufacturing Technology & Machines for Toys Manufacture

- Certain advanced production technologies & machines need to be adopted by the toys manufacturers in order to produce better quality products; reduce wastage of raw materials; enhance productivity including the following:
 - Automatic injection and blow moulding machines with CNC
 - CNC-woodworking machines
 - Multi cavity moulds
 - Computerized pattern making machine; automatic fabric cutting and stitching machines; metal detectors for broken needles for product safety.
 - Mechanization of movement of bought out parts, manufactured parts/sub-assemblies and finished products using conveyors.
 - Auto feed cutting machines; CNC grinders ; semi-automatic screen printers for cardboard gamesThese could be promoted by Toys Associations among their members and greater awareness could be created on obtaining financial support under schemes of Ministry of MSME,GOI such as Credit linked capital subsidy scheme for modernisation/up gradation of units.
- More number of plastic moulds; rubber moulds and press dies manufacturing units need to come up/set up within the country particularly in Delhi and Mumbai (major manufacturing hubs for toys) that have advanced facilities including CAD/CAM/CAE mould design system; rapid prototype development & manufacturing machines, CNC-EDM and Wire cut and other needed tool room machines in order to cater to

the large requirements of plastic, rubber toys manufacturers as well as other similar industries.

6) Testing, QC, Certification of Toys Domestically Produced

- The Government needs to make it mandatory for all Indian toys manufacturers to test and obtain product certification for all their products to be sold in the domestic market as per BIS: 9873 quality standard for toys which will lead to greater quality control and availability of safer toys for children. The certification could be obtained by various domestic labs, CSIR labs which may have to upgrade their testing facilities accordingly.
- At present there is no Testing lab at Mumbai that can test toys as per EN71 International quality standard that causes a lot of inconvenience to toys manufacturers located at Mumbai, hence it is recommended that existing testing labs of SGS, BVQ existing at Mumbai should upgrade their labs to include testing of toys as per EN71.
- The cost of testing & certification for obtaining EN71 for toys for exports is quite high for MSEs and need to be subsidized by Government to promote export of toys from India. Ministry of MSME, GOI could introduce a scheme for reimbursement of testing costs to some extent (say 50 %) only for toys exported.

7) Product Marketing Strategies

- The Indian MSME toys manufacturers need to participate more in International fairs/exhibitions related to toys in order to show case their products ; enhance exports of toys from India and also to learn more about new products being launched by other manufacturers and should avail subsidies in this regard under schemes of MOMSME , Ministry of Commerce , GOI for which the toys industry associations ie TAI and TAITMA will have to apprise their members more about the schemes and also assist them in obtaining the benefits.
- Since Online ordering and purchase of toys is more convenient for the customers , it is suggested that the Indian MSME toys manufacturers should adopt E-Commerce (online marketing through own website or other marketing portals) in a big way in order to enhance sale of their products both in the domestic as well as export markets.

8) Finance from Institutions

- Finance (Term loan and Working capital) is needed by the Indian MSME toys manufacturers to grow , modernize and expand but is quite expensive in India and if possible needs to be extended to them on softer terms like in China.

9) Import of toys in the country (particularly from China)

- The Indian Customs Authorities need to enforce the directive that all toys being imported in to India need to carry quality certifications as per quality standards ASTM F963 or ISO 8124 or EN71 or IS 9873 and inspect all consignments of toys in this respect and disallow shipment of toys without proper quality certifications in order to ensure product quality and safety in the Indian market.
- The huge under invoicing of toys from China (upto almost 50 %) is badly affecting our Indian manufactured toys and also resulting in revenue loss for the Government and needs to be checked & controlled by the Government agencies & Toys Associations. A suitable mechanism in this regard particularly bench mark prices for popular types of toys being imported in the country need to be established by Toys Associations & revised periodically could be developed in consultation with Indian Customs; Toys Associations ; toys manufacturers ; experts. In addition , Toys Associations need to discourage this activity among their members and penalize those members who are found guilty.

10) Government Support & Infrastructure for the Industry

- In India there should be a single Window clearance system for setting up new factories by entrepreneurs and all necessary clearances should be provided in 1 month or so.
- In order to enhance and promote export of toys from India, the Government could provide more export incentives i.e. higher rate of duty draw back.
- Working sheds could be provided by the Indian Government to the industry in proper industrial areas on rent at concessional rates.

- The industrial areas in India lack facilities of proper approach & connectivity; road & rail transportation; adequate power supply that affects the smooth functioning of manufacturing enterprises and the Government needs to upgrade the same.
- The Toys Industry Associations need to create greater awareness and also assist their desirous members in availing benefits under Ministry of MSME Promotional & Developmental schemes for MSMEs like CLCSS, Design clinic scheme , cluster development scheme , ISO certification scheme, Participation in fairs/exhibitions etc.

11) Distinct clusters for toys manufacturing industry

- The success of the toys manufacturing industry in China is primarily due to Cluster approach that is nonexistent in India and is the need of the hour. Clusters lead to efficient supply chain mechanism for raw materials, parts and better cost economics for suppliers as well as toys manufacturers and it is suggested that two distinct Toys industry clusters be promoted, one at Delhi and other at Mumbai which are the leading manufacturing hubs for toys and have sufficient numbers of toys manufacturers, at locations that are well connected with the two cities and easily approachable. Even the unorganized toys manufacturing enterprises shall also shift to these clusters. These clusters can be promoted by interested Toys manufacturers, their Industry Associations under support from Cluster Development Scheme of Ministry of MSME, GOI.
- Each suggested cluster for toys manufacturing shall have common support facilities for supply of critical raw materials & consumables; manufacturing & supply of major plastic parts-moulding; moulds design, manufacturing & supply and flatted factories space that shall be available at concessional rent for toys manufacturers.

CHAPTER 1

INTRODUCTION

1.1 Indian Toys Industry-An Overview

The Indian Toy Industry has witnessed a lot of changes over the last few years with regard to categories of toys, innovation, eye-catching design and other aspects. The revamping of the toy Industry has shown tremendous growth & expansion in the domestic market that is estimated at Rs. 5750 Crores per annum at present (factory produced toys by MSMEs & large units plus imports) and scaling up @ 10-15% on yearly basis. The growing awareness among parents in India has led to the growth in toys market and particularly Educational toys and games made of Plastics and cardboard that offer creativity and lead to the development of the brain of the child.

In current scenario the Indian toy market is flooded with Chinese toy imports and thereby the Indian toy manufacturers are being decimated as a result of dragon effect. The Indian toy market still has an enormous potential to grow considering its huge population and the fact that almost 50 percent of our total population is under 25 yrs of age. In addition the Global market for toys which at the present level is estimated at US\$ 80 billion (Rs 4.8 lakh crores) is still not tapped by our MSME toy manufacturers as exports from India for toys presently constitute less than 0.08 percent of this huge market. The world market for toys is currently dominated by China that produces toys worth US\$ 29 billion every year (almost 36 percent share of total world market for toys) out of which US\$ 17 billion worth of toys are consumed in China itself and balance toys worth US\$ 12 billion per annum are exported to other parts of the world with major destinations being USA, EU etc.

It is estimated that approximately 30 per cent of the Indian toys market is served by Domestic manufacturers (MSMEs and Large units), with the rest 70 percent (approximately) being accounted by imports mainly from China (approximately 75 percent share of total imports of toys in India), which offers wider variety of toys of inferior quality at cheaper prices and attract children of all ages. Due to this fact, the domestic toy industry, which largely consists of micro, small and medium enterprises (MSMEs), is facing a difficult time in competing with imported toys particularly from China. In order to survive in the Indian toys market, many Indian MSME toys manufacturers have resorted to importing cheaper toys from China (cheaper by 25-30 percent as compared to Indian toys) and market them in the Indian market.

It is estimated that there are approximately 800 Enterprises in India engaged in toys manufacturing falling primarily in micro and small scale sectors. It has also been observed

that at the national level a hefty portion of the Indian Toy manufacturing Industry (MSMEs) is still in the Unorganized Sector accounting for almost 60 percent share. In addition there are few toys manufacturing units located in large scale sector and the prominent ones include Funkskool(under collaboration of MRF and Hasbro), Hanung toys , OK play etc plus foreign brands like Mattel that are importing toys from their factory at China and marketing them in the Indian market.

Although a wide variety of toys are available in the Indian market, broadly they can be classified/clubbed in two distinct categories based on their application & purpose i.e. EDUCATIONAL or RECREATIONAL toys. Within these two categories under Educational toys various toys & games made out of Plastics and cardboard materials are prominent. Recreational toys mainly include Electronic toys (remote control, video games), Battery operated toys (cars etc), Plastic toys (Dolls etc), Soft toys, Mechanical pull back toys etc. Out of all of these toys Electronic toys & games and Battery operated toys are presently not being manufactured in India and are imported. For all other type of toys they are being manufactured in India as well as being imported.

1.2 Major hubs & clusters for MSMEs engaged in toys manufacture in India

The MSMEs engaged in toys manufacturing in India are spread all over the country with a large chunk present in the Northern and Western regions covering almost 88 % of the units. Table 1.1 provides details on major Hubs and clusters for MSMEs engaged in toys manufacturing in India.

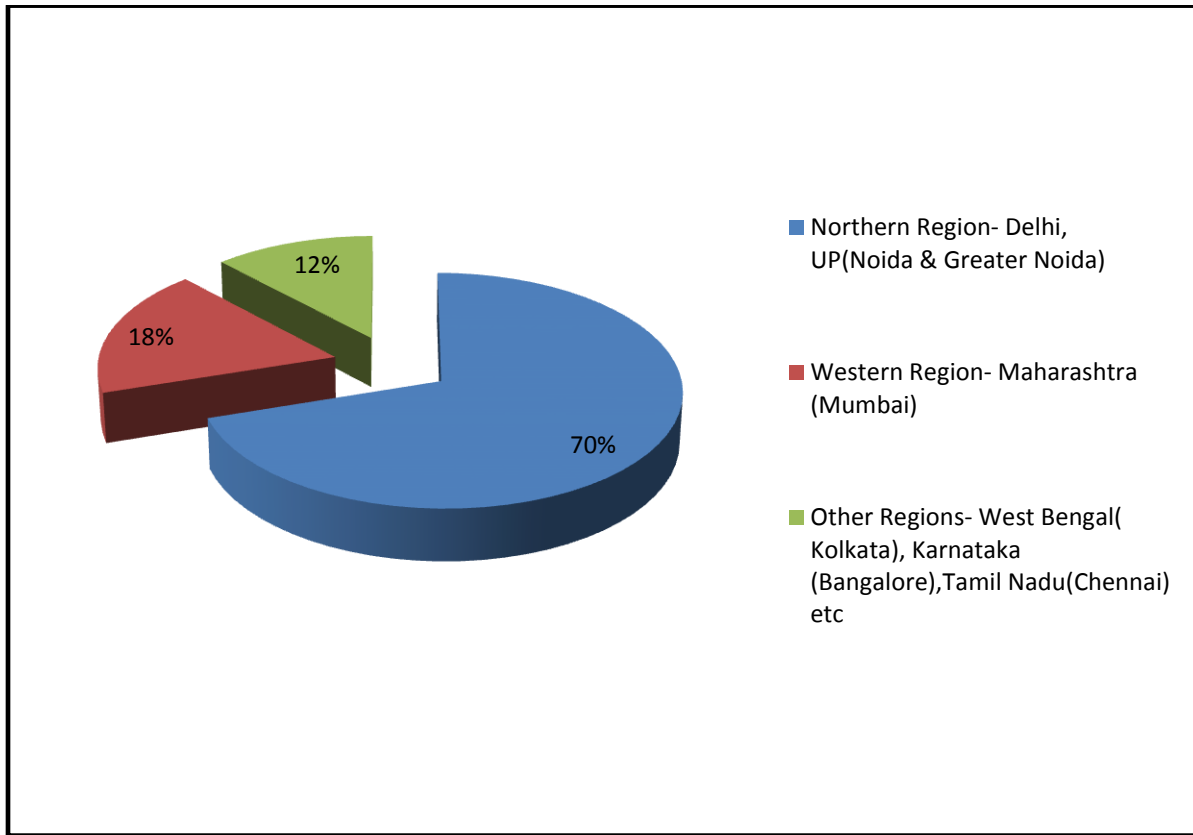
Table 1.1: Major Hubs and Clusters in India for MSMEs engaged in toys manufacturing

Region	Approx Distribution of toys manufacturing MSMEs (%)	Prominent States in the region
Northern	70	Delhi , UP(Noida & Greater Noida)
Western	18	Maharashtra(Mumbai)
Other regions	12	West Bengal(Kolkata), Karnataka (Bangalore),Tamil Nadu(Chennai) etc

(Source: Consultant's study)

The above data also indicates that the presence of toys manufacturing industry in North Eastern Region is negligible. The distribution of major hubs & clusters in India for MSMEs engaged in toys manufacturing is depicted in the form of Pie Chart at Figure 1.1.

Figure 1.1: Pie Chart- Major Hubs & Clusters in India for MSMEs toys manufacturers



1.3 Import statistics for toys in India & estimated market share of Chinese toys

The statistics on import of toys (HS codes 9503, 9504 and 9505) in India over the period 2010-11 till 2012-13 and 1st quarter of year 2013-14 (April-June, 2013) have been provided at Table 1.2 that clearly shows that China is the major source for imported toys in India with almost 75 percent share. The data also shows that the imports of toys in India is expected to reach a level of approx Rs 2000 crores during year 2013-14 thereby increasing @ 21 percent from 2012-13.

Table 1.2: Import of Toys in India from Major Countries of the world

S No.	Year	Total import of toys (HS Code 9503, 9504 & 9505) in Rs. Crores	Major Countries of imports (% share)
1	2010-11	924	China (72) USA (7) Taiwan (6)
2	2011-12	1318	China (76) USA (5) Taiwan (3)
3	2012-13	1634	China (74) USA (7) Italy (4)
4	2013-14(April-June,2013)	495 (projected at Rs 2000 crores for entire year)	China (74) USA (7) Italy (4)

(Source - Department of Commerce, Export Import Data Bank, GOI)

1.4 Export statistics for toys from India & major destinations

The statistics on export of toys (HS codes 9503,9504 and 9505) from India over the period 2010-11 till 2012-13 and 1st quarter of year 2013-14 (April-June,2013) have been provided at Table 1.3 that clearly show that USA , UK , UAE are the major destinations. It is expected that the total export of toys from India shall reach a level of approx Rs 400 crores during the year 2013-14 and will increase by 14 percent from 2012-13.

Table 1.3: Export of Toys from India and major destinations

S No.	Year	Total export of toys (HS Code 9503, 9504 & 9505) in Rs. Crores.	Major Countries of exports (% share)
1	2010-11	162	UK(22) USA(25) UAE(5)
2	2011-12	233	UK(10) USA(26) UAE(6)
3	2012-13	337	UK(12) USA(31) UAE(5)
4	2013-14(April-June,2013)	96 (projected at Rs 400 crores for entire year)	UK(12) USA(31) UAE(5)

(Source - Department of Commerce, Export Import Data Bank, GOI)

CHAPTER 2

OBJECTIVE(S), SCOPE OF WORK, APPROACH & METHODOLOGY FOR STUDY

2.1 Objectives & Scope of Study

The main Objectives of the Study as per the TOR provided by NSIC are as follows:

- Assess the current market share of MSMEs in the Toy industry
- Identification of major clusters and manufacturing hubs for the said industry
- Assess the current market share of Chinese imports for the said industry
- Identify the technology gaps in the Indian Toy industry as compared to Chinese Toy industry
- Carry out a SWOT analysis of MSMEs in Indian Toy industry
- Suggest possible remedial measures to overcome the challenge of increasing Chinese import of Toys

The study mainly focuses on TOYS & GAMES industry including products covered under HS Code 9503, 9504 & 9505.

2.2 Approach and Methodology adopted for carrying out the Study

The Approach & Methodology adopted by the Consultants for carrying out the Study “**To assess the impact of Chinese imports on MSMEs in Toy industry and to suggest remedial measures for corrective action**” has been based on the Scope of Work/TOR provided by NSIC and included:

Task I: Preliminary meeting with officials of NSIC, New Delhi (Client)

Task Objective: To fine-tune understanding of the assignment, discuss methodology to be adopted, key deliverables, time schedule, to understand the expectations of the client from the consultants and to obtain documents available with NSIC related to the study.

Task description:

- a) An interactive session with officials of NSIC, New Delhi was held on 16th August, 2013 to discuss the scope of work and action plan for executing the said assignment.

- b) NSIC was requested by the consultants to provide a list of Indian MSME toys manufacturers registered with them.
- c) The consultants also obtained the list of NSIC offices in the cities being visited for any support if needed during the conduct of the study.
- d) NSIC provided the consultants Fair Directory of 7th TOY Biz International fair organized by Toy Association of India at New Delhi in July 2013 that included exhaustive list of MSMEs engaged in toys sector that participated in the said fair.
- e) The consultants also obtained a Letter Of Authorization from NSIC for conducting the study.

Task II: Desk Research And Internet Research

Task objective: To compile information / details w.r.t following:

➤ **Desk Research wrt Indian Toys industry**

1. Estimated size of the total market for toys Industry in India (including domestic production and imports) during the year 2012-13 & projections for year 2013-14.
2. Major manufacturing hubs/ clusters for toys in the Country and approximate nos of MSME toys manufacturers.
3. Major Categories of toys being sold in the domestic market and their approximate share.
4. Approximate % share of imported toys in the total market of India for toys and out of that the % share of China.
5. Major categories of toys being Imported in India from China and their approximate % share wise break up.
6. Major categories of toys being exported from India, Major countries/region of export and their approximate % share.
7. Major marketing /consumptions centers in the country for toys.
8. Approximate rate of growth of toys market in India including domestic market and exports during last 3 years.
9. Import Data for toys in India for years 2010-11, 2011-12, 2012-13 & 2013-14 (April – June 2013).
10. Export Data for toys from India for years 2010-11, 2011-12, 2012-13 & 2013-14 (April – June 2013).

11. Major toys manufacturers in India, their contact details and product range.
12. Major Organizations/Institutes offering various support to toys manufacturers in India including Design of toys, marketing, testing etc.

➤ **Desk Research wrt to Chinese toy industry**

To obtain an overview of Chinese toys manufacturing industry covering details like total industry size, No of toys manufacturers, exports of toys from China to other countries & major destinations, prominent types of toys manufactured in China, major toys manufacturing techniques & equipments , major clusters for toys manufacturing & common facilities , products quality standards being adopted for toys, apex industry associations for toys in China , status of plastic mould making industry , R & D related to toys etc.

Task Description: Exhaustive Desk research and Internet search was carried out by the consultants from various published sources (reports, magazines etc) and by visiting websites of Industry Associations, organizations connected with toys manufacturing in India & China, various research reports available on the internet, mould making organizations in China etc to compile the above information and the list of the same has been provided at **Annexure 2.1**.

Task III: Preparation of Draft structured Questionnaire for MSMEs engaged in toys manufacturing sector

Task objective: To prepare a draft Questionnaire for MSMEs engaged in toys manufacturing in India

Task Description and Output: Based on initial discussions with NSIC officials , New Delhi ; TOR for the assignment and Desk research & Internet search a Draft Questionnaire was prepared for contacting/interviewing MSMEs engaged in manufacture of toys in India keeping the scope of work and major objectives of the said study in mind.

Task IV: Discussions with The Toy Association of India (TAI), New Delhi

Task Objective: Since The Toy Association of India is one of the Apex representative body of the toys industry in India it was felt necessary by the consultants to meet their concerned officials in order to:

- 1) Discuss the scope of work for the said study and proposed Approach & Methodology to be adopted by the consultants in order to execute the assignment.
- 2) Proposed sampling plan and cities to be visited-Region wise to cover MSMEs engaged in manufacturing of toys in India.
- 3) Obtain feedback and suggestions on the Draft Questionnaire prepared by the consultants.
- 4) Obtain information/details on the present scenario of toys sector in India and other aspects related to the said study as per Checklist prepared by the consultants based on scope of work that has been provided at Annexure 2.2.
- 5) Obtain list of their regional offices and officers who could facilitate conducting of the said study among their member MSMEs engaged in toys industry.
- 6) Obtain Directory of Members/Contact list of their members on PAN India level with identification of those MSME units that are enlightened on the subject, progressive, cooperative , associated on regular basis with TAI activities who could be included in the study in order to obtain valuable response and cooperation.

Task Description: The consultants met Mr. Sunil Nanda, President of TAI at his Toys manufacturing unit located at Noida on 6th September, 2013.

Task V: Pilot Testing of Draft Questionnaire prepared for MSMEs engaged in toys manufacturing among 5 Toys enterprises located in DELHI & NCR and its subsequent finalization

Task Objective: To test the Draft Questionnaire prepared by the consultants and finalize it in consultation with NSIC, New Delhi.

Task Description and Output: A pilot survey/testing of draft questionnaire prepared for MSMEs engaged in toys manufacturing was conducted by the consultants in Delhi & NCR covering the following 5 units:

- a) Triple ESS Toys Pvt Ltd , Noida
- b) K.M Toys Industries , Delhi
- c) N.K Plastics Toys , Delhi
- d) Ekta Products Pvt Ltd , Delhi
- e) Tuk Tuk Toyz , Delhi

Based on the result of the pilot study and subsequent Discussions with NSIC officials on 12th September, 2013 the draft questionnaire was modified and finalized for field survey that has been provided at Annexure 2.3.

Task VI: Preparation of Inception Report and submission to NSIC

Task Objective: To prepare an Inception report for the assignment that will act as the blue print for its successful and timely execution.

Task Description and Output: The Inception Report primarily covers the following:

- a) Introduction
- b) Major Objectives of the said study
- c) Approach and Methodology proposed to be adopted for carrying out the study
- d) Work Plan covering major activities, their time frame, key deliverables etc.
- e) Questionnaire for MSMEs engaged in toys manufacturing in India
- f) Proposed List of cities to be visited & organizations to be contacted as part of the study

The said inception report was submitted to NSIC officials on 21st September, 2013 before embarking on the Field survey.

Task VII: Conduct of field survey/interviews

Task Objective: To gather information/details from various stakeholders of the toys industry in India comprising of:

- 1) Toys manufacturing MSMEs (About 100 Nos)
- 2) Toys Industry Associations (Remaining toy industry association - TAITMA , Mumbai)
- 3) Major Dealers & Distributors of toys in Delhi, Kolkata etc
- 4) Major support organizations/institutes for toys sector.

Task Description: Following activities were conducted in the field study:

a) Contacting MSME toys manufacturers

Field interviews of about 125 Nos of toys manufacturing MSMEs (102 successful responses received by the consultants) with the help of Letter of Authorization from NSIC and Questionnaire designed for MSME toys manufacturers in India with the

following region and cities wise breakup that has been based on the proportion of total Nos of toys manufacturing MSMEs located in that region:

- i) NORTH: a) Delhi - 51 Nos
b) Noida & Greater Noida - 8 Nos
c) Punjab – 1 No
d) Rajasthan – 1 No

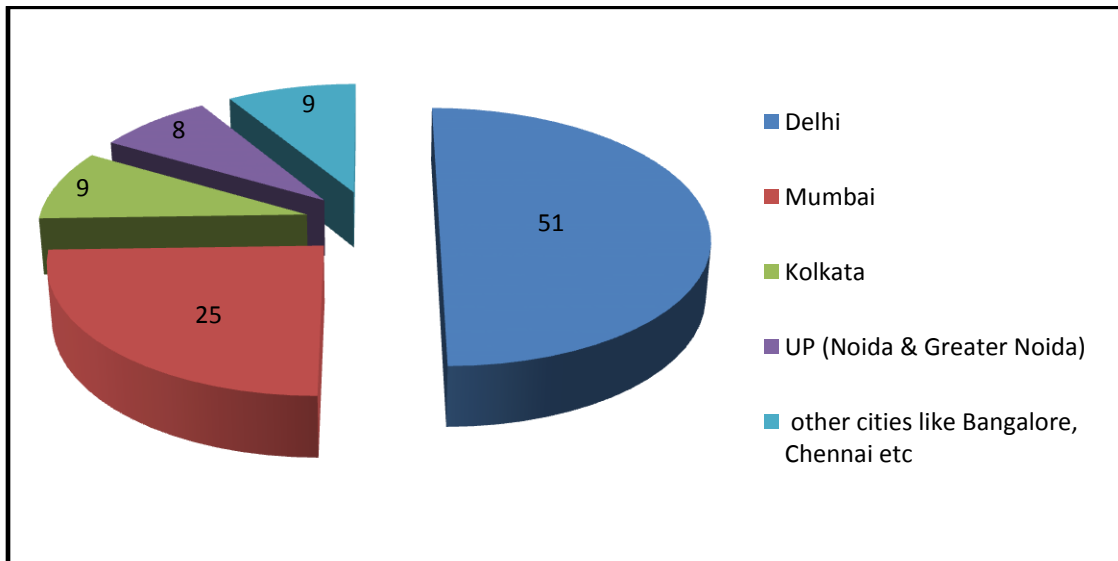
- ii) WEST: a) Mumbai -25 Nos
b) Ahmedabad-1 No

- iii) EAST: a) Kolkata - 9 Nos

- iv) SOUTH: a) Bangalore -4 Nos
b) Chennai - 2 Nos

The distribution of 102 MSME toys manufacturers who responded to the study region wise depicted in the form of Pie Chart at Figure 2.1

Figure 2.1: Pie Chart- Region wise distribution of 102 MSME toys manufacturer respondents



b) Contacting TAITMA , Mumbai

Detailed discussions with officials of another important toy industry association (TAITMA, Mumbai) was carried out during field survey in Mumbai with the help of Letter of Authorization from NSIC and CHECKLIST to cover following aspects:

- i) To obtain list of their MSME members engaged in toys manufacturing located in the above cities both in Organized and Unorganized sectors that could be included in the survey for better response and feedback.
- ii) To obtain list of their associations' offices in each zone/office bearers who could possibly facilitate the consultant's visit to their member enterprises.
- iii) To obtain their views, feedback and suggestions on the major problems being faced by MSME toys manufacturers & major technological gaps existing in the Indian toys industry (MSMEs) vis-a-vis Chinese toys industry and suggested remedial measures to be adopted at various levels to counter Chinese competition so that our domestic MSMEs are benefitted.
- iv) To obtain data / information on the current status of toys industry in India whatever available with them.

c) Contacting Support Organizations/Institutes for toys industry

About 5 Organizations/Institutes providing / offering support facilities to the toys sector were contacted with open-ended questionnaire to obtain feedback on the kind of support services provided, need of the industry, gaps and possible measures to bridge these gaps.

d) Contacting major Wholesalers & Distributors of toys

About 10 Nos of major wholesalers, distributors & dealers were contacted by the consultants mainly located in Delhi (Sadar Bazar), Kolkata, Mumbai, Bangalore and Chennai in order to assess the size of the toy markets in various regions, extent of sale of imported Chinese toys in the markets; approximate no of shops/ sales outlets; quantum of sales turnover achieved annually; major toys manufacturers in India; trend of Indian toy industry from past few years etc.

The List of all Organizations contacted has been provided at Annexure 2.4.

Task VIII: Data compilation, Analysis and Report preparation

Task Objective: Preparation of Draft report, submission to NSIC and its subsequent finalization.

Task Description and Output: The Data collected from various sources i.e. Desk research, Internet search, field survey was compiled and analyzed for preparation of Draft report in line with the scope of work and objectives of the study and the Draft report was submitted to NSIC, New Delhi and subsequently presented to obtain their comments, feedback and suggestions that were duly incorporated in the draft report to finalize the same.

CHAPTER 3

MAJOR FINDINGS OF THE STUDY

3.1 Chinese Toys Industry-An Overview

The consultants have also carried out extensive Internet research wrt to the Chinese toys industry covering various aspects including current status of the industry, No of toys manufacturers in China, prevalent manufacturing practices adopted for different type of toy, total estimated sales turnover from Chinese toys manufacturers, size of domestic toys market of China, quantum of export of toys from china & major destinations, product range for toys being manufactured in China, major toys manufacturing clusters in China, major domestic Chinese brands & imported brands in Chinese market, status & capability of Chinese molds & dies manufacturing industry, other aspects related to the study & the major findings are elaborated as under:

- China is the World's largest manufacturer and exporter of toys.
- The Chinese toy manufacturing industry comprises of about 8000 enterprises, having a total annual sales turnover of US\$29 Billion (Rs 174,000 crores) and employing about 35 lakh persons. The average annual rate of growth for the manufacturing industry over 2008-2013 period has been approx 10 percent.
- The Chinese domestic market for toys is also fairly large pegged at US\$17.0 Billion(Rs 102,000 crores) and exports from China for toys is around US\$12 Billion(Rs 72,000 crores) per annum at present , growing annually by about 6 percent. The exports of toys focuses on OEM supplies (bulk orders from foreign brands); low proportion of high creative products; reduction in profits on exports etc.
- The major types of toys being manufactured in China belong to broad categories of Recreational and fun toys (almost 80 percent share of total toys) and mainly include Electronic toys, Battery operated toys, Plush (soft) toys, plastic toys (Dolls) etc. Balance 20 percent of toys fall in Educational segment.
- It is a misnomer that Chinese skilled labour is cheap, as during the last one year, wages of skilled labour has increased by about 25 percent and currently it is in the range of US\$225 per month or Rs 13500 pm and so China is gradually losing out on the advantage of cheap labour that it had once upon a time.

- In order to encourage exports of toys from China, the Chinese Govt is offering a higher Export tariff rebate ratio of 14 percent to exporting units.
- The toys manufacturing industry is mainly concentrated in Guangdong province in middle south China that accounts for almost 50 percent of the total toys industry revenue and an annual profit of approx US\$ 4 Billion (almost 27 percent of sales revenue). This province is also home to about 42 percent of total toys manufacturing enterprises, 2/3 rd of industry workforce and largest exporter of toys from China. Guangdong province is followed by Jiangsu province and Shandong province that account for 21.8 percent and 10.4 percent respectively of total toys industry revenue.
- In Guangdong province, toys manufacturing activities are centered around cities of Shenzhen; Dongguan; Guangzhou; Shantou's Chenghai and Foshan.
- In China, majority of the toys manufacturing enterprises have inhouse toys design team , set-up including CAD/CAM systems for toy design & Rapid prototype development machines for prototype development & also lay a lot of focus on Research & development of innovative and novelty toys, with about 6-8 member team dedicated for the purpose. In addition the annual expenditure on R & D is substantial, in the range of approximately 5-7% of the annual sales revenue.
- There are many manufacturers and suppliers of major raw materials e.g. plastic granules(more than 7 major companies) , fur fabrics & synthetic fabrics , PU fabric , MDF board etc in China that results in excellent availability , lower cost of raw materials and lower fluctuation in prices for the toys manufacturers. The major producers of plastic granules(HDPE , LDPE , PP etc) in CHINA include SINOPEC;YPC;SCC;FREP,BAYER;DSM;BASF etc and the present prevailing prices of these plastic raw materials is around US\$ 1450 per TON or Rs 90 per kg in the open market for quantities as low as 1 TON.
- The toys manufacturing activity in China operates on cluster approach as mentioned earlier. For example the toys manufacturing cluster at Guangdong province is self sufficient in all respects and has all support facilities/other units manufacturing and supplying needed parts/services by the toys manufacturers including assembled PCBs; springs; screws & nuts; synthetic hair for dolls; soft filling for toys; fur fabrics and synthetic fabrics; printed packaging materials; printed labels; injection moulded and rubber moulded parts; moulds & dies; paints & inks etc. Since the toys manufacturing clusters have virtually all the support services/facilities needed for

supply of all raw materials/manufactured parts of toys, the manufacturing practice carried out by toys manufacturers at their factories boils down to product conceptualization & toy design; material movement using conveyors; manual assembling of parts/sub-assemblies of toys; visual testing for defects and function and passing through metal detectors if needed & products packaging. For testing and certification of finished toys, the toy manufacturers are approaching testing labs like SGS China at Beijing and Shanghai ; UL labs at Shanghai.

- The units engaged in plastic moulding are utilizing Rotational , blow and injection moulding machines that are fully automatic with CNC ; large tonnage (upto 1000 Tonnes)& multi-cavity moulds (with as high as 64 Nos of cavities per mould) in order to manufacture plastic parts with high precision; lower wastage of plastic raw materials; lower costs etc.
- The units engaged in manufacturing of cardboard games use automatic machines like Auto feed hydraulic plane die cutting machines (30 tonnes Cutting force) & Semi automatic flat silk screen printers which are motor driven having capacity of printing 700-1000 pcs per hour of sizes in the range of 300 X 480 mm – 450 X 630 mm.
- The units engaged in manufacturing of soft toys use computerized pattern making machines & software, automatic filling of PSF in soft toy filling machines having air pressure in the range of 0.6 – 0.8 MPa which can fill 800 – 1000 normal size toys in an hour & textile cutting machines which can easily cut pattern of toys in the range of 500-700 kg per hour.
- The major Chinese toys manufacturers include: Good Baby group, Jetta Co Ltd, Lerado group, Nanhai Hongjing Co Ltd, Hong Kong playmates Co Ltd, Guangdong Alpha animation & culture co ltd, Xinghui Auto Model co ltd , Goldlok toys holding co ltd etc.
- A few major foreign toys manufacturers and international level players have also set up their factories in China including LEGO, Mattel, Hasbro, Sega etc.
- The apex toys association in China is China Toys & Juvenile Products Association(TJPA).
- China also imports toys and during the year 2012, China imported toys worth US\$ 760 million (Rs 4560 crores) falling mainly in HS codes 9503 and 9504.

- In addition to marketing of toys through usual ways i.e. through retail toys stores, supermarkets, dealer-distributor network, in China there is a lot of emphasis on ONLINE marketing of toys either through the websites of toys manufacturers or through other E-commerce marketing portals as 40 percent of toy buyers/consumers prefer this mode as it is the most convenient. In fact today China is the world leader in marketing of goods/products through E-commerce for all type of products.
- Plastic moulds , Rubber moulds and dies manufacturing industry is also a major one and quite advanced in China and units have installed advanced machines including die and mould-CAD/CAE/CAM systems, CNC-EDM , CNC-wire cut , tool room machines (drillers, glazing machine, multi function milling machine etc) and testing equipments (life cycle tester, salt spray tester, CMM, projector , abrasion tester etc) & also have rapid mold prototype development setup including SLA machine that can manufacture up to 100 sets of moulds per month(high production capacities) , can deliver moulds and dies in about 7-10 days time after order at competitive prices. It is estimated that there are about 20,000 factories across China engaged in manufacturing of moulds and dies with total annual revenues of around 200 billion RMB(Rs 2000 billion) with press dies constituting 41 percent and moulds(plastic and rubber) constituting about 39 percent of the total products market share. China annually exports moulds and dies worth 2000 million US\$(Rs 12000 crores) to Hongkong, Japan, USA, Singapore etc. China Die & Mould Industry Association is the national level apex industry association for moulds and dies manufacturing in China followed by a host of other provincial based mould and dies industry associations such as Shandong Die & Mould industry association; Guangdong die & Mould industry association; Beijing Die & Mould industry Association etc.(about 20 in total). In China annually International level exhibition is organized by CDMIA called DMC since 1986 where exhibitors show case their moulds and dies manufacturing capabilities to promote the mould and dies manufacturing industry of China.
- Some Chinese toys manufacturers have own IPR and brand names including Chenghai's Auldey; Beijing's Lanmauo; Jiangsu's Goodbabay ; Fujian's Meisida etc although majority of Chinese toys manufacturers manufacture un branded toys for other brands.
- In China, Zoos, Museums and S & T museums also serve as sales channels for toys and stock specific range of toys related to their activities.

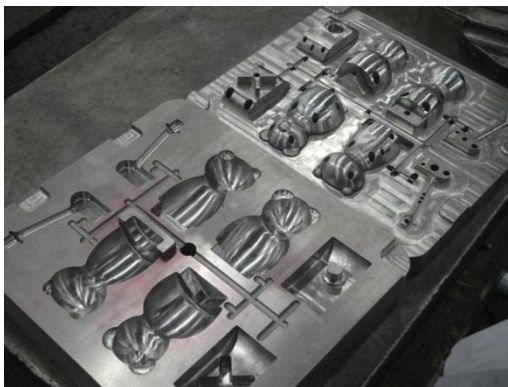
- In China, on an average every year about 4 toys dedicated fairs/exhibitions are held that helps toys manufacturers in show casing their products and marketing.
- It is mandatory for all toys manufacturing enterprises in China to manufacture products in line with the requirements of National standards for children toys and get quality certifications before they leave the factories since year 2004. A 3C (China compulsory certification) was introduced for toys in the year 2006 that all toys manufacturers have to follow.
- Each and every batch of toys imported in China is inspected on arrival at customs as per quality standards.
- As per law, every label for toy has to include details including price, quantity, toy type & function , major materials used, age group , instructions on how to use the toy, security warnings , repair & maintenance procedures(if any) , manufacturer name & contact details , bar code etc.
- In China skilled and trained manpower is readily available who have done diploma in courses from Polytechnics in the field of mould design & manufacturing; toy design; operation and maintenance of various production machines etc. There are a number of Polytechnics/ Institutes in China (about 4-5 Nos) that are offering specialized courses related to the toys industry for example Panyu- Polytechnic based at Guangzhou that provides specialized courses like Auto cad drafting for toys; toys safety standards & testing; Hong Kong Design Institute based in Hong Kong that provide Product design course for toys of 6-8 months duration.
- The major factors for the growth, development and success of the Chinese toys industry are lower capital investment costs; lower domestic sourcing costs; greater economies of scale of operation; Government incentives etc. for toys manufacturers/industry. Toy manufacturing clusters in China that constitute of large Nos of small and medium enterprises facilitate excellent Supply Chain performance and result in efficient sourcing of inputs & lower inventories; sharing of information; process improvements and technological know-how. The clusters also offers manufacturers buying scales for raw materials or parts (avoid less than truckload/container option) and better cost economics. With the supply within the same cluster, transportation costs between suppliers and manufacturers are greatly reduced because of close proximity.

Illustration- Machines deployed by toys manufacturers in China

Plastic Automatic Injection Molding Machine



Multi-Cavity Moulds



Toys Prototype making machine



Soft toy filling machine



Flat Screen printing machine



3.2 Associations of Indian Toy Industry contacted

The two prominent Toy industry Associations namely Toy Association of India (TAI) , New Delhi & The All India Toy Manufacturers' Association (TAITMA) , Mumbai were contacted by the consultants. The Associations have been established to foster integrated and accelerated growth and development of the toy industry in India, in a systematic and scientific manner, and to exploit its export potential to earn valuable foreign exchange for the country. In addition they are also offering support services and assistance to their members from time to time related to various issues that concern the toys industry. The details provided by them are as below:

3.2.1 Toy Association of India (TAI), New Delhi

A) Profile of Toy Association Of India (TAI)

- The Toy Association of India (TAI) with headquarters in New Delhi was established in 1995 to bring together the toys manufacturers, traders & end users to foster good business relations.
- The Toy Association of India (TAI) has presence from all over the India having members from different states.

- Currently The Toy Association of India (TAI) has more than 600 (Six Hundred) registered members from all over India out of which approx 275 Nos are toys manufacturers & rest are importers, exporters, wholesalers, distributors, retailers & suppliers of toys.

B) Support Services offered by Toy Association Of India (TAI) to its members

The main objectives & support offered by The Toy Association of India (TAI) are as follows:

- To unite the Toy Industry for better interaction between manufacturers & traders.
- To represent the industries problem & requirement with the government.
- To recommend/ suggest import/export policy/ duties to Government of India, keeping in the interest of Toy Industry.
- To create a conducive working relationship between the Industry & the Government.
- To assist the toy industries to upgrade their units with modern plant & machinery to maintain quality & safety of toys.
- To organize fairs/exhibitions in different parts of the country to bring together the manufacturers, traders and end users to keep them abreast of modern play-way methods and acting as a bridge between importers and exporters.
- To conduct seminars/workshops for modernization and technical up-gradation of the industry.
- To assist formation of location-wise clusters of small industrial units to make them competitive to face the threat from big players in the market.
- To pursue Government to establish centralized designing and testing centers.

3.2.2 The All India Toy Manufacturers' Association (TAITMA), Mumbai

A) Profile of The All India Toy Manufacturers' Association (TAITMA)

- The All India Toy Manufacturers' Association (TAITMA) with headquarters in Mumbai was established in 1976 and has more presence in the Western region.
- Currently TAITMA has about 150 (One Hundred Fifty) registered members out of which nearly 100 are toys manufacturers & rest are importers, exporters, wholesalers, distributors, retailers & suppliers of toys.

B) Support & Services offered by TAITMA to its members

The main objectives & support offered by The All India Toy Manufacturers' Association (TAITMA) to its members are as follows:

- To bring all toy manufacturers under one common platform.
- To propagate a code of ethics amongst the manufacturers against plagiarizing others ideas & products.
- To seek financial assistance & subsidies from available funding government institutions solely for the growth & development of the toy industry.
- To educate & convince the manufacturers for application of safety standards formulated by Bureau of Indian Standards, GOI to raise the quality of products.
- To encourage participation in toy fairs & exhibitions.

3.2.3 Major Feedback from Toy Industry Associations

- The present size of the Domestic market for toys in India is around Rs. 6000 - 7000 Crores which is growing @ 10-15% on an annual basis.
- About 75% of the Indian Toy market is flooded with imported toys & out of that 90% of the imported toys in India come from China only.

- Among the imported toys, about 80% are electronic and battery operated toys, balance 20% constitutes plastic & soft toys.
- The domestic toys manufacturers have only 25 percent share of the total domestic market for toys and fall in the Micro and small scale categories.
- The export of toys from India is quite low; of the order of approximately Rs 250- 300 crores per annum only and mainly educational toys are being exported to USA, UK, UAE etc.
- In the domestic market for toys , at the national level it is estimated that electronic toys & battery operated toys (totally imported) have captured almost 50% share , followed by plastic toys , card board & wooden toys and games , soft toys etc with market share distribution as provided in Table 3.1.

Table 3.1: Estimated Market share of different type of toys in the domestic market

S No	Type of Toys	Approximate % share in domestic market
1	Electronic toys and battery operated toys	50
2	Plastic toys	20
3	Card board and wooden toys & games	15
4	Soft toys & other toys	15
	TOTAL	100

(Source: Toys industry Associations and also Consultant's study findings)

- The major manufacturing hubs/ clusters for toys in the country include Delhi & NCR followed by Mumbai.
- In Northern India, Delhi & NCR (Noida, Greater Noida) is the major manufacturing hub/ cluster for toys comprising of about 550 MSME Manufacturers, out of which approximately 65% fall in the Unorganized sector & located in nonconforming areas of the city.

- In Western India, Mumbai is the major manufacturing hub/ cluster for toys comprising of about 150 MSME Manufacturers, where it is estimated that almost 90% of the units fall in the organized sector working from proper industrial areas.
- It is estimated that about 100 more MSME toys manufacturers are scattered all over the country and there is negligible presence of toys manufacturers in North-Eastern Region (NER).
- Within the country Delhi and Mumbai are the two major consumption centres for toys with approx 40 percent share for Delhi followed by 30 percent for Mumbai of total sales of toys in the country.
- According to these industry associations, the MSME toys manufacturers are facing major problems/ technology gaps wrt to following:
 - Availability of certain raw materials like fur fabric & synthetic fabric for soft toys; good quality cardboard as per requirement; MDF board; Rubber latex as per need; PU(Leatherite / Synthetic Leather) etc.
 - High prices of plastic granules of HDPE, PVC, ABS by almost 25 % as compared to abroad & handful of raw material manufacturers thereby leading to wide price fluctuation & monopoly.
 - Plastic & Rubber molds manufacturing facilities are inadequate in India; the molds manufacturing enterprises have conventional setup & low production scales that leads to longer delivery time of almost 4 months & prices that are 25 – 30 % more as compared to China.
 - The unchecked import of Chinese toys of inferior quality & under invoicing of prices is badly affecting our domestic MSME toys manufacturing units.
 - The import duty on raw materials is more than finished toy that discourages toy manufacturing in India & encourages imports of toys & trading.

3.3 Indian MSMEs engaged in Toy Manufacturing contacted

As part of the study, the consultants approached about 125 odd manufacturers of toys in the MSME sector out of which they were able to obtain concrete feedback as per the pre

designed structured questionnaire for the segment from 102 MSME toys manufacturers. Out of these 102 MSME toys manufacturers successfully contacted 51 Numbers were located in Delhi which is the major hub; followed by 25 Numbers in Mumbai the next prominent hub for manufacturing in India; 9 Numbers in Kolkata; 8 Numbers located in UP (Noida & Greater Noida) & balance 9 Numbers located in other parts of the country including Bangalore, Chennai etc.

The Analysis of the data obtained from the 102 MSME toys manufacturer respondents is provided below:

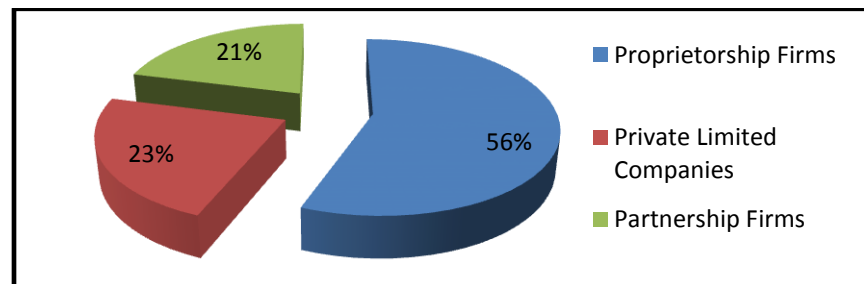
3.3.1 Profile of MSME Toys Manufacturers

i) Distribution of enterprises as per their constitution

The distribution of the MSME Toys Manufacturers successfully contacted according to the constitution of their enterprises is as follows & is depicted in the form of Pie Chart at Figure 3.1:

- a. Proprietorship Firms: 56%
- b. Private Limited Companies: 23%
- c. Partnership Firms: 21%

Figure 3.1: Pie Chart- Distribution of MSME Toys Manufacturers as per constitution of their Enterprises



ii) Distribution of the enterprises (Organized/ Unorganized Sector)

The distribution of MSME Toys Manufacturers contacted, according to their status i.e. whether they fall in organized sector or are still in unorganized sector & is as follows:

- a. The scenario wrt % of MSME toys manufacturers falling in organized & unorganized sectors differs vastly from region to region. For e.g. among the manufacturers contacted in Delhi, majority of them (approximately 65%) fall in unorganized sector that is largely concentrated in nonconforming areas of the city.
- b. In Mumbai the picture is reverse, among the manufacturers contacted in Mumbai, approximately 90% fall in the organized sector & are functioning from proper industrial areas.

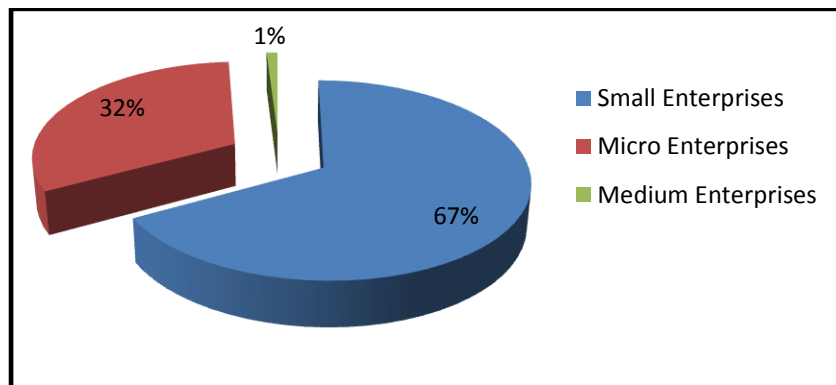
iii) Distribution of MSME toys manufacturers based on their enterprise category

The distribution of MSME Toys Manufacturers contacted according to the category of enterprise reveals that 99% of them fall in micro & small scale sectors with the following breakup:

- a. Small Enterprises: 67%
- b. Micro Enterprises: 32%
- c. Medium Enterprises: 1%

The distribution of MSME toys manufacturers based on their enterprise category is depicted in the form of Pie Chart at Figure 3.2.

Figure 3.2: Pie Chart- Distribution of MSME Toys Manufacturers based on their enterprise category



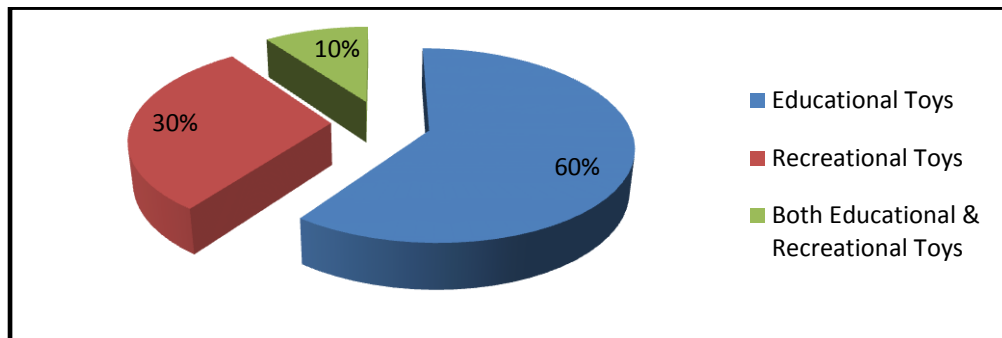
iv) Distribution of MSME Toys Manufacturers according to the Type / Nature & application/ purpose of toys being manufactured

The distribution of MSME Toys Manufacturers contacted according to the type/ nature & application/ purpose of toys being manufactured by them indicates that majority of them are engaged in manufacturing of educational toys & the breakup is as follows:

- a. Educational Toys: 60%
- b. Recreational Toys: 30%
- c. Both Educational & Recreational Toys: 10%

The distribution of MSME toys manufacturers according to Nature & Application is depicted in the form of Pie Chart at Figure 3.3.

Figure 3.3: Pie Chart- Distribution of MSME Toys Manufacturers according to the Nature & Application of toys being manufactured



v) Distribution of MSME Toys Manufacturers according to the prime raw material used by them in toys

The distribution of MSME toys manufacturers contacted according to type of toy & raw materials used is as follows:

- a. Plastic toys & games: 50%
- b. Cardboard toys & games: 25%
- c. Soft toys: 15%

d. Other type of toys (wooden, mechanical etc): 10%

The distribution of MSME toys manufacturers according to prime raw material used by them in toys is depicted in the form of Pie Chart at Figure 3.4.

Figure 3.4: Pie Chart- Distribution of MSME Toys Manufacturers according to the prime raw material used by them in toys

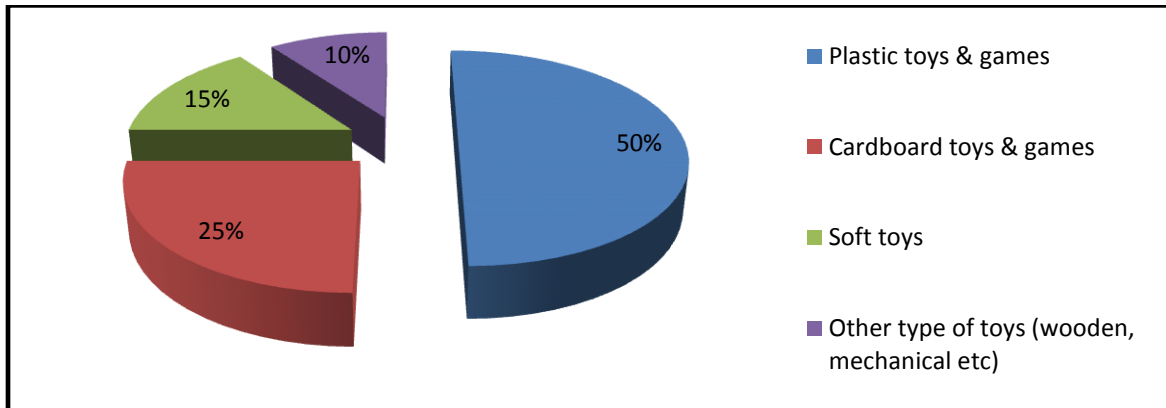


Illustration – Various types of toys being manufactured by MSMEs in India

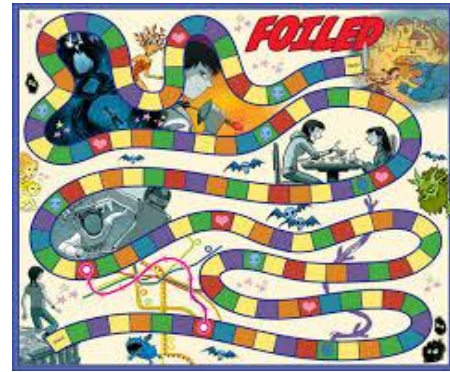
Soft toys



Plastic toys



Cardboard Games



Other type of toys



vi) Toys manufacturing installed capacity

The analysis of data under this head indicates that the total plant installed capacity per annum for 102 MSME toys manufacturing enterprises is approximately 3.30 crores Nos boxes/ packets equivalent to sales value realization of Rs 315 crores. It was also observed that the average plant capacity utilization presently is around 90% per annum.

The installed capacity of toys manufacturing MSME enterprises varies a lot from region to region for example for Mumbai the data collected for 25 enterprises indicates that they have average installed capacity of 5.5 lakh boxes/packets per annum equivalent to sales revenue of Rs 6.5 crores per enterprise. For Delhi the data shows that for 51 enterprises contacted, the average installed capacity is 1.25 lakh boxes/packets per annum equivalent to sales revenue of Rs 1.5 crores per enterprise.

vii) Investment in plant & machinery

The study indicates that the 102 MSME toys manufacturers collectively have invested approximately Rs 108 crores in Plant & machinery with an average investment of around Rs 1.05 crores per enterprise. For units engaged in manufacturing of plastic

based toys the capital investment in plastic moulds is quite substantial, in the range of almost 50% of the total investment in the plant & machinery.

viii) Workforce deployed at toys manufacturing enterprises

It was observed that 51% of the MSME Toys Manufacturers contacted have work force below 20 Nos; 30% of them have work force in the range of 20-50 Nos; while the rest 19% have work force above 50 Nos. Since assembling of toys, visual inspection of toys & functionality is carried out in enterprises manually they require substantial unskilled workers & approximately 80% of the total workforce constitutes this category. The average work force deployed per MSME toy manufacturing enterprise works out 37 Nos.

ix) Quality Accreditations

- On the enterprise level front, it was found that very few MSME toys manufacturers contacted have obtained quality accreditation i.e. ISO 9001 for their manufacturing enterprises (only 8 %).
- Although BIS has formulated IS 9873 (Part I,II,&III) product quality certification for toys, barring may be 1 or 2 toys manufacturers none other is adopting the said quality standard in manufacturing of their product with the plea that the said quality standard is only voluntary & not made mandatory by the Indian Government.
- MSME toys manufacturers who are presently exporting their precuts to USA, UK, UAE etc have indicated that primarily they have obtained quality certification for those products as per international standard EN 71 (Part- I,II, & III) i.e. is acceptable to their buyers in these countries. Approximately 18% of the 102 MSME toys manufacturers contacted are exporting their products & obtained this certification. The prominent Testing & Certification labs for EN 71 include SGS, Gurgaon; Bureau Veritas India, Noida etc.

- Testing requirements & prescribed limits for various heavy metals (Arsenic, Mercury, Selenium, Antimony, Lead, Cadmium, Barium, Chromium) in toys as per EN71 International standard and Domestic IS 9873 standard for toys are elaborated at Annexure 3.1 which are virtually the same.
Major toys abuse tests as specified in the two standards include: sharp edges test; drop test ; impact test ; torque test; tension test; compression test , flexure test etc.

x) Membership of toy industry Associations

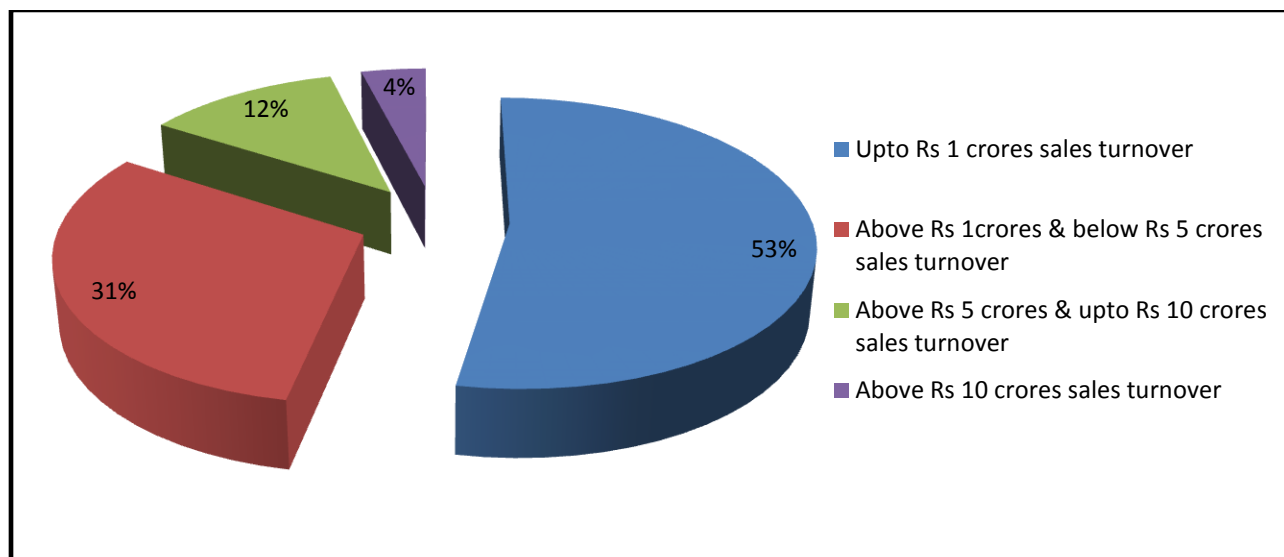
- About 82% of the MSME Toys Manufacturers contacted are members of either one or both of the apex toy industry associations Toy Association of India (TAI) & The All India Toys Manufacturers Association (TAITMA).
- The major support services & assistance provided the toys industry association to their member include advocacy, participation in toys exhibitions / fairs, providing an interface between manufacturers & marketing organizations, uniting the members etc.

xi) Distribution of toys manufacturers according to Sales turnover & growth

- The distribution of MSME toys manufacturer contacted, according to their sales turnover in different brackets is as under:
 - a. Upto Rs 1 crores sales turnover: 53% of the enterprises
 - b. Above Rs 1crores & below Rs 5 crores sales turnover: 31% of the enterprises
 - c. Above Rs 5 crores & upto Rs 10 crores sales turnover: 12%of the enterprises
 - d. Above Rs 10 crores sales turnover: 4% of the enterprises

The distribution of MSME toys manufacturers according to sales turnover is depicted in the form of Pie Chart at Figure 3.5.

Figure 3.5: Pie Chart- Distribution of MSME toys manufacturers according to Sales Turnover



- Of the total sales turnover of the toys manufacturing enterprises contacted, approximately 4% constitutes importing of finished toys & their marketing in the domestic market. The prime source of imported toys is China.
- About 64% of the MSME Toys Manufacturers contacted reported that there is on an average 10-15% growth in total sales turnover per annum during the last 3 years period; while 7% of them reported that there is a higher growth of about 20-25%.Rest of the MSME Toys Manufacturers indicated that their growth was almost stagnant.
- Majority of the MSME Toys Manufacturers contacted in major hubs like Delhi, NCR & Mumbai reported that their toys are distributed & supplied on pan India basis. Whereas majority of the MSME Toys Manufacturers contacted in Kolkata were of the view that their sales of toys are limited to West Bengal only.

xii) Export of toys

The study indicates that out of 102 MSME toys manufacturers contacted, about 19 Nos are presently engaged in exporting their products to USA, UK, UAE etc. For these units exports as % of their total sales turnover works out to 22%.

3.3.2 Current manufacturing practices & major machines deployed by MSME toys manufacturers

i) Product Design & Development

- The study indicates that merely 12% of MSME Toys Manufacturers contacted have their own in house Design studio & team of trained designers for product conceptualization , prototype development and R&D on design with proper setup of CAD/CAM tools & other softwares. These are the units/ enterprises that are operating at organized level, have turnovers in the range of Rs 5 crores or greater annually, exporters of toys & those who have financial capability to invest in full fledged design studios.
- Majority of about 73% have their own ideas/ product concept but utilize the design services available from other design studios/ freelance designers. Noida based Pink Elephant Design Studio is one such dedicated toys design studio in India that offers services including graphic designing, product designing & mentoring of new business enterprises that is being headed by a person with PG- Diploma in toys designing from NID- Ahmedabad.
- The rest 15% of the MSME Toys Manufacturers just copy the designs of other domestic manufacturers & Chinese toys available in the Indian market and with slight modification launch their own products in the market.
- Due to no facility for prototype development in the premises of majority of toys manufacturers, the chances of copying of their product designs become higher.
- In India, NID- Ahmedabad is the only prominent & well-known institute that is offering 2.5 years PG-Diploma in toys designing. In addition, ITMT- Kolkata is offering pattern making, fabric Identification & stitching courses of 1 year duration for soft toys.

ii) Procurement of Raw Materials, Critical Parts & Testing

- It was observed by the consultants that in the Indian toy manufacturing industry producing plastic toys, the major raw materials used are food grade quality plastics in granular form of Reliance & GAIL that are available in open market in the range of Rs 120 per kg for HDPE/LDPE/PP in small quantities of upto 1 TON and codes/numbers of Reliance plastic granules of food grade quality are as follows:

S No.	Name of Plastic Raw Material	Code(Reliance)
1	HDPE – High Density Poly-Ethylene	HD53MA020
2	LDPE - Low Density Poly-Ethylene	16MA400
3	LP – Low profile Resin	F19010
4	PP – Poly Propylene	H200MK
5	PVC – Poly Vinyl Chloride	67GEFO1

- In the soft toys manufacturing industry, PSF (Polyester Staple Fibre) is used which is readily available in the market from Reliance as per decided quality with the cost ranging between Rs 150- 160 per Kg. It was observed by the consultants that the fur fabric & synthetic knitted fabric used for making skin of the soft toys are not available in the Indian market, thus almost all the soft toys manufacturers procure these from importers since on an individual level they have relatively small quantities for direct import.
- For making Toys, puzzles & board games out of Cardboard & Wood, Cardboard, MDF (Medium Density Fibre) board and Wood (Pine, Shesham etc) are the main raw materials that are being used. Wood & Cardboard are easily available in the domestic market whereas MDF board has to be imported as it is not being produced in India. A few cardboard based games manufacturers are also importing cardboard from abroad due to its superior quality.
- Rubber latex, another raw material for manufacturing of rubber based toys is available to the toys manufacturers from Kerala but due to insufficient supply, they also have to resort to imports.
- Other prominent raw material that is needed to manufacture toys & games as reported by the toys manufacturers includes Poly Urethane Fabric (Synthetic Leather) that is currently not being manufactured in India & has to be imported in huge quantities.

- Cotton knitted fabric for toys manufacture is mainly being procured from Panipat, Haryana.
- All the critical parts/components as needed for different type of toys are being sourced within India and also being imported, for eg the pull back mechanism of mechanical toys are imported from China; soft toys parts such as nose , eyes, rings, shoes , ribbons etc are domestically sourced ; paints & inks are available indigenously ; other toy parts ie nuts, bolts, screws , ropes , pedals , clips , stickers/labels etc are procured from other units.
- None of the raw materials and parts are being tested for quality or function by the toys manufacturers at their factories.

iii) Manufacturing of toys

- In the manufacturing of plastic toys & games 72% of respondents have installed manual injection moulding machines, while 16% have installed semi-automatic injection moulding machines & only 12% have installed fully- automatic injection moulding machines. With the major use of old conventional technology based manual injection molding machines, the cost of production goes up, product quality & finish reduces & productivity gets lower. Majority of the toys manufacturers have procured their production machines from Indigenous manufacturers.
- About only 7% of the MSME Toys Manufacturers have their own proper tool room setup for mould designing & making including CAD/CAM systems; EDM , wire cut etc and rest of the units based on their products designs avail the services of other units engaged in manufacturing of moulds both within India and from China.
- For the manufacturing of puzzles & games made of wood, cardboard & MDF boards usually grinding machines, shaping machines, pattern cutters/ punching machines & hand tools are used that are manual & semi automatic in nature and all equipments have been sourced from domestic manufacturers.
- In the soft toys making industry primarily semi automatic fabric cutting machines & sewing machines are used and PSF stuffing is being done manually. There are only 2 units who are using laser cutting machines for fabric cutting as per patterns to

increase their productivity. Majority of the units were using hand cutters for pattern cutting that are made out of foam or cardboard. The production equipments have been procured domestically.

Illustration- Machines deployed by MSMEs toys manufacturers in India

Manual Injection molding machines



Wood & Cardboard cutting machines & tools



Soft toy cutting & stitching machines



iv) Assembling of toys & testing

- Almost all the toys manufacturers contacted deploy unskilled labour-mostly women for assembling, visual testing and packaging of toys.
- It was observed by the consultants that barring one unit located at Delhi who has adopted IS 9873 (Part I-III) product quality standard for all of their products being produced for the domestic market, this standard has not been adopted by other toys manufacturers contacted as it is presently not mandatory.
- Almost all toys manufacturers contacted are carrying out random testing procedures for visual testing/inspection of finished products for any defects and proper functioning.
- Those toys manufacturers who are exporting toys are testing only those toys mainly as per EN71 (Part I, II & III) International Standard and obtain certifications from testing laboratories such as SGS, Gurgaon etc. Since there is no accredited testing lab that can test toys as per this standard at Mumbai, toys manufacturers from there have to come all the way to SGS, Gurgaon.

v) Packaging of toys

- Almost all toys manufacturers design their own toys packing boxes in-house and also decide on the various packaging materials to be used.
- Majority of the MSME Toys Manufacturers are first packing the toys/ set of toys/pieces in one cardboard box that is shrink wrapped subsequently at the factory. The card board boxes are duly printed with design provided by the toy manufacturer and labels are supplied by other units/ printing presses located in the region to these toys manufacturers. For safe transportation, the packed card board boxes are packed in corrugated boxes.

vi) Cost of production , marketing cost and profit margins

- It was observed that on an average the cost of production including factory overheads as percentage of the sales turnover is approximately 70 for MSME Toys Manufacturers; followed by approximately 15% product marketing cost; 5% other overheads including income tax, depreciation & interest, thereby leaving a net profit margin of approx 10% of the sales turnover for the manufacturer.

3.3.3 Measures adopted for product marketing

- Virtually all of the MSME Toys Manufacturers contacted reported that for product marketing they are heavily dependent on Distributors & Dealers Network and also supplying their products directly to toys retail shops located in major markets like Sadar Bazaar, New Delhi that has an estimated 1000 such shops selling toys worth Rs 3000 crores annually (that are sourced from domestic toys manufacturers as well as imported products). From Sadar bazaar, the wholesalers are also supplying toys throughout the country.
- Very few toys manufacturers contacted are directly marketing their toys through own retail outlets or own websites for online marketing.
- Other marketing mechanisms like E-commerce i.e. marketing through other online channels/portals such as Flipkart.com; yellowgiraffe.in; www.babyoye.com ; www.kidloo.com; jungle.com; www.ebay.com; www.rentoys.com is also catching up fast. It is interesting to note that toys can also be rented on portal-RENTOYS and later sold back to them that is a unique concept.
- The toys manufacturers are primarily promoting their products through printing & distribution of catalogues/pamphlets; own websites; listing on B2B portals; advertisements in Directories/Publications of their Toys Association; participation in domestic toy fairs and exhibitions etc. It was observed that not even 5 percent of the toys manufacturers contacted participate in International toys fairs/exhibitions.
- In order to face growing competition from Chinese toys, the domestic manufacturers have resorted to strategies like discontinuing/not entering manufacturing of Electronic toys & battery operated toys where China has a monopoly; maintaining superior product quality as compared to Chinese toys; offer warranties to the consumer unlike Chinese toys in the market; base products on

Hindu mythology & festivals & Gods that are more relevant to Indian kids ; lay greater emphasis on design & manufacture of Educational toys where China is lacking ; work on least possible profit margin in order to reduce selling price of toys in the market etc.

Illustration- Prominent retail shops of toys in Sadar Bazaar, Delhi



3.4 Assessment of current market share of Indian MSMEs toys manufacturers in Domestic toys market

- The total current market for toys in India is estimated at Rs 5750 crores per annum with the following break up:
 - a) Import of toys (HS codes 9303, 9304 and 9505) as per official figures: Rs 1980 crores.

- b) Considering under invoicing of imported products by about 50 percent, the actual value of imported toys in the Indian market is estimated to be: Rs 4000 crores.
- c) Estimated MSME toys manufacturers in the country producing toys in factories: About 800 Nos total with about 550 Nos in Delhi & NCR followed by about 150 Nos in Mumbai and balance 100 Nos scattered throughout the country.
- d) Average sales turnover per MSME-toys manufacturing enterprise in the country based on the findings of the survey: Rs 2 crores.
- e) Estimated sales turnover in domestic toys market by domestic manufacturers: Rs 1600 crores.
- f) Total estimated sales turnover of toys in domestic market by large scale manufacturers: Rs 150 crores.
- g) Total estimated domestic market for toys in India: Approx Rs 5750 crores per annum at present.
- h) Estimated share of Indian MSME toys manufacturers: 28 percent (approx) of total domestic toys market.
- i) Estimated share of Indian MSME toys manufacturers of total sales of domestically produced toys: 91 percent (approx).

3.5 Identified major Technology gaps & problems being faced in MSME Indian Toy Industry viz-a-viz Chinese Toy Industry

Based on the review , analysis of the current toys manufacturing practices being adopted by toys manufacturers & industry status in China and India , the consultants have worked out Table 3.2 that highlights parameter wise major areas of technology gaps and problems encountered by MSME toys manufacturers in India vis-à-vis their Chinese counter parts.

Table 3.2: Major Problems & Technology gaps existing in Indian toys manufacturing MSMEs viz a-viz Chinese toys manufacturers

S No.	Parameter evaluated	Problems faced , Technology & other gaps existing in Indian MSME toys manufacturing industry viz-a-viz Chinese toys manufacturing industry
1	Product Range & Variety	<p>c) Electronic toys & games and battery operated toys are missing from the product range of Indian toys manufacturers that are being imported primarily from China & constitute almost 50% of the total market of toys in India.</p> <p>d) The Indian toys manufacturers are unable to provide a wide variety of toys on a regular basis & launch new products due to lower scale of operations, high investments in moulds and small size of the Domestic market.</p>
2	Product Conceptualization & Design	<p>f) Merely 12% of MSME Toys Manufacturers have their own full fledged in house Design studio & team of trained designers for product conceptualization, prototype development and R&D on design with proper setup of CAD/CAM tools & other software.</p> <p>g) About 73% have their own ideas/ product concepts but utilize the design services available from other design studios/ freelance designers that poses a great threat of copying of their product designs by others.</p> <p>h) About 15% of the balance MSMEs Toys Manufacturers just copy the designs of other domestic manufacturers & Chinese toys available in the Indian market.</p> <p>i) The toys manufacturers are in a great need of outside professional design support for designing new types</p>

		<p>of toys but are unable to afford the Design services provided by institutes like IITs, NID etc on an individual level as they are quite expensive for them.</p> <p>j) The toys manufacturers are virtually not spending any amount out of their annual earnings on R&D for development of innovative & novelty toys and games, thus unable to offer new products as per fast changing needs/requirements of the domestic as well as export markets for toys.</p>
3	Prototype Development of products	<p>b) Since majority of the Indian toys manufacturers (almost 90%) do not have prototype development facilities at their units for toys based on concepts, they have to approach outside organizations for product prototype development that exposes them to the risk of their product concepts & designs being copied by others.</p>
4	Procurement of critical Raw Materials	<p>e) Plastic Raw materials-</p> <ul style="list-style-type: none"> ➤ Prominent plastic raw materials including HDPE, LDPE , PP etc are easily available in India in the open market in small quantities from traders as per desired quality but the prices are higher than China by approximately 25% (Rs 120/kg in India vs Rs 90/kg in China open market for HDPE/LDPE/PP) that leads to higher cost of production of plastic toys. ➤ There are a hand full of manufacturers of plastic raw materials including RIL, GAIL etc hence they control the prices & there is a lot of price fluctuation on a regular basis that adversely affects the performance of the toys manufacturers. ➤ Since majority of the toys manufacturers have requirements of plastic raw materials in quantities that are less than one truck load / container, they directly cannot order & procure the same from Distributors of domestic plastic granules manufacturers directly or even import them directly and have to purchase the same from open market in

		<p>smaller quantities from e.g. Tilak Bazar in Delhi at much higher prices.</p> <p>f) Cardboard & Wood based Raw materials-</p> <ul style="list-style-type: none"> ➤ Although majority of the cardboard games manufacturers procure cardboard from Indian manufacturers, the availability of good quality cardboard as needed, in domestic market is a problem. ➤ Indian cardboards quality is lacking since they have higher water content and punching them is not easy, whereas cardboards available in China are harder and of good quality that results in superior product quality. ➤ MDF board of good quality is not available in India & has to be imported from Malaysia that leads to higher cost of production by 25%. <p>g) Rubber Raw Materials-</p> <ul style="list-style-type: none"> ➤ Availability of rubber latex, the main raw material, of good quality and at appropriate prices is a huge problem. With domestic rubber latex the thickness of rubber toys is difficult to maintain. ➤ Kerala, the main supplier of rubber latex, has a monopoly and price fluctuations are as high as 40 percent increase that upsets cost of production of toys units. ➤ Import duty on rubber latex is high and for import, clearance from RUBBER BOARD is essential for units, that is cumbersome to obtain. ➤ Another important raw material is Poly Urethane fabric (synthetic leather) that is widely used in toys & games and other products (bags etc) manufacturing, which is presently not being manufactured in India & has to be Imported from China.
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		<p>h) Soft toys raw materials-</p> <ul style="list-style-type: none"> ➤ Major raw materials such as Fur fabric & synthetic fabric for manufacturing of soft toys are not being manufactured in India & have to be imported from China that takes long delivery time of 45-60 days , delays the production & launch of new products. In addition, soft toys manufacturers also loose on export orders/opportunities. ➤ There is an inverted import duty structure i.e. the total import duty on fur & fabric is 29% as compared to 15% for finished soft toys , that discourages soft toys manufacturing & promotes importing and trading. ➤ Since toys manufacturers in India on individual basis have less requirement than a container load , they have to procure the same from traders / importers located in India that sell the products at a huge margin of 45-50 % above the imported cost , which results in higher cost of production for soft toys manufacturers. ➤ The traders/ importers are also resorting to direct import of soft toy skins (fabric cut according to pattern & stitched according to toys shape) since skins attract much lower import duty of 15% as compared to 29% for fur fabric & synthetic fabric. These skins are then supplied to local manufacturers that just stuff them with some inferior filling & stitch them and sell them in the market.
5	Skilled manpower	<ul style="list-style-type: none"> ➤ In India it is extremely difficult to find skilled & trained manpower for the toys industry including product designers; machine operators and mould designers & manufacturers, thus the toys manufacturers hire 12th grade workers and provide them in house on the job training. ➤ After few months of experience, the expectations of the workers rise & they expect higher salaries and retaining them is a big challenge for MSMEs.

		<ul style="list-style-type: none"> ➤ There are a very few Institutes , that are offering specialized manpower training courses related to toys manufacturing in the areas of toy design ; mould making etc and NID is the only known design institute offering PG Diploma in toys designing.
6	Manufacturing technology adopted & machines deployed for toys manufacture	<p>e) Manufacturing of plastic toys</p> <ul style="list-style-type: none"> ➤ Majority of the Indian plastic toys manufacturers (about 88%) have deployed manual & semi automatic injection moulding & blow moulding machines of lower tonnage that result in lower productivity, higher wastage and enhanced cost of manufacture and also limit the size of the part that could be moulded. ➤ In moulding, usually multi cavity moulds up to say about 5 cavities are being used by toy manufacturers (vis-à-vis upto 64 cavities in China) that lowers the productivity. ➤ In India, the moulds manufacturing units are inadequate in numbers considering huge demand (there are about 20,000 moulds & dies manufacturers in China). In addition the units deploy conventional mould manufacturing technology & equipments that result in lower output/productivity/capacity; inability to manufacture multi cavity precision moulds & complex moulds ; cannot deliver moulds in reasonable time(take about 4 months or so vis-à-vis about 15 days in China)); are expensive by almost 30 percent as compared to China, there by posing a lot of problems for Indian toys manufacturers. <p>f) Manufacturing of cardboard & wooden games-</p> <ul style="list-style-type: none"> ➤ Majority of the cardboard & wooden games manufacturers in India have deployed manual punching machines, grinders , cutters & hand held tools for operations that are conventional in nature & inefficient , whereas in Chinese manufacturers have deployed auto feed cutting machines , CNC grinders,

		<p>Semi automatic screen printers for high end print quality in large volumes.</p> <p>g) Manufacturing of soft toys</p> <ul style="list-style-type: none"> ➤ Barring 1 or 2, majority of Indian soft toys manufacturers are using manual processes i.e. cardboard & foam based product patterns by sketching/hand; hand-cutters for pattern cutting; manual PSF filling in stitched fabric that are outdated and inefficient. ➤ Very few soft toys manufacturers have installed metal detectors to ensure product safety ie no broken needle part accidentally goes into soft toys. <p>h) Material movement</p> <ul style="list-style-type: none"> ➤ The product parts, sub-assemblies are being manually transferred within the factories and are not mechanized at all, there by leading to lower productivity for toy manufacturers.
7	Testing, QC, certification of Toys	<ul style="list-style-type: none"> ➤ Although BIS has laid down National product quality standard for toys ie IS 9873 (Part I-III) that is equivalent to International quality standard for toys e.g. EN71 (Part I-III), this standard has not been adopted by Indian toys manufacturers for testing & certification of their products for Domestic market as it is presently not mandatory. This may lead to manufacture & sale of inferior/unsafe toys in the Indian market and adversely affect the children. ➤ For Export of toys, testing & International certification as per EN 71 (Part I-III) is very expensive to obtain for MSME toy manufacturers (charges about Rs 15000 per sample) that is acceptable to foreign buyers only from accredited and approved International testing labs i.e. SGS, UL, B & V etc. Thus the toys manufacturers can take this certification for only selected products out of their entire range (say 30 percent of products) that in turn limits export

		<p>opportunities for them.</p> <ul style="list-style-type: none"> ➤ There is no testing lab at Mumbai that has facilities for testing toys as per EN 71 requirements, hence the toys manufacturers have to approach SGS, Gurgaon; UL, Gurgaon; B & V, Noida that is highly inconvenient for them.
8	Product marketing strategies	<ul style="list-style-type: none"> ➤ Participation in International Toy fairs /Exhibitions is quite expensive & unaffordable for MSE toys manufacturers, hence majority of them (almost 95 percent) do not participate in such events there by leading to dismal export of toys from India. ➤ MSME toys manufacturers are interested in exporting their products but lack knowledge wrt export procedures & documentation needed for various countries and need guidance for the same. ➤ Various schemes of Ministry of Micro, Small and Medium Enterprises; Ministry of Commerce-GOI for facilitating participation of MSMEs in International fairs/exhibitions & subsidizing the same have not been propagated well among MSME toy manufacturers; they lack awareness and hence unable to reap the benefits. ➤ Latest trends in marketing i.e. E-Commerce i.e. online marketing through own website or other web portals are still to be adopted by toys manufacturers in a big way, that has been a prominent avenue of marketing adopted in China. ➤ In India lesser Number of Exhibitions/ fairs focusing on toys industry are held each year (may be 2 Nos), whereas in China, on an average 4 such International level toy fairs are held every year that helps manufactures in promoting their products.
9	Support from design & technology development Institutes/	<ul style="list-style-type: none"> ➤ There are not many specialized Institutes/organizations that are providing either toy design support or improvement in manufacturing

	Organizations	technologies, the ones who are there e.g. IITs, NID are unaffordable by individual toys manufacturers.
10	Support Infrastructure for the Industry	<ul style="list-style-type: none"> ➤ In china working sheds are provided by the Government to the industry in proper industrial areas on rent at concessional rates i.e. the cost of rentals is only 2% Per annum viz-a viz in India which is 16-17% Pa. ➤ In China, it is easy to set up a manufacturing enterprise and a new factory can get all clearances in about 1 month where as in India it takes more than 6 months. ➤ In China the labor laws are quite liberal whereas in India they are stringent. ➤ Chinese Govt is encouraging export of toys & is providing 14% duty drawback as compared to 7% provided by Indian government. ➤ The industrial areas in India lack facilities of proper connectivity; transportation; adequate power supply that affect the smooth functioning of manufacturing enterprises unlike China that has excellent support infrastructure for major manufacturing hubs including good connectivity with ports to boost exports.
11	Finance from Institutions	<ul style="list-style-type: none"> ➤ Finance is a major hurdle for MSME toy manufacturers to grow, expand, modernize as it is quite expensive at @ 11-12 % pa in India vis-à-vis about 3-4 % pa in China.
12	Industry size , Scale of operation of manufacturing units & Cost of production	<ul style="list-style-type: none"> ➤ For micro & small toys manufacturing enterprises in India, their scale of operation is very low that leads to higher cost of production and wafer thin margins. ➤ The average sales turnover per toy manufacturing enterprise in China is almost 10 times that of India.

		<ul style="list-style-type: none"> ➤ The number of toys manufacturing enterprises in China is almost 10 times that of India. ➤ The cost of production in India for toys manufacturers is quite high and their net profits are 9-10 % of sales turnover as compared to about 24-25 % for Chinese toys manufacturers. ➤ The domestic market for toys in China is almost 18 times that of India at present. ➤ The export of toys from China are almost 180 times that of India at present.
13	Distinct clusters for toys manufacturing	<ul style="list-style-type: none"> ➤ The success of the toys manufacturing industry in China is primarily due to Cluster approach (their entire industry is concentrated in self sufficient clusters in 5 provinces) and in India this is nonexistent and is the need of the hour atleast in major hubs like Delhi and Mumbai. Clusters lead to efficient supply chain mechanism for raw materials, parts and better cost economics for suppliers as well as toys manufacturers.
14	Import of Toys	<ul style="list-style-type: none"> ➤ As per law, all toys being imported into India need to be tested & certified as per any of the product quality standards including ASTM F 963; ISO 8124; EN 71 or IS 9873 but this has not been strictly implemented by Indian customs, there by un-inspected Chinese toys of inferior quality without proper certification are being imported in the country. ➤ There is a heavy under invoicing of Chinese toys (by almost 50 percent of actual value) that has created non-level playing field for Indian MSME toy manufacturers and also results in loss of revenue for the Indian Government.

3.6 Strengths, Weaknesses, Opportunities & Threats Analysis (SWOT) of MSMEs engaged in toys manufacture in India

The SWOT analysis for Indian MEMEs engaged in toys manufacturing is provided as under:

A) Strengths

- The Indian toys manufacturing industry is quite old (more than 75 years in existence), well established & mostly family businesses that have been carried out through several generations.
- The toys manufacturers are focusing on Educational toys and are manufacturing a wide range & varieties of toys in plastics and cardboard that have excellent markets both domestically as well as in foreign countries.
- The skilled manpower in India is still one of the cheapest in the world.
- The two industry associations of toys industry in India i.e. TAI and TAITMA are playing a responsible and pro-active role in the promotion & development of the toys industry in India by offering support, assistance and services related to Advocacy; organizing toys fairs/exhibitions in India; providing interface between toys manufacturers and export promotion councils and wholesalers/traders to promote exports and domestic marketing; providing guidance to members on various promotional & developmental schemes of GOI(ministry of MSME etc).
- The MSME toys manufacturing enterprises are united in their respective regions/locations and interact & share information with each others.
- There are certain educational toys & games that are based on Hindu mythology and Indian culture like Gods, other characters, weapons, Holi & Diwali toys, chess etc that are being domestically produced and are liked by Indian children.

B) Weaknesses

- The toys manufacturing enterprises are mostly small scale and micro level units with low investments in plant & machinery and scale of operations & deploy conventional production equipments & techniques that leads to higher cost of production and lower profit margins for them.
- The toys manufacturing units lack toy conceptualization and designing skills for innovative and novelty products. In addition, the expenditure on product R&D is almost negligible.
- The industry lags availability of trained skilled manpower particularly in areas such as toy design; molds development & manufacturing; machine operators etc that are in great demand but short supply in the country. Moreover very few training institutes in the country are providing such type of manpower that has done any specialized course related to these areas.
- In Delhi which is the major manufacturing hub for toys in India, majority of the toys manufacturers (almost 65 percent) are located in non-conforming areas, hence cannot grow or avail various benefits under Govt promotional and developmental schemes.
- The availability of certain critical raw materials eg fabrics & furs for manufacturing of soft toys; Poly urethane fabric; rubber latex and cardboard of good quality in India is not there and imports are expensive due to high import duties and time consuming due to low volume of consumption by individual units.
- The raw material prices for plastics available in the domestic markets are almost 25 percent higher than abroad that results in higher cost of production of plastic toys.
- In India, plastic moulds, rubber moulds and press dies manufacturing industry is not well established as there are inadequate number of molds & dies manufacturing units in the country that have small production capacities, use conventional mould production techniques & equipments there by resulting in higher delivery time of almost 4-5 months, inferior quality of moulds in terms of mould life & surface finish of products, higher cost of mould, incapability to manufacture & deliver complex molds for large products/ parts etc.

- The toy industry lacks technical capabilities in design & manufacture of electronic toys & video games.

C) Opportunities

- The Domestic market for toys and particularly for various types of Educational toys is growing at a very fast pace of about 20% per annum due to increasing disposable income of parents & younger parent population (more than 50% population below 25 year age) and their bent towards purchase of educational toys and games that enhance skills of the child, lead to brain development and creativity.
- The Export market for toys is currently untapped by Indian toys manufacturers, that is also expanding at a fast pace and India's share is not even 0.08 percent of this that could be enhanced particularly in Educational toys and games based on plastics & cardboard where India has an edge over China as China mostly focuses on recreational mass production toys of electronic and battery operated categories.
- The Devaluation of the rupee by almost 15 percent against foreign currencies has resulted in increase in selling price of imported Chinese toys that is a great respite and advantage for domestic toys manufacturers.
- The Chinese toys manufacturing industry is reeling under tremendous pressure from rising raw material prices, wages and their currency becoming stronger which is to the advantage to Indian toys manufacturers.
- Since electronic toys & video games, battery operated toys that are being imported in the country & that constitutes 50% of the domestic market in India, this provides an excellent opportunity for Indian MSME toys manufactures to focus on this segment & design and develop low cost toys for this segment of the market.
- The Indian toys manufacturers could promote & market their products through online market channels (E-Commerce) both within India & abroad as currently this has not been one of the prominent mode of products marketing for domestic toys manufacturers that is one of the major mode that is adopted by Chinese toys manufacturers.

D) Threats

- The un-checked inflow of imported inferior quality and unsafe Chinese toys in India that are not being inspected at the Customs for quality certifications as mandated under law and also for under-invoicing is not only hitting the Indian toys manufacturers but also resulting in availability of unsafe toys for Indian kids and also a huge loss for the Govt exchequer.
- Monopoly of major raw material supplying companies particularly plastics , rubber latex etc in India and wide fluctuations in raw material prices could affect smooth functioning of toys manufacturing enterprises and their cost of production and profits.
- The rising wages for skilled manpower being deployed by the toys industry particularly machine operators, moulds making, toy design can eat away margins of toys manufacturers.
- The import duty on raw materials is almost double than that of imported finished toys and this inverted import duty structure can lead to greater shift in trading than own manufacturing for toy MSME industry.
- On the national level it is estimated that almost 60% of the toys manufacturing enterprises fall in the unorganized sector & are located in nonconforming areas of various cities. With the government tightening laws enforcing manufacturing enterprise to shift out of non conforming residential areas to proper industrial areas, it is anticipated that many such units might not be able to do so & may have to close.
- Although BIS has laid product quality standard IS 9873 for testing of toys, the same is not being adopted by domestic toys manufacturers as it is not mandatory at present, that could lead to selling of inferior quality & unsafe toys for kids in the Indian domestic toy market.

3.7 Details of Funskool India Limited, Chennai(Large scale toys manufacturer)

Funskool India Limited, is a joint venture between Indian giant tyre MRF & Hasbro Inc. USA the Worldwide leader in children's & family leisure time products. It is the largest toy company in India. In addition to its own manufacturing (domestic brands) they have also obtained licenses from many international players to manufacture, distribute & sell international quality branded toys in India like Tomy & Noddy for infants & pre-school products; Warner Bros; Dora & Ravensburger for puzzles; Walt Disney for board games; Lego for construction toys etc.

Funskool was setup in the year 1987 & commercial operations began with setting up factory at Goa with all machinery & equipments to produce high quality toys. To cater to the increased demand, a second factory was setup at Ranipet about 100 km from Chennai. The total approx investment in plant & machinery is of the order of Rs 20 crores (mainly consisting of Fully-Automatic-CNC based Roto, Blow & Injection Moulding Machines; Multi Cavity Plastic Moulds; Mechanized stations for assembling & testing of toys); total factory built-up area is about 1 lac Square Feet; total workforce at the two units approximately 500 Numbers & Annual Turnover is in the range of Rs 60 Crores (50% from domestic production & balance from imports) at present.

Funskool has a strong all India network for marketing of products with 4 regional sales offices in New Delhi, Mumbai, Chennai & Kolkata. In addition they have 18 C&F warehouses spread all over India catering to over 100 stockist & 4500 retail stores directly.

The company also has a product design centre located at Chennai to design & develop new types of toys. The design centre is an integrated one consisting of qualified group of toys designers, tool design engineers & packaging designers.

Fun skool in the OEM of toys for overseas customers like Haesbro, Gollath, Tomy, Flair & many more. The company exports approximately 10 % of its annual production of toys to countries including UK, Germany, Netherland, Mexico, Belgium & France.

CHAPTER 4

SUGGESTED REMEDIAL MEASURES TO OVERCOME PROBLEMS, TECHNOLOGY GAPS & TO FACE CHALLENGE FROM CHINESE TOYS BY INDIAN TOYS MANUFACTURING MSMEs

Based on the analysis of the major problems being faced by the Indian MSME toys manufacturers; major areas of technology & other gaps existing in the industry, following are the head wise suggested remedial measures that could be adopted at various levels of stake holders including toys manufacturers; raw materials manufacturers; Toys industry associations; Government etc in order to reduce problems being faced by MSME toys manufacturers, bridge technology & other gaps that are adversely affecting the growth and performance of MSME toys manufacturing sector in India, to counter the growing challenge & competition from imported Chinese toys in India and to make the domestic MSME toys manufacturers more competitive in the market, the same have been elaborated as under:

1 Product Range & Variety

- Electronic toys & games and Battery operated toys have a huge market in India (almost 50 % market share) that is currently dominated by Chinese toys, hence it is suggested that the Indian toys manufacturers should focus on the development of Electronic toys & games and battery operated toys that could be sold at cheaper costs in India. In order to achieve this, an R & D project could be formulated by Toys Industry Associations (TAI; TAITMA) that could be supported by the Government and technological support for design, development and manufacturing of component assembled PCB, remote control mechanism etc could be provided by IITs, CDAC, electronic products manufacturing industry etc.
- The MSME toys manufacturing industry will have to add new products and types of toys in their product range like sensor based toys, solar toys that are being imported at present and have a good market in India. In addition the Toys industry Associations should also undertake National & International level Market surveys under professional assistance, from time to time in order to assess the toys market sizes; rate of growth; trends & requirement for various types of toys; market

competition; regions where Indian made toys would have a good acceptance based on their concepts etc that will help the toys manufacturers in tapping the Domestic as well as Export market to a larger extent.

2 Product Conceptualization & Design

- Majority of the Indian MSME toys manufacturers do not have their own Product design set ups , design teams and also toys prototype development facilities due to low scale of operations and limitations of funds but desperately need Professional Toys design support for their product concepts , hence it is recommended that a National level Toys & Games Design and Manufacturing Technology support Institute could be set up at New Delhi for the benefit of the industry under Government support that offers services to MSME toys manufacturers on confidential basis and at reasonable charges. The proposed Institute should also be able to carry authentic R & D related to innovative & novel toys and pass on the same at a cost and patent to toys manufacturers interested in undertaking the manufacturing of the same.

3 Procurement of Critical Raw Materials

- Plastic raw materials (HDPE, LDPE,PP) are the prominent raw materials that are being consumed by the MSME toys manufacturers, collectively in huge quantities. It is suggested that the Toys industry associations ie TAI based at Delhi and TAITMA based at Mumbai could procure plastic raw materials directly from manufacturers i.e. RIL and GAIL, in bulk quantities (atleast one truck load) on behalf of their interested members in order to get bulk discount, that will be highly beneficial for toys manufacturers.
- The availability of good quality Card board with low moisture content, another important raw material for manufacture of games & puzzles also needs to be improved in the country and the Toys industry Associations on behalf of their members could approach prominent domestic manufacturers of Card board in order to highlight this issue & problems being faced by the toys industry so that they could improve their product quality & supply as per domestic toys industry needs. Improvement in Card board quality shall also lead to enhanced exports of Card board games from India.

- Other critical raw materials that are needed by the Indian MSME toys industry but are unavailable in the country include MDF board ; Poly Urethane fabric (synthetic leather) ; Fur fabric & synthetic fabrics for soft toys etc could be made available in India as importing them is quite expensive and cumbersome for toys manufacturers. Hence there is a need for setting up of manufacturing plants for these raw materials.
- At present there is an Inverted/ unfavorable Import Duty structure for Raw materials as compared to finished products in India for the toys industry that has lead to flooding of domestic toys market with imported toys, particularly from China. For example the import duty on finished toys ranges between 10-15 % , where as all critical raw materials for toys manufacture attract a much higher import duties in the range of 29-70 % and this anomaly could be reviewed at Ministry Of Commerce , GOI level and suitably corrected so that the Indian toys manufacturers are not at a disadvantage.
- The price of plastic granules in India (HDPE,LDPE,PP etc) are higher than China by almost 25 % that makes domestically produced toys expensive as compared to China. One of the major factor for this is the high Indian Govt taxes & duties ie Excise duty of 12.36 % ; CST of 2 % and VAT of 4% and it is recommended that Ministry of Finance and Ministry of Commerce , GOI could look into this aspect and if possible reduce these taxes and duties for MSMEs.

4 Skilled Manpower

- In order to enhance the availability of trained skilled manpower for the Indian toys industry that is in short supply in fields including conceptualization & toys designing; operation of automatic & semi automatic moulding machines and cutting & stitching machines etc, it is recommended that specialized courses could be introduced at Government Industrial Training Institutes (ITIs) with the help of experts so that this gap could be bridged and students passing from ITIs are also absorbed by the toys industry.

5 Manufacturing Technology & Machines for Toys Manufacture

- Certain advanced production technologies & machines need to be adopted by the toys manufacturers in order to produce better quality products; reduce wastage of raw materials; enhance productivity including the following:
 - Automatic injection and blow moulding machines with CNC
 - CNC-woodworking machines

- Multi cavity moulds
- Computerized pattern making machine; automatic fabric cutting and stitching machines; metal detectors for broken needles for product safety.
- Mechanization of movement of bought out parts, manufactured parts/sub-assemblies and finished products using conveyors.
- Auto feed cutting machines; CNC grinders ; semi-automatic screen printers for cardboard games

These could be promoted by Toys Associations among their members and greater awareness could be created on obtaining financial support under schemes of Ministry of MSME,GOI such as Credit linked capital subsidy scheme for modernisation/up gradation of units.

- More number of plastic moulds; rubber moulds and press dies manufacturing units need to come up/set up within the country particularly in Delhi and Mumbai (major manufacturing hubs for toys) that have advanced facilities including CAD/CAM/CAE mould design system; rapid prototype development & manufacturing machines, CNC-EDM and Wire cut and other needed tool room machines in order to cater to the large requirements of plastic, rubber toys manufacturers as well as other similar industries.

6 Testing, QC, Certification of Toys Domestically Produced

- The Government needs to make it mandatory for all Indian toys manufacturers to test and obtain product certification for all their products to be sold in the domestic market as per BIS: 9873 quality standard for toys which will lead to greater quality control and availability of safer toys for children. The certification could be obtained by various domestic labs, CSIR labs which may have to upgrade their testing facilities accordingly.
- At present there is no Testing lab at Mumbai that can test toys as per EN71 International quality standard that causes a lot of inconvenience to toys manufacturers located at Mumbai, hence it is recommended that existing testing labs of SGS, BVQ existing at Mumbai should upgrade their labs to include testing of toys as per EN71.
- The cost of testing & certification for obtaining EN71 for toys for exports is quite high for MSEs and need to be subsidized by Government to promote export of toys from India. Ministry of MSME, GOI could introduce a scheme for reimbursement of testing costs to some extent (say 50 %) only for toys exported.

7 Product Marketing Strategies

- The Indian MSME toys manufacturers need to participate more in International fairs/exhibitions related to toys in order to show case their products ; enhance exports of toys from India and also to learn more about new products being launched by other manufacturers and should avail subsidies in this regard under schemes of MOMSME , Ministry of Commerce , GOI for which the toys industry associations ie TAI and TAITMA will have to apprise their members more about the schemes and also assist them in obtaining the benefits.
- Since Online ordering and purchase of toys is more convenient for the customers , it is suggested that the Indian MSME toys manufacturers should adopt E-Commerce (online marketing through own website or other marketing portals) in a big way in order to enhance sale of their products both in the domestic as well as export markets.

8 Finance from Institutions

- Finance (Term loan and Working capital) is needed by the Indian MSME toys manufacturers to grow , modernize and expand but is quite expensive in India and if possible needs to be extended to them on softer terms like in China.

9 Import of toys in the country (particularly from China)

- The Indian Customs Authorities need to enforce the directive that all toys being imported in to India need to carry quality certifications as per quality standards ASTM F963 or ISO 8124 or EN71 or IS 9873 and inspect all consignments of toys in this respect and disallow shipment of toys without proper quality certifications in order to ensure product quality and safety in the Indian market.
- The huge under invoicing of toys from China (upto almost 50 %) is badly affecting our Indian manufactured toys and also resulting in revenue loss for the Government and needs to be checked & controlled by the Government agencies & Toys Associations. A suitable mechanism in this regard particularly bench mark prices for popular types of toys being imported in the country need to be established by Toys Associations & revised periodically could be developed in consultation with Indian Customs; Toys Associations ; toys manufacturers ; experts. In addition , Toys Associations need to discourage this activity among their members and penalize those members who are found guilty.

10 Government Support & Infrastructure for the Industry

- In India there should be a single Window clearance system for setting up new factories by entrepreneurs and all necessary clearances should be provided in 1 month or so.
- In order to enhance and promote export of toys from India, the Government could provide more export incentives i.e. higher rate of duty draw back.
- Working sheds could be provided by the Indian Government to the industry in proper industrial areas on rent at concessional rates.
- The industrial areas in India lack facilities of proper approach & connectivity; road & rail transportation; adequate power supply that affects the smooth functioning of manufacturing enterprises and the Government needs to upgrade the same.
- The Toys Industry Associations need to create greater awareness and also assist their desirous members in availing benefits under Ministry of MSME Promotional & Developmental schemes for MSMEs like CLCSS, Design clinic scheme , cluster development scheme , ISO certification scheme, Participation in fairs/exhibitions etc.

11 Distinct clusters for toys manufacturing industry

- The success of the toys manufacturing industry in China is primarily due to Cluster approach that is nonexistent in India and is the need of the hour. Clusters lead to efficient supply chain mechanism for raw materials, parts and better cost economics for suppliers as well as toys manufacturers and it is suggested that two distinct Toys industry clusters be promoted, one at Delhi and other at Mumbai which are the leading manufacturing hubs for toys and have sufficient numbers of toys manufacturers, at locations that are well connected with the two cities and easily approachable. Even the unorganized toys manufacturing enterprises shall also shift to these clusters. These clusters can be promoted by interested Toys manufacturers, their Industry Associations under support from Cluster Development Scheme of Ministry of MSME, GOI.
- Each suggested cluster for toys manufacturing shall have common support facilities for supply of critical raw materials & consumables; manufacturing & supply of major

plastic parts-moulding; moulds design, manufacturing & supply and flatted factories space that shall be available at concessional rent for toys manufacturers.

Annexure 2.1

List of prominent Websites, Reports and Publications referred during Desk Research and Internet Search

1. NSIC - <http://www.nsic.co.in/>
2. TAI - <http://www.tai-india.org/index.php>
3. TAITMA - <http://taitma.com/welcome-taitma>
4. Assocham - <http://www.assochem.org/>
5. NPC - <http://www.npcindia.gov.in/>
6. NIFT, Delhi - <http://www.nift.ac.in/delhi/index.html>
7. ITMT - <http://www.itmtindia.in/index.php?&width=1024>
8. NID Ahmedabad - <http://www.nid.edu/>
9. Article by Business Standard Dated: 19th August 2013 - http://www.business-standard.com/article/sme/indian-toy-industry-hit-hard-by-imports-says-study-113081901059_1.html
10. Article by Times of India Dated: 23rd July 2013 - http://articles.timesofindia.indiatimes.com/2013-07-23/delhi/40748180_1_toy-biz-international-toy-association-toy-fair
11. Article by Support Biz Dated: 14th August 2013 - <http://www.supportbiz.com/articles/top-story/growing-demand-%E2%80%98made-india%E2%80%99-toys-rekindles-growth-prospects.html>
12. Study by Assocham Dated: 8th August 2013 Title: “Indian Toy Industry- the current scenario “.:<http://www.assochem.org/prels/printnews.php?id=4125>
13. Study by National Productivity Council Dated : 2009 Title – “ Productivity and competitiveness of Indian Toy Manufacturing Sector ” : <http://www.productivity.in/knowledgebase/DIPP%20Sponsored%20Studies/2.%20Indian%20Toy%20Manufacturing%20Sector/1.%20Main%20Report.pdf>
14. ProtoCAM, prototype making company - <http://www.protocam.com/html/toys.html>
15. Ecommerce website- Flipkart - <http://www.flipkart.com/>
16. Ecommerce website- First cry - <http://www.firstcry.com/>
17. Ecommerce website- Jabong - <http://www.jabong.com/kids/toys/?gclid=CKqgg-m1jLsCFWIV4godvjAAsg&sort=whatsnew&dir=desc>
18. Ecommerce website- yellow giraffe - <http://www.yellowgiraffe.in/>
19. Ecommerce website- Ebay - <http://www.ebay.in/>
20. China Toy & Juvenile products association - <http://www.tjpa-china.org/>
21. Institutes providing toys designing courses in China - Panyu Polytechnic - <http://gzpoly.coachdevelop.com/>
22. China Die & Mold Industry Association: www.cdmia.com.cn
23. IBIS World Research Services: www.ibisworld.com

24. The British toys & hobby association: www.dtha.co.uk
25. Australian toys association: www.austoy.com.au
26. www.made-in-china.com
27. www.emps-llc.com

Annexure 2.2

Check list for Discussions with Industry Associations

1. a). According to you what was the size of the total market for toys industry in India (including domestic market and import) during the year 2012-13 in Rs. Crores:

b). Out of this what would be the approximate quantum of imports (Rs. Crores), major countries of imports and % share of China: _____

c). Out of this what would be the approximate % of exports and major countries:

2. What are the major categories of toys being sold in the domestic and their approximate % share :

a) Electronic Toys:

b) Battery Operated Toys

c) Plastic Toys:

d) Soft Toys:

e) Cardboard Games:

f) Other type of toys:

3. What are the major Manufacturing hubs/ clusters for toys in the country. Kindly specify zone wise, cities / location and approximate Nos. of MSME manufacturing units:

a) North: _____ Nos. _____

b) South: _____ Nos. _____

- c) East: _____ Nos. _____
- d) West: _____ Nos. _____
- e) NER: _____ Nos. _____

4. How many toys units/companies (Both Manufacturing & trading) are presently operating in India and their distribution according to category of enterprise:

- a) Micro enterprises: _____ Nos.
- b) Small enterprises: _____ Nos.
- c) Medium enterprises: _____ Nos.
- d) Large enterprises: _____ Nos.

5. What are the zone wise major marketing /consumption centers/cities in the country for toys and kindly provide approximate % share:

S No.	Zone	Major Center / Cities	
		Name	Approximate % share.
1.	North		
2.	East		
3.	West		
4.	South		
5.	Other		

6. Out of the total MSMEs engaged in toys industry kindly provide following distribution :

- a. Approximate % of purely Manufacturing units : _____
- b. Approximate % of units engaged in own manufacturing as well as importing toys and marketing : _____
- c. Approximate % of organizations who are pure traders/ Marketing agencies (buying toys from indigenous manufacturers or importing toys & marketing) : _____

7. What are the major categories of toys being Imported in India from China and their approximate % share :

- a) Electronic Toys:
- b) Battery Operated Toys:
- c) Soft Toys:
- d) Plastic toys
- e) Cardboard Games:
- f) Others:

8. What are the major categories of toys being exported from India, Major countries/region of export and their approximate % share:

- a) Plastic Toys:
- b) Cardboard Games:
- c) Soft Toys:
- d) Mechanical Toys
- e) Electronic toys:
- f) Other Toys:

Annexure 2.3

Questionnaire for MSMEs engaged in manufacturing of Toys

		STATE:
A. Introduction		
1. Name of MSME		Year Of Establishment
2. Respondent details :		
a) Name & Designation : _____		b) Address _____
c) Phone Nos. : _____		d) Email Id: _____
3. Constitution of the Firm/Company (v)		
a) Proprietorship firm <input type="checkbox"/>	b) Partnership firm <input type="checkbox"/>	c) Private Ltd Company <input type="checkbox"/>
d) Ltd Company <input type="checkbox"/>	e) Others <input type="checkbox"/>	
4. Type of the unit (v) : ORGANIZED(registered with DIC) <input type="checkbox"/> UNORGANIZED sector <input type="checkbox"/>		
5. Category of the unit (v) : a) Micro <input type="checkbox"/> b) Small <input type="checkbox"/> c) Medium <input type="checkbox"/>		
6. Please specify the Type/Nature of toys being manufactured by you _____		
7. a) Total toys manufacturing installed capacity per annum : Quantity <input type="text"/> Nos. Value <input type="text"/> Rs Lacs		
b) Approximate total investment in Plant & Machinery (Rs Lacs) : _____		
c) Total factory built up area(sq ft) : _____		
d) Total work force at the unit (Nos): _____		
8 i). Does the unit have Quality Accreditations (v) : Yes <input type="checkbox"/> No <input type="checkbox"/>		
ii). If yes kindly specify: _____		
9. i) Are you a member of any Toys sector Association : Yes <input type="checkbox"/> No <input type="checkbox"/>		

ii) If yes specify the name & what type of support services are offered to your unit :

B. Details related to production, P & M/c, manufacturing practices & marketing measures adopted at the unit

10. Kindly provide details on the Production , Imports & Exports performance of your unit :

Major Category of toys	Total Sales turnover of toys During 2012-13				Average growth (%) in total sales over last 3 years period	Major Regions / Countries for		
	From Own Production (Rs Lacs) (A)	From Imports (Rs Lacs) (B)	Total sales turnover (Rs Lacs) (A+B)	Exports (As % of Total Sales)		Domestic Marketing	Exports	Imports
i)								
ii)								
iii)								

11. Please provide details on your current manufacturing practices & major machines being deployed w.r.t. the following:

a) Product design and development:

i) Product conceptualization: _____

ii) Design and prototype development: _____

b) Procurement of raw materials , critical parts and testing:

i) Indigenous raw materials: _____

ii) Imported raw materials: _____

iii) Indigenous critical parts: _____

iv) Imported critical parts: _____

c) Manufacturing of major parts of toys:

i) Plastic Parts: _____

ii) Mechanical Parts: _____

iii) Other Parts: _____

d) **Assembling of toys :** _____

e) **Testing of finished toys:**

i) Procedures & certification(s) adopted for domestic marketing: _____

ii) Procedures & certification(s) adopted for export marketing: _____

f) **Packaging of toys:**

i) Design of packaging: _____

ii) Packaging material selection & costing: _____

iii) Manufacturing: _____

g) **Cost of production as percentage of sales turnover on an average:** _____

12. Kindly elaborate on the measures adopted to market products in the domestic & export markets including:

a) Direct marketing : _____

b) Through Distributor & Dealer network : _____

c) Any other mechanism adopted : _____

d) Prominent Products promotion measures : _____

e) Any specific measures adopted to compete with imported toys in the market , particularly from CHINA :

C. Areas of Problems faced, Technology & Other gaps in Indian Toys industry vis-a-vis Chinese toys industry

13. What according to you are the major Problems being faced and Technology & other gaps in Indian toys industry as compared to Chinese toys industry in terms of:

a) Product range , design improvements , variety to cater to the changing needs of the markets:

b) Availability of skilled labor, costs & training: _____

c) Procurement of critical raw materials/parts & supply chain mechanism, quality & prices & availability:

d) Manufacturing Technology & Machines deployed for production of major parts:

e) Procedures adopted for Assembly, testing , QC , certifications of finished products: _____

f) Packaging of finished products & Design development :

g) Promotion , marketing strategies including exports: _____

h) Government support to industry: _____

i) Availability of Support from design & technology development institutes/centers: _____

j) Quality of support infrastructure for the industry e.g. transportation , power etc: _____

k) Finance from institutions for capital investment and working capital: _____

l) Scale of operations of manufacturing units & cost of production: _____

m) Distinct clusters for toys industry with support infrastructure e.g. CFCs: _____

n) Any other aspect(s): _____

D .Suggested remedial measures to overcome the problems , reduce technology gaps & face challenge from imports of toys from china

14. Kindly elaborate on the suggested REMEDIAL MEASURES to be adopted at various levels(Industry , Government etc) to overcome the problems being faced, reduce technology gaps & face growing challenge from imported Chinese toys:

List of Organizations contacted

A. NSIC

1. Mr. P Udayakumar
Director (Planning & Marketing), NSIC Ltd
NSIC Bhawan
Okhla Industrial Estate
New Delhi – 110020, India
Tel- 011-26927327
Fax- 011-26927307
Email- dpm@nsic.co.in

2. Mr. K. Ravindranathan
Dy. General Manager (BD/Exhibition) , NSIC Ltd
NSIC Bhawan,
Okhla Industrial Estate,
New Delhi – 110020, India
Tel -011-26926275,
Fax -011-26926372
Email- dgmbdexhb@nsic.co.in

3. Ms. Adiba Bari
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NSIC Bhawan,
Okhla Industrial Estate,
New Delhi – 110020, India
Tel -011-26926275,
Fax- 011-26926372
Email- exhb@nsic.co.in

B. Associations for Toys Industry

1. Mr. Sunil Nanda
President
Toys Association of India (TAI)
Head office: 259, Anarkali complex,
Jhandewalan Ext.
New Delhi- 110055.
Tel- 9810249965/011-41540977
Email- association.toy@gmail.com
Website- <http://www.tai-india.org/index.php>
2. Mr. Vivek G. Jhangiani
President
THE ALL INDIA TOY MANUFACTURERS' ASSOCIATION (TAITMA)
Head Office : TAITMA 301,Business Park,
18 S V Road, Malad (West),
Mumbai – 400064.
Tel- 022-24939739
Website- <http://taitma.com/welcome-taitma>

C. MSME Toys Manufacturers

I). Delhi & NCR

1. Ekta products pvt ltd, Delhi
2. K.M Toys Industries, Delhi
3. Tuk Tuk toys, Delhi
4. Sai Baba Educational Aid, Delhi
5. Crescent trading corp, Delhi
6. Bunti Toys, Delhi
7. Himalaya Toys, Delhi
8. Amrik Singh & sons, Delhi
9. Jainex Agencies, Delhi
10. S. Qamaruddin & Sons, Delhi
11. Navkar products, Delhi
12. Vicky Collection, Delhi
13. Novelty Plastic Industries, Delhi
14. Ankit Toys Mfg co. , Delhi

15. Gulshan Industries, Delhi
16. Bharat Plastic Industries, Delhi
17. Amardeep & Co, Delhi
18. Comfort creations pvt ltd, Delhi
19. United Agencies, Delhi
20. N.K Plastic toys, Delhi
21. J.P Sales Corporation, Delhi
22. B. Singha Chatrath & sons, Delhi
23. Educational Games Concept, Delhi
24. Shiv toys, Delhi
25. National Trading co. of Delhi, Delhi
26. Girnar International, Delhi
27. Shivangi toys, Delhi
28. Agrawal sales corporation, Delhi
29. V.K Eneterprises, Delhi
30. Gupta Toys Corporation, Delhi
31. Paras Trading Company, Delhi
32. Wisetime Learning pvt ltd, Delhi
33. Arihant Polymers Pvt Ltd, Delhi
34. Mittal Toys, Delhi
35. Shakti rubber industries, Delhi
36. mamalove toys Pvt Ltd, Delhi
37. S.R & Sons, Delhi
38. S.K Cycle Company, Delhi
39. Omkar Toys, Delhi
40. Kidz Junction, Delhi
41. P.S Pavilion, Delhi
42. Richie Rich Products, Delhi
43. P.K Products, Delhi
44. Manish Enterprises, Delhi
45. Toy World, Delhi
46. Centy Toys, Delhi
47. Munish Toys, Delhi
48. Samshi play innovations, Delhi
49. Rachit Enterprises, Delhi
50. Learners Play, Delhi
51. Awals Creations, Delhi
52. Tripple Esss toys pvt ltd, Noida
53. Masoom playmates pvt ltd, Noida
54. Frank Educational Aids pvt ltd, Noida
55. Sunlord Apparels Mfg co pvt ltd, Greater Noida
56. Fun zoo toys (India), Greater Noida
57. Little Genius toys pvt ltd, Greater Noida
58. Jasco Handicrafts pvt ltd, Greater Noida

II). Mumbai

1. Yash Toys, Mumbai
2. Kumar Toys Corporation, Mumbai
3. Plastech international pvt Ltd, Mumbai
4. Toys Box, Mumbai
5. Anmol Toys pvt ltd, Mumbai
6. Mind Wealth, Mumbai
7. Sunny Toyz, Mumbai
8. Innisfree Education, Mumbai
9. Clever cubes, Mumbai
10. Virgo Toys A.P Products, Mumbai
11. Premsons, Mumbai
12. Little's India, Mumbai
13. Darshan toys, Mumbai
14. Zephyr Toymakers Pvt Ltd, Mumbai
15. Tayebally Ebrahim & Sons, Mumbai
16. Vardhaman IQ Toys Pvt Ltd, Mumbai
17. Chirantan Enterprise, Mumbai
18. Pleasantime Products, Mumbai
19. Olympia Games & Toys Pvt Ltd, Mumbai
20. Playmate, Mumbai
21. Sam Toys Pvt Ltd, Mumbai
22. Pegasus Toy-Kraft Pvt Ltd, Mumbai
23. Min Toys Pvt Ltd, Mumbai
24. Shinsei industries, Mumbai
25. New Age Novelties, Mumbai

III). Kolkata

1. Elishas World, Kolkata
2. Cuddling Toys, Kolkata
3. Bharat Plastic Industries, Kolkata
4. Techno polystyrene Moulders, Kolkata
5. Fun toys, Kolkata
6. Bajaj Games, Kolkata
7. Heritage Retail India P Ltd, Kolkata
8. Amit Plastic Works, Kolkata
9. Vikash Toy Centre, Kolkata

IV). Others

1. Kidken Solutions, Bangalore
2. Vishal & Co, Bangalore
3. Hitendar Sales Corporation, Bangalore
4. EDIS publishing & promotional packaging pvt ltd, Bangalore
5. Shankar toys, Chennai
6. Kwinox Games, Chennai
7. Chopra Chess Inc, Amritsar
8. Khidki, Ahmedabad
9. Toy zone impex pvt ltd, Rajasthan
10. G.B Sports, Meerut
11. Funkskool India Ltd , Chennai (Large scale toys manufacturer & importer).

D. Major Wholesalers & Distributors of toys

1. Agrawal sales corporation, Delhi
2. V.K Eneterprises, Delhi
3. Gupta Toys Corporation, Delhi
4. Paras Trading Company, Delhi
5. P.S Pavilion, Delhi
6. Mittal Toys, Delhi
7. Kumar Toys Corporation, Mumbai
8. Vikash Toy Centre, Kolkata
9. Hitendar Sales Corporation, Bangalore
10. Shankar toys, Chennai

E. Institutes/ Organizations offering support services to toys industry

1. Institute of Toy making Technology (ITMT)
Head Office : DN-3, Sector-V, Saltlake City
Kolkata-700091
West Bengal, India.
Tel: 91-33-2367-9426
Fax: 91-33-2367-5132
Email: itmtindia@gmail.com

2. National Institute Of Design
Bhagtacharya Road,
Rajnagar Society, Paldi
Ahmedabad- 380007
Gujarat.
Tel- 079-26623695

3. National Institute of Fashion Technology-Delhi
Head Office: Hauz Khas , Near Gulmohar Park,
New Delhi – 110016.
Tel - 011-26542213

4. The Sports Goods Export Promotion council
Swami Ram Tirth Nagar,
New Delhi - 110055
Tel – 011-47761100
Fax – 011-2362147
Email – mail@sgepc.in

5. SGS India Private Limited
250, Phase IV, Udyog Vihar
Gurgaon - 122 015,
Tel - 0124-2399990

Annexure 3.1

Testing requirements & prescribed limits for various heavy metals in toys as per EN 71 international standard & domestic IS 9873 standard for toys

A. Toys Abuse test conditions comparison for International Toy Safety Requirements

Country		UK/ Europe	INDIA
Test	Age (Months)	EN71 Part 1	IS 9873 Part 1
Small Parts	0 to 36	Toy & parts shall not fit entirely within small part cylinder under its own weight before and after abuse tests	Toy & parts shall not fit entirely within small part cylinder under its own weight before and after abuse tests
Sharp Points & Sharp Edges	0 to 36	Must not include a hazardous point or edge before & after abuse tests	Must not include a hazardous point or edge before & after abuse tests
	>36 to 96	May contain functional point or edge if labeled (ages 3 yrs & up)	May contain functional point or edge if labeled (ages 3 yrs & up)
	>96 to 168	May contain functional point or edge if labeled (ages 3 yrs & up)	—
Drop Test	0 to 18	850 mm (2.8 ft), 5 drops	138 cm (4.53 ft), 10 drops
	>18 to 36	850 mm (2.8 ft), 5 drops	93 cm (3.1 ft), 4 drops
	>36 to 96	850 mm (2.8 ft), 5 drops *up to 14 yrs	93 cm (3.1 ft), 4 drops
Impact Test	0 to 168	1 Kg mass from 100 mm	-----
Tip Over Test	0 to 96	3 times * up to 14 yrs	3 times * up to 14 yrs
Torque Test	0 to 18	0.34 N-m (3 in-lb)	0.45 N-m (4 in-lb)
	>18 to 36	0.34 N-m (3 in-lb)	
	>36 to 96	0.34 N-m (3 in-lb) * up to 14 yrs	
Tension Test	0 to 18	<ul style="list-style-type: none"> - Dimension ≤ 6 mm, 50 N (11.2 lb) - Dimension > 6 mm, 90 N (20.2 lb) - 70 N (15.7 lb) for seam of soft toy - 60 N (13.5 lb) for 	70 N (15.7 lb)

		protective tip	
	>18 to 36	- Dimension \leq 6 mm, 50 N (11.2 lb) - Dimension $>$ 6 mm, 90 N (20.2 lb) - 70 N (15.7 lb) for seam of soft toy 60 N (13.5 lb) for protective tip	70 N (15.7 lb)
	>36 to 96	- Dimension \leq 6 mm, 50 N (11.2 lb) - Dimension $>$ 6 mm, 90 N (20.2 lb) - 60 N (13.5 lb) for protective tip * Up to 14 yrs	70 N (15.7 lb)
Compression Test	0 to 18	110 N (24.7 lb)	114 N (25.6 lb)
	>18 to 36	110 N (24.7 lb)	114 N (25.6 lb)
	>36 to 96	110 N (24.7 lb) * up to 14 yrs	136 N (30.5 lb)
Flexure Test	0 to 18	Bend 30 cycles of 120* at a rate of 1 cycle / 2 sec., rest 60 secs. Every 10 cycles, 70 N (15.7 lb) bending force.	Bend 30 cycles of 120* at a rate of 1 cycle / 2 sec., rest 60 secs. Every 10 cycles, 70 N (15.7 lb) bending force.
	>18 to 96	Bend 30 cycles of 120* at a rate of 1 cycle / 2 sec., rest 60 secs. Every 10 cycles, 70 N (15.7 lb) bending force. * up to 14 yrs	Bend 30 cycles of 120* at a rate of 1 cycle / 2 sec., rest 60 secs. Every 10 cycles, 70 N (15.7 lb) bending force.

*For specific items only.

B. International Toy Safety Requirements

Requirements	UK/ EUROPE	INDIA
Flammability Test (Textile Material / Pile Fabric / Pile Materials)	BS EN 71 Part 2	IS 9873 Part 2
Flammability Test (Solid Material / Toy products)	BS EN 71 Part 2	IS 9873 Part 2

C. Toys Heavy Metals Requirements

Country	UK/ EUROPE		INDIA	
Standards	EN71 Part 3		IS 9873 part 3	
Toys Materials	TM 1,2,3 (a &b)	TM 4	TM 1,2,3 (a &b)	TM 4
Elements	mg/kg	mg/kg	mg/kg	mg/kg
Arsenic (As)	25 S	25 S	25 S	25 S
Mercury (Hg)	60 S	25 S	60 S	25 S
Selenium (Se)	500 S	500 S	500 S	500 S
Antimony (Sb)	60 S	60 S	60 S	60 S
Lead (Pb)	90 S	90 S	90 S	90 S
Cadmium (Cd)	75 S	50 S	75 S	50 S
Barium (Ba)	1000 S	250 S	1000 S	250 S
Chromium (Cr)	60 S	25 S	60 S	25 S

Notes:

T = Total Content

S= Soluble Content

mg/kg= ppm

TM= 1. Surface Coating

2. Polymeric material, paper, textiles, mass colored materials & materials intended to leave a trace

3a. Glass/ Ceramic

3b. Metallic material

4. Modeling clay & finger paint