

# Spatial Impact of Metal Craft Industries: Moradabad

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**Abstract:** *The traditional handicraft manufacturing has existed through and has been evolved as well as suffered phases of glory and decline alternatively. This manufacturing economy has emerged and got itself located in specific places across the country with each being unique, thus providing a mutual spatial identity to the product and the place equally. Metal craft being traditional in nature, has a well-established market across the globe thus providing huge employment. In India, Moradabad well known as “Brass City”, accounts 40 % of the total export of metal craft from India. The Study attempts to assess spatial impacts of metal craft industry on the study area. The study has been conducted in four stages, which includes formulation of aim and objectives, data collection, analysis, identification of issues and formulating strategies and recommendations.*

**Keywords:** Metal Craft Industries, Special Economic Zone, Ribbon Development

## 1. Introduction

Industrialization is the process of social and economic change whereby a human group transforms from an agrarian society to industrial one. In case of India, as Hosseini explains there have been four phases of industrial development. In phase, first (1951 – 1965) the government’s focus was to build a strong economic base. Phase two (1965 – 1980) was marked for industrial deceleration due to exogenous factors such as war of 1965 and 1971. Third phase (1980-1990) shows industrial recovery due to initiative of government. In the year 1991, measures were designed to improve and liberalize the performance of industrial sector in new era of economic liberalization. The measures include reduction in licensing, simplification of rules and regulations, reduction of areas exclusively reserved for the public sectors, liberalization of trade and exchange rate policies, rationalization of custom duties, excise duties, personal and corporate income tax etc. (Hosseini, 2013 p. 6-9). The industrial sector, a driver of economic growth, is usually concentrated in urban areas and is important in terms of its contribution to Gross Domestic Product (GDP) and employment. As per Statistics Times (2015), the major sector contributing to India’s economy are service sector (53 %), industries (30 %) and agriculture (17 %). According to Harris (2010), informal economy of India includes industrial clusters meant for producing goods for export metal ware, machine tools, leather ware, textiles, and garments, tools and equipment’s and some Information Technology (IT) services. In 1999, over 40 % of India’s manufactured exports estimate to have originated in unregistered workshops. The production from these small workshops or shops are termed as Petty Commodity Production (PCP), which is a major component of informal economy of India. It generates two third (2/3rd) of India’s GDP and accounts for 90 % of India’s livelihood (Harris-White, 2010 p. 152).

Metal craft industry, specialised in Brass work has given the title “Brass City” or “Peetal Nagri” to Moradabad. It has also been given geographical indicator tag (GI tag) for its handicrafts. Reason for such expertise is the presence of skilled artisans. Artisans, manufacturers and exporters are the different groups involved in production of metal craft and have different socio – economic profile, which impacted the town and as well as region. Artisans, due to their low-

income levels and social capital, stuck to the old city areas. However, being involved in the export and import, exporters have generated surplus amount and trigger the spatial expansion of town by investing in real – estate projects, hospitals, technical institutions and other sectors causing ribbon development along the highways.

## 2. Handicraft Industry in India

The handicraft occupies an important position in the handicraft industry both from the point of view of employment and export potential. It’s share in the exports of handicraft products is around one third in terms of value of exports. A fourfold increase in the value of metal craft handicrafts exports in India has been observed over last five years. It suggests that demand for Indian metal craft in foreign countries is increasing. The metal craft handicrafts products are facing cut-throat competition from relatively large and modern industries of countries like China, Taiwan, etc. The rich traditional crafts might not sustain over the long run unless their problems are quickly identified and suitable remedial measures are taken. Being dependent on foreign linkages and global economy effects this sector; hence seen phases of glory and decline. Post-independence; during 1995-1996, tremendous growth occurred in handicraft industry due to economic reforms in India and had seen a decline in 2008, when total handicraft exports reduced to INR 8183 crores in 2008-2009 from INR 14012 crores in 2007-2008 (refer

Table 1).

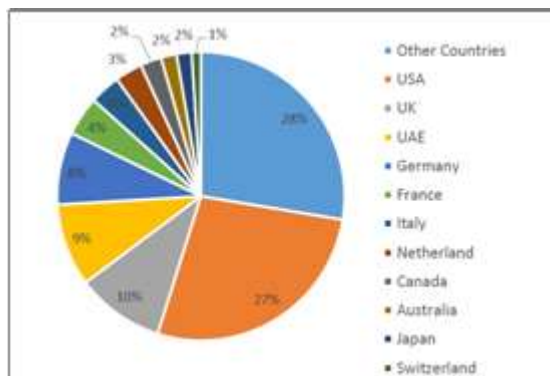
**Table 1:** Total Exports from India and share of Handicraft

Year	Total Exports from India	All India Exports of Handicrafts	Growth over previous years	Share of Handicraft
	(in Crore)	(in Crore)	(in %)	(in %)
1990 - 91	32553	712.99		2.2
1995 - 96	106465	3207.54	350	3
2000 - 01	201674	8409.16	162	4.2
2005 - 06	454800	14526.85	73	3.2
2006 - 07	571779	17288.14	19	3
2007 - 08	625471	14012.05	-19	2.2
2008 - 09	655864	8183.12	-42	1.2
2009 - 10	840755	8718.54	7	1
2010 - 11	1142922	10533.96	21	0.9

Year	Total Exports from India (in Crore)	All India Exports of Handicrafts (in Crore)	Growth over previous years (in %)	Share of Handicraft (in %)
2011 - 12	1465959	12975.25	23	0.9
2012 - 13	1633635	17970.12	38	1.1

Source: Export Promotion Council of Handicrafts, Moradabad.

Over the time as Indian handicraft sector has grown, it has established global linkages to various nations (refer Figure 1). Indian handicrafts sector has its strong interactions from USA (27%), UK (10%), UAE (9%), Germany (8%), France (4%), Netherland (4%), Canada (3%), Australia (2%) and Switzerland (1%).

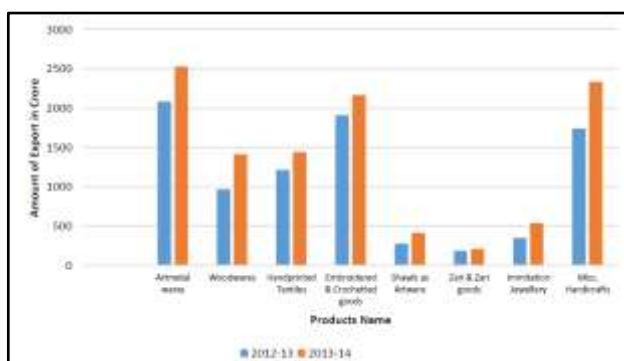


**Figure 1:** Handicrafts export from India

### Metal Craft Industry in Uttar Pradesh

In India, Metal Craft industry is mostly concentrated in Uttar Pradesh (UP); majorly concentrated in Moradabad followed by Aligarh, Hathras and Varanasi. Moradabad is famous for its “meenakari” on metal craft products such as hookahs and flower vases etc whereas in Aligarh, door knobs, ornamental door handles etc are being manufactured with copper/brass and with white metal combination. Export of art metal craft brings valuable foreign exchange to the country’s exchequer. U.P accounts for 80 % of India’s exports of art metal craft. Bulk of exports are from the major producing centres like Moradabad followed by Aligarh.

According to Export promotion Council for Handicrafts (EPCH), art metal craft generates the most exported handicraft comprising 24% of metal craft followed by 22% of embroidered and crocheted, 20% of miscellaneous handicrafts, 15% of textile and scarves and 7% of wood wares (refer Figure 2).



**Figure 2:** Export of handicrafts during 2012-2014

Major handicraft items manufactured by skilled artisans are brass, jewellery, instruments and ornaments, silver plated jewellery and trophies. Moradabad contributes 40 – 50 % of total metal craft exported from India. In Moradabad, about 1,50,000 workers are engaged in metal craft industries. The amount of export decreased from INR 4000 crore in 2001 to INR 3000 crore in 2006. This was due to an increase in price of raw materials by 40-50 % and surplus of cheaper Chinese products in the global market (Saini, 2012, pp. 225-28).

### 3. Profile of Moradabad

Moradabad is situated at bank of Ram Ganga River, a tributary of Ganga River at west of Lucknow (State Capital). It is well known as “*Peetal Nagri*” locally and “*Brass City*” globally.

**Regional Connectivity:** Moradabad is well connected with National Capital, State Capital and other important places of state via two national highways and four state highways. NH-24 connects Moradabad to Delhi, Bareilly and Lucknow and NH-93 connects to Agra via Aligarh and Hathras. State Highways connects to Badaun, Farukhabad, Kashipur, Haridwar, Kanpur, Amroha, Sambhal, Thakurdwara and Chandausi (refer Figure 3). Moradabad is the railway divisional headquarter of Northern Railway.

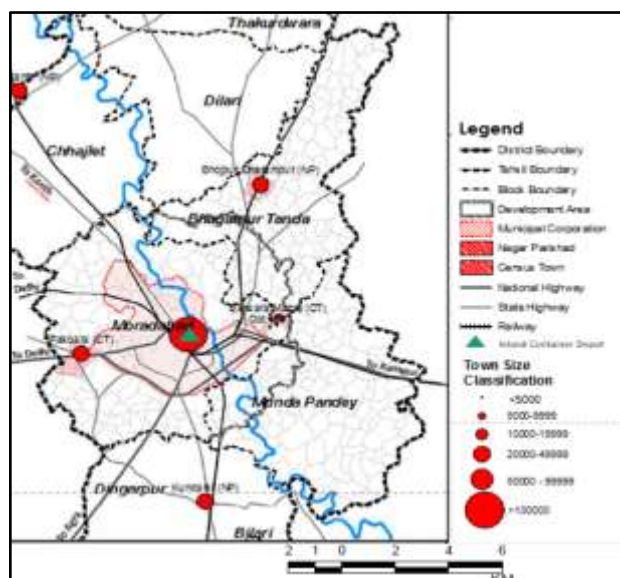
The nearest domestic airport is Pant Nagar Airport, which is located at a distance of 85 kilometre. Indira Gandhi International Airport is located at a distance 166 kilometre in Delhi. However, Moradabad has one runway developed by state government to accommodate private planes. To construct an airport, additional land has been given to Airport Authority of India in 2013.

For freight movement, Moradabad works as logistic hub through Inland Container Depot (ICD) established by Container Corporation of India Limited in 1990. Due to ICD, it has huge catchment area. The towns such as Moradabad, Chandausi, Sahajahanpur, Rampur, Barielly, Sambhal, Saharanpur, Amroha, Gajruala, Bijnour, Najibabad, Khatima, Rudrapur, Kashipur, Dehradun, Haridwar, Roorkee etc are dependent on Moradabad for freight movement.



**Figure 3:** Location of Moradabad and nearby centres dependant on Moradabad

**Administrative Profile:** Moradabad tehsil includes three blocks i.e. Moradabad, Munda Pandey and Bhagatpur Tanda. There are three census towns named Pakbara, Got and Bawra Mazra, one class III town and one class I town. Moradabad is the only class one town having Municipal Corporation and Moradabad Development Authority (refer Figure 4). According to Moradabad Master Plan for 2021, the planning area boundary of Moradabad town consists of Moradabad block and parts of Munda Pandey and Bhagatpur Tanda blocks.



**Figure 4:** Location of Settlements in Moradabad Tehsil

Total planning area is 39,032 hectares. Within planning area boundary, there is one class I size town, three census towns named as Pakbara, Bawra Mazra and Got and 180 villages. The municipal corporation area is 11167.62 hectare in 2011 which is 27.3 % of planning area boundary. The population of Moradabad town is 18.6 % (8,87,871) of tehsil population of 47,72,006 in 2011. According to census of India 2011, workforce participation rate of Moradabad town is 30.60 % and tehsil is 29.7 %. Main reason of population concentration is work opportunities available within town. To avail the opportunities, people are immigrating to nearby

villages to reside which resulted in high population growth rate in nearby villages of town.

**Industrial Profile of District:** According to Moradabad District Industries Centre (DIC), there are 12611 number of industries working in district with an investment of INR 1,66,096 lakh and generating employment of 80,262 persons in 2015. However, industry wise details are available only up to year 2011. Out of 9087 industrial units, 49 % are metal-based industries providing employment to approximately 30,000 persons (refer

Table 2).

**Table 2:** Type of registered Industries in Moradabad district up to 2011

Type of Industries	Number of Units	Investment (In Lakhs)	Employment (In Nos.)
Metal Based	4457	41680	29708
Others	2005	19490	8900
Repairing and servicing	1333	2374	5237
Chemical	256	3372	1569
Ready Made Garments	226	1176	966
Cotton textile	171	308	927
Leather	171	132	299
Paper	123	768	745
Agro Based	88	170	427
Engineering units	88	170	427
Rubber	84	249	419
Wooden	65	504	448
Electrical Machinery and Transportation equipment	15	6	72
Woolen Silk	3	6	23
Jute Based	2	1	8
<b>Total</b>	<b>9087</b>	<b>70406</b>	<b>50175</b>

Source: Brief Industrial Profile Report, MSME, 2011

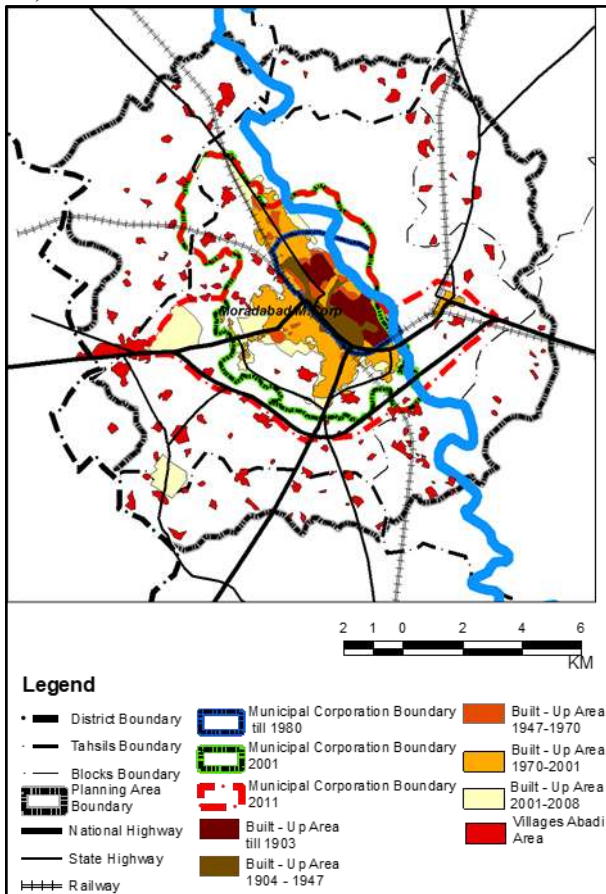
#### 4. Evolution and Structure of Metal Craft Industry

**Spatial Evolution of Town:** Originally, the name of Moradabad town was 'Choupala' and it has a history of 350 years. During Mughal emperor Shahjahan regime, King Ramsukh used to be the ruler of town, who constructed important buildings like mosques and fort which led to development of town. During this period, citizens were mostly involved in occupation of moulding silver and copper coins. After the establishment of important buildings, town developed in four phases (refer Figure 5).

**Until 1903,** infrastructure such as railway line, national highway 24, and administrative buildings such as Municipal Corporation in 1863, cantonment area in 1897 constructed by British government. **Between 1904 - 1947,** municipal boundary was extended for the first time, new colonies and local roads were developed to improve the connectivity within the municipal boundary. In 1944, police training academy was established. **During 1947 – 1980,** the town experienced huge in-migration due to partition of India and Pakistan. To accommodate migrants, new colonies were setup by the municipal corporation in 1980 for planned growth of the town and Moradabad Development Authority (MDA) was established. **Between 1981 - 2016,** first master



plan for 2001 was prepared by Moradabad Development Authority (MDA). The built-up area of town increased drastically due to provision of infrastructure facilities and setting up of new colonies. In 1990, Government of India established Inland Contained Depot (ICD). To promote the handicraft sector of Moradabad, Uttar Pradesh State Industrial Corporation established a Special Economic Zone (SEZ) in 2003.



Source: Moradabad Master Plan, 2021

**Figure 5:** Spatial Growth of Moradabad (1903 – 2008)

**Evolution of Metal Craft Industry:** The metal craft industry started during Mughal period. Initially, the industry was in the hands of persons known, as 'Thateras' belonging to the Hindu community and was limited to the production of *Lotas* and *Thali*. During Shahjahan's regime, town used to be dominated by Muslim community and was the centre for moulding copper coins. Muslims were also engaged in the production of brassware products and established their linkages to Saudi Arab due to their visits to religious place "Mecca and Medina". New tools and change in the production technique introduced by Muslims led the industry to setup their new global linkages and the market grew due to the demand from their neighbouring countries. During British rule, to promote the export of handicrafts from India, exhibitions were held to enlarge the market. After independence of India, five-year plans gave impetus to promote the export. The production of metal craft in Moradabad increased from INR 1.6 crore in 1951 to INR 102.69 crore in 1980 (refer Table 3). Within a period of thirty years, the production increased more than 100 times. Main reason of this growth was focus given to handicraft industry under five-year plans. Shift in the production

technique increased the production of metal craft of Moradabad.

**Table 3:** Growth of Metal ware industry of Moradabad (1950 – 1980)

Year	Production of Metal ware In Moradabad	Export of Metal ware from Moradabad
	(in INR Crore)	(In INR Crore)
1950-51	1.6	1.6
1955-56	1.8	1.8
1960-61	1.9	1.9
1965-66	3.12	2.13
1970-71	9.29	6.5
1971-72	12.71	7.12
1972-73	13.5	8.65
1973-74	15.75	12.49
1974-75	16.25	15.7
1975-76	20	17.01
1978-79	82	51.67
1979-80	102.69	63.9

Source: Ansari. A., 1988, p. 163-166

The export of metal ware industries from India increased from INR 373.75 crore in 1990 to INR 4672 crores in 2013 (refer Table 4). Out of which, share of Moradabad was 34-36 percent during this period. According to interviews with various groups involved in metal ware industry, manufacturers also started manufacturing aluminium, steel and bronze due to increased foreign demand and prices of raw material.

**Table 4:** Export of Handicrafts from India and share of Moradabad (1990 – 2013)

Total Export of Handicrafts from India	Share of Metal ware total Export from India		Share of export of metal craft from Moradabad	
	In crore	In %	In Crore	In %
1495	373.75	25	127.08	34
3207	705.54	22	246.94	35
8490	2207.40	26	794.66	36
13032	2736.72	21	1094.69	40
10533	2844.17	27	910.13	32
17970	4672.20	26	1681.99	36

Source: Export Promotion Council of Handicrafts, Moradabad

**Number of Industry, Employment and Investment:** Registration of industries and establishment of new industrial estates are the responsibility of District Industrial Centre (DIC) and Uttar Pradesh State Industrial Development Corporation (UPSIDC). The district has a huge number of unregistered industries in the form of household industries, especially involved in the production of handicrafts items and providing employment to large number of people (refer Table 5).

**Table 5:** Scenario of Registered Metal Ware Industries in Moradabad District from 1990 – 2011

Category	Industries	Metal based
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	in District	Industries in District
Total Number of Registered Industries (1990 – 2016)	9087.00	4457.00
Employment in registered industries	29708.00	29708.00
Investment in registered industries (Lakh)	70406.00	41680.00

Source: District Industries Centre, Moradabad

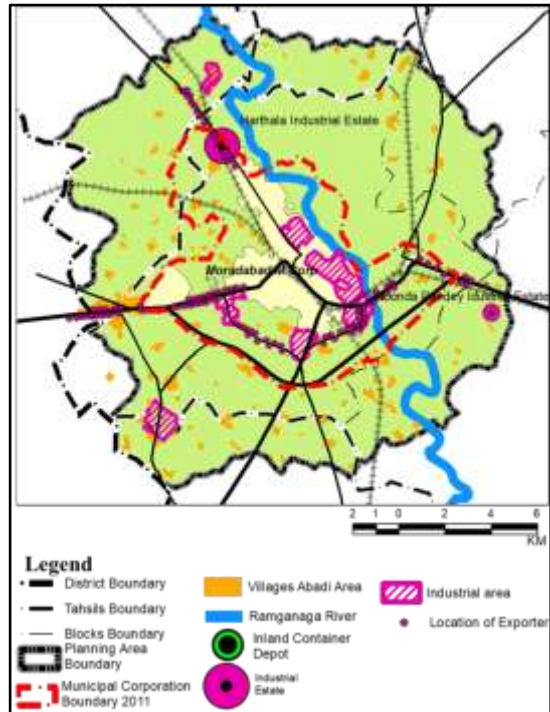
There was a survey conducted by United Nations Industrial Development Corporation (UNIDCO) in 2008 for seven geographical clusters of medium and small-scale enterprises (MSME) of India including Moradabad (table 2.4). According to the survey, Moradabad district has 28350 industries engaged in metal craft production providing employment to 99700 persons. According to survey output, there is a variation in data set provided by DIC and survey conducted by UNIDO.

**Table 6:** Scenario of Metal ware Industry in Moradabad District (UNIDCO, 2008)

Type	Scale of Production	No of Units	Employment
Exporter	More than 50 crores	50	1000
	RS 10 to 50 crores	50	5000
	RS 1 to 10 crore	250	12500
Manufacturer	Within 1 to 5 Lakhs	1500	30000
	Within 5 to 10 Lakhs	2000	20000
	Within 10 to 20 Lakhs	3000	1200
Household units	Casting	10000	20000
	Grading & Scarping	1500	NA
	Engraving	5000	NA
	Polishing	5000	10000
<b>Total Nos.</b>		<b>28350</b>	<b>99700</b>

Source: Sachdeva and Panfil, 2008 p.8

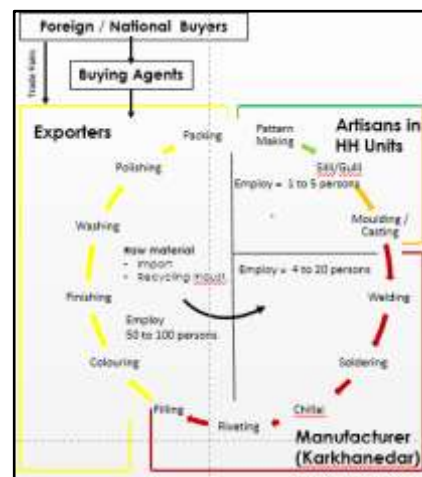
**Location of Industries:** In Moradabad district, there are three industrial estates and one special economic zone. The industrial estates are Munda Pandey Industrial estate, Harthala Industrial estate, Majhola Industrial estate. The SEZ is located within the planning area boundary. Area and number of industries in each industrial estate and SEZ are as; **Harthala industrial estate** is located within Municipal Corporation boundary on state highway towards Kanth, established by District Industries Centre in 1969. The industrial estate has 35 working industrial units on an area of 12.5 acre. **Munda Pandey industrial estate** is located near NH-24 towards Rampur established by District Industries Centre. There are only seven industrial units on an area of 2.5 acre. **Majhola industrial estate** is located within Municipal Corporation boundary along NH- 24. However, number of industries for this industrial estate is not available. **Special Economic Zone (SEZ)** is especially meant for handicrafts items. It is located at a distance of 20 kilometres from the Moradabad on Dingarpur road. It was established by Uttar Pradesh State Industrial Development Corporation (UPSIDC) in 2003 to increase the share of exports from Moradabad. The SEZ has 478 industrial plots on an area of 421 acre. In 2015, only 108 industrial units were in working condition.



**Figure 6:** Location of Industrial Estates and Areas

## 5. Role of Stakeholders' in Metal Craft Industries

Metal craft industries in Moradabad town are located mainly in the old city areas and along the National Highway24. These industries engage large number of people and have highly integrated structure due to its production process. To understand the structure of metal ware industry, it is very important to understand the production process and involvement of various groups at different levels.



**Figure 7:** Production process and involvement of different groups

There are three different groups involved in the production of metal craft industries i.e. artisans in household industries, Karkhanedars and exporter. Whole process starts with the business orders and procurement of raw material from the foreign countries through buying agents or directly. Actual production starts with the pattern making followed by mixing of silli gulli, moulding and casting, welding, soling, chilla, riveting, filing, colouring, finishing, washing, and polishing.



soldering, chillai, riveting, filling, colouring, finishing, polishing and packaging (refer Figure 7). All the processes explained in Figure 7 performed by different groups and has become specialised in the same. Groups involved in the production and their functions have been explained further.

### Artisans in Household Industries

Household industries are specialized in one kind of process and work with their family members including women and children. Their wages depend on the type of work and quantity produced. The household industries (80%) are located mainly in the town. Based on the primary survey and analysis, production process of metal craft, start from the household units and includes Wooden Pattern Making, mixing of raw materials and moulding & casting.

**Wooden pattern making:** Once exporter receives an order from buyer, to decide the size and design, a sample or prototype has to be prepared. For this, job exporters contact the labourer directly. Artisans involved in the process are mostly Muslims and work alone due to production constraints. The household units are located in the core old city area (refer Figure 8).



Figure 8: Labour engaged in the wooden pattern making

**Mixing of Raw Materials:** Persons engaged in the process contact recyclers who recycle copper from car radiators and dealers involved in the supply of raw material. Mostly, exporters provide raw material (Copper, Zinc, and Nickel, lead) to *Karkhanedars*. They transfer it to the artisans working in the household industries.



Figure 9: Labour engaged in the raw material preparation

The artisans engaged in the process of making *silli-gulli* and work for 10-12 hours per day near furnace with no proper ventilation and safety measures (refer Figure 9). The process involves four to five persons either family members or neighbours.

**Moulding and Casting:** After finalization of wooden sample of a product, moulds of sand are to be prepared (refer Figure 10). Casting of aluminium and brass *silli-gulli* includes process of melting raw material in earthen pot at high temperature. The household industries involves four to five persons from a family or neighbours including children of 10-14 years of age. The involvement of children leads to saving labour cost and an increase in household income.



Figure 10: Labour engaged in the moulding and casting

**Location and Area of the Units:** The industries are located within old city areas such as Daulat Bagh, Karrula, Lalbagh etc. Density of the old city area is high and household industries located here do not have proper light and ventilation facilities. Mostly artisans involved in the process of making wooden pattern occupy 50 square feet area.

**Number of Workers and Units:** The number of workers involved depends on the work in which they are involved. In wooden pattern making process, artisan work mostly alone due to small quantity of work and mechanised process. The process of moulding and casting involves four to five artisans. District Industries Centre (DIC) of Moradabad does not have data on number of workers involved in the household industries. However, according to the survey conducted in 2008 by United Nations Industrial Development Organisation (UNIDO), there are approximately 11,500 number of industries providing employment to 30,000 artisans.

**Wages per Day:** Earning capacity of artisans depends on the quantity of work received from the exporters or *Karkhanedars*. According to the interview with artisans, average wages of the artisans per day vary from INR 200 to 450. Artisans involved in wooden pattern making earns INR 400 to 450 per day and earn INR 200 to 350 per day in moulding and casting.

**Raw Material:** Raw material depends on the process. Artisans in wooden pattern making process require wood and arrange it by themselves. Artisans involved in *silli gulli* making of raw material receive copper, nickel, zinc etc from the exporters or manufacturer. In Moradabad, there are some recycling industries providing copper and other raw materials. Artisans involved in moulding and casting receive brass or aluminium sheets prepared by other groups.

**Production Process and Energy Source:** Wooden pattern making is a mechanised process due to which artisans involved in it receive high wages per day as compared to other groups. However, raw material preparation, moulding and casting is a non-mechanised process. Coal is used as an energy source to mix the raw material.

### Karkhanedars or Manufacturers

The group in the production process works between exporter and household units. Persons involved in this process are mainly Muslims. After the finalization of design, based on the prototype, *karkhanedar* take the order from exporters. As explained during interview, one product cannot be prepared in one mould so they divide the product in several parts and artisans engaged in household industries cast those parts (refer Figure 11). Artisans in the units generally work in better conditions due to mechanised process.



Figure 11: Labour engaged in the finishing process (in Karkhanas)

**Production Process and Energy Source:** Production process is mechanised. However, they are dependent on diesel for gen-sets due to lack of adequate electric supply.

**Location and Area of the Units:** Industries are completely located within old city areas such as Daulat Bagh, Karrula, Lalbagh etc. Area of the unit varies from 250 to 2000 square feet. Area of the unit depends on number of machines installed and scale of production. 80 % of industrial units are not registered and located in the form of household units.

**Number of Workers:** The industry employs 5 to 20 people. However, employment of persons is dependent on the amount of production. The industries employ workers from Moradabad as well as its vicinity areas.

**Wages per Day:** Artisans are mainly involved in finishing and welding process. They generally work for 10 – 12 hours and earns RS. 250 – 300 per day. All processes are carried out with the help of machines. Annual turnover ranges from INR 20 lakhs to 4crores. Artisans in both household units and karkhanas earns the same.

**Raw Material:** Exporters provide raw material to manufacturers according to their requirement. The exchange of raw material and money depends on the trust them. Most manufacturers in Moradabad have working relationship with exporters for the last 20 years.

#### Exporters

In the early 90's mostly Hindu and Sikh, communities (Punjabi, Baniyas, and Sikh) were the exporters while Muslims were artisans. Due to government initiatives, the share of Muslims as exporters increased. The exporters play an important role in the earnings of artisans by providing them working opportunities. Exporters engage themselves in the designing of products, exploring national and international markets by attending trade fairs organised by different countries, or in India held by the Export Promotion Council for Handicrafts (EPCH). There are two type of exporters such as merchant exporters and manufactures exporters where former is involved only in packing and delivery of produced goods.

**Location and Area of the Units:** The exporters are located within the old city area near manufactures along the National Highways 24. The size of units depends on the scale and type of exporter (Merchant or Manufacturer) and vary from .25 acre to 2 acres (refer Figure 12).

**Number of Workers:** The exporters generally employ 50 to 100 people out of which 50 persons are permanent and rest are hired depending on the production need. The industries

employ workers from Moradabad as well as from its vicinity areas who commute daily to the city.



Figure 12: Labour engaged in the finishing process (in export units)

**Wage Structure:** Artisans working in export units are involved in finishing, checking and packing. All the processes are mechanised except checking which is done manually. Artisans generally work for 8–10 hours a day. The Unit's turnover varies from INR 10 crores to 350 crores. The persons working in these units earn in the range of INR 500 - 800 per day. The earning levels of artisans in the units and household units are much better than artisans involved in moulding and casting process

**Religion:** The metal craft industry was started by Muslims. However, later other communities migrated to Moradabad and got engaged. Approximately 40 % of artisans involved in the process are Muslims.

**Raw Material:** Exporter is responsible to import raw material such as copper, zinc, nickel, lead etc.

#### Support from Government Agencies

It is mandatory for all the stakeholders such as artisans, manufacturers, exporters to register with DIC. For the welfare of artisans and to eliminate child labour from the industries, EPCH established Artisan Welfare Society. After registration, units are able to avail benefit of programmes such as Pradhan Mantri Employment Generation Programme (PMEGP), Hastshilp Vitran Scheme, and free medical check-up of artisans by Artisan welfare trust. Apart from government agencies, a special Metal Handicraft Service Centre (MHSC) was established in 1983 which is responsible for skill development and innovation in production. However, due to lack of awareness, lack of trust on the government and their social structure values, artisans hardly approach government offices to avail benefits of government programs and schemes.

## 6. Impacts of Metal Craft Industry

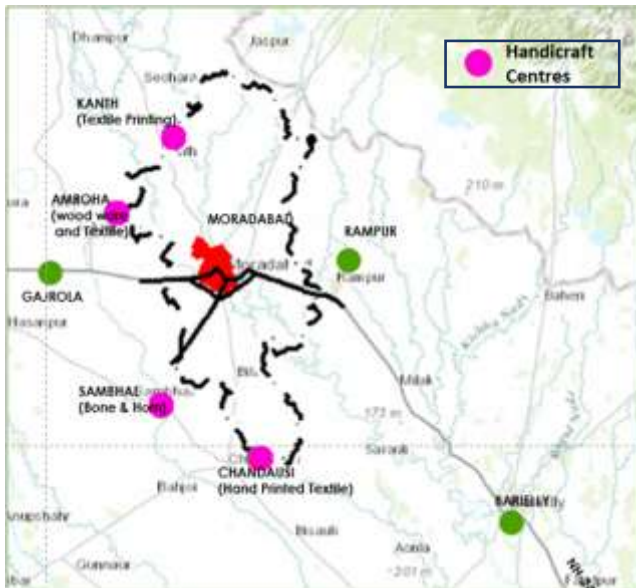
Metal craft industry is the identity of town and plays a vital role by providing huge employment and generating foreign exchange through import export process. Metal craft industries have evolved over the time and impacted the various groups involved in these industries. The impacts have been assessed in context of demography, economic and spatial changes at the scales of within planning area boundary and at regional level.

#### Regional Level

Moradabad is identified as a cluster of metal craft industries by Micro Small and Medium Enterprises (MSME). With huge concentration (approx. 90%) of industries in town, cheap labour and Inland Container Depot (a gateway to



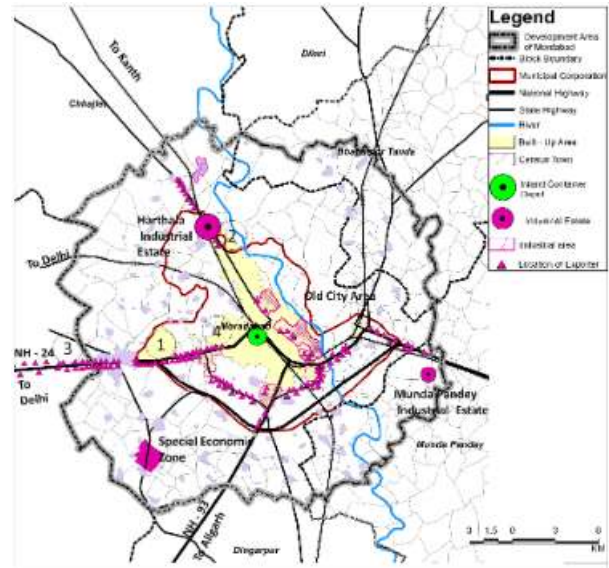
national as well as global market). Nearby towns like Amroha, Sambhal, Kanth and Chandausi have become specialised handicraft centres for wood ware & textile, bone & horn, textile printing and hand printed textiles respectively (refer Figure 13).



**Figure 13:** Handicraft centres in proximity of Moradabad

**City Level**

According to the master plan (1982 -2001), proposed land use was 5255.5 hectare out of which 261 hectares is meant for industrial use. However, according to existing land use plan notified in 2009, total developed industrial area was 411.87 hectare, out of which 70 % of industrial areas were developed. Most of the industrial development took place within old city area and along the NH 24 and 93 towards Delhi and Kanth (refer Figure 14). The production process of the metal craft industry requires close engagement among the artisans, manufacturers and exporters. So the already established network of surplus and cheap labour, cheap transportation and access to local market seems better than shifting whole unit to SEZ or new industrial estates. Hence, close linkages among the different groups has led to congestion in the town and newly developed SEZ is being utilized undercapacity (only 22.5%).



**Figure 14:** Location of New real-estate development in Moradabad town

**Ribbon Development:** The presence of industrial units are not limited to Moradabad planning boundary. They are also located along NH 24 and towards Kanth road which is 15 km from Moradabad.



Source: Google Maps, 2016

**Figure 15:** Location of Industrial units at different parts along NH- 24 and Kanth road

Main reason for location along the highway is better access to labour and logistic movement. To analyse the impact of industrial development, these areas have been analysed in parts as Part-A, Part-B, and Part-C, located at a distance of 15 km, 10 km, and 5 km respectively from the town (refer Figure 15).

Intense industrial development along the NH-24 has caused ribbon development and created a barrier for the further development beyond the stretch. It has also been mentioned in the Master Plan of the Moradabad that due to the ribbon development on the NH-24, it has become difficult to develop further areas due in the absence of accessibility (refer Figure 16, Figure 17&Figure 18). Apart from the ribbon development on NH-24, concentration of the HHIs, manufacturers and exporters has led to congestion in the town.





Figure 16: Location of Export and Manufacturing units along NH- 24 (Part – A)



Figure 17: Location of Export and Manufacturing units along NH-24 (Part – B)



Figure 18: Location of Export and Manufacturing units along NH-24 (Part –C)

The metal craft industry being an identity of the town has played a vital role in the growth of the town. However, due to the lack of required policies from the competent authorities responsible for the holistic development of the town has led to skewed development, where poorest of the poor involved in the process of the industry still struggling for the basic needs and due to the lack of awareness not been able to avail the benefits of the government schemes. On the other hand, exporters involved in the foreign exchange process have generated surplus amount and invested in real estate market which triggers the spatial development of the town.

## 7. Issues and Strategies for Metal Craft Industry

### Issues

The issues are identified at different levels such as for SEZ, artisans, manufacturer, and exporters.

**The Special Economic Zone (SEZ)** have lack of infrastructure such as access road, electricity supply and container depot. SEZ is located at a distance of 20 kilometre from the old city area and it is difficult to commute in the absence of transportation facilities. As a result, out of 478 industrial plots, only 108 plots are in use. Other reason for the under usage of SEZ is the absence of the relocation policy for the groups involved in the industry and a non-mandatory clause to setup new industry in SEZ.

**Artisans:** The concentration of household industries within old city area deteriorated the living conditions, which has resulted in the shift of residents (other than artisans) to new residential areas and most of the core city area is shown as mixed land use in the notified master plan of Moradabad. Due to the lack of awareness and proper implementation of government schemes serious issues such as prevalence of child labour, non-registered industries, inability to expand business and hostile work conditions exists. In the absence of registration with EPCH and DGFT, artisans have no access to trade fairs and exhibitions organised by EPCH or other agencies.

**The Manufacturers and Exporters** are not able to shift to well-established industrial estates or SEZ due to presence of surplus labour, cheap transportation and in old city area. New manufacturers and exporters also want to locate in old city area near artisans to avail the benefits of surplus labour, access market and cheap transportation cost. Only manufacturer-exporter and merchant-exporters having turnover more than RS. 50 crore, have setup their factories along the highway and caused ribbon development along the corridor.

### Strategies

For the issues identified through the study following recommendations has been suggested.

**The Special Economic Zone (SEZ):** to revive the SEZ, strong actions pertaining to change in land use along the major roads especially for the industry, formulation of relocation policy for the existing industries and innovation in flatted industries are required from the competent authorities. As the SEZ and Inland container depot are located at a distance of 18 kilometre from each other, container depot facility should be located in the close proximity of the SEZ to reduce the transportation cost and congestion on roads.

**Artisans:** for the upliftment of the artisans awareness programmes of Sarv Siksha Abhiyan, Skill Development Programme, Pradhan Mantri Employment Generation Programme and specific programmes of EPCH needs to be converged and to be launched in mission mode.

**Exporters and Manufacturers:** To shift the established exporters and manufactures to the designated place; relocation policy and strong steps pertaining to uninterrupted electricity and establishment of raw material bank in the town from the government is required. The above suggestions could attract established manufacturers and exporters and artisans to shift in the designated places such as industrial estates and SEZs.

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## Author Profile



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