CHAPTER V

HISTORICAL SETTING: BRASSWARE INDUSTRY

Before attempting to describe the historical setting of brassware industry the focus is laid on the origin and growth of Moradabad town. Subsequently the growth of bell metal craft industry, especially the brassware industry, is described in brief, to focus the problem of Muslim entrepreneurship in its historical perspective.

Moradabad Town: Its Origin and Growth

Moradabad town is located on the right bank of river Ramganga. The district lies between Latitudes 28°020' and 29°16' North and Longitudes 78°04' and 79°00' East. The Longitude and Latitude of the town are 28°51' North and 78°46' East, respectively. It is located about 160 kms. from Delhi. It is very well served both by rail and road transport. The average rainfall had been recorded between 700mm to 1200mm. The mean minimum daily temperature recorded is 8°C and maximum 21°C during the months from October to February, and during May and June the mean daily temperature in 25°C and 40°C as minimum and maximum.


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respectively. The weather is very comfortable from October to March but hot and damp from June to August.

In Ancient times the district was included in the country of Panchala and was called Katehr during 1000 AD to 1750, when it was replaced by the name of Rohailkhand and the district formed the west-central portion. Before acquiring its present name, the town was called 'Chaupala'(consisting of four villages) and was under the Katehriya chief, Raja Ramsukh, when Rustam khan, the General from the South, was ordered to punish this chief by the Emperor Shah Jehan. Rustam Khan killed the chief and acquired the fort of Chaupala and named it Rustamnagar. But on being reprimanded by the Emperor, he changed the name to Moradabad, after the name of prince Murad, to appease the king.

It is also claimed that before the fort of Chaupala could be built, it was a jungle, where some tribes started living who subsequently settled down in the four villages of Bhadora, Manpur, Dindarpura and Dehri. These villages were under the control of Rajputs called Katehriyas. During the reign of Prithviraj one Sheikh

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3. Joshi, op.cit, 1968, pp. 18-19
4. ibid, p. 25. For the detailed history see Joshi, op. cit., pp. 25-56.
5. ibid, p. 45

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Alauddin, a Muslim missionary came to this region, and settled down to convert people to Islam. He was one of the 40 companions of the famous Sufi Saint Khwaja Muinuddin Chishti. Sheikh Alauiddin is credited to have established the tribals in those settlements. This missionary possibly must have converted some tribal people to Islam. The further conversion in this region must have been accelerated by arrival of Afghan Rohillas and partly motivated by the Muslim empire of Delhi, especially during the Mughal period after the conquest of Rustam Khan. Thus Rustam Khan laid the foundation of a future Brassware town in 1629 A.D.

Until this time and even much later Sambhal remained the seat of administration. By and large, until 1857, Moradabad formed part of the Sirkar of Sambhal, constituent of the Subah of Delhi, and remained under the Moghul Empire. But in the meantime, Farrukh Siyar appointed Rukn-ud-daula Itikad Khan as the faujdar of Moradabad, who changed the name of Moradabad to Ruknabad. But it was a short-lived affair. As Rafi-Ud-Darajat became emperor in 1719, he replaced Rukn-ud-daula by Saif-ud-din as faujdar of this area. Since April 30, 1858, this town, alongwith the

district, remained under the reign of the British Colonialists\(^8\).

There are not much evidences to reconstruct the socio-economic history of the town, although an attempt may be made with the help of census records, Imperial district gazetteers, monographs, and British despatches.\(^9\) However, the growth of the population with a religious composition may be relevant for the present study, and the same is presented in the following table (5.1).

It may be noted from the table that the decennial growth rates fluctuated without any clear pattern. This may be due to inaccuracy of census figures or changing boundaries. However, the pattern of growth rates is relatively stable between 1865 and 1911, followed by a sharp decline, which rose very fast after 1921 except the impact of migration, owing to Partition of India, reflected in 1951 census. These variations deserve serious explanation, with the help of historical evidences, if a meaningful history of the town is to be written. The study of mortality and fertility rates and migration need to be aligned to the

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\(^{8}\) For the history of the town during freedom struggle see ibid., pp. 51-56

\(^{9}\) It is outside the purview of the study. In fact separate study is required to write the proper history of Moradabad. A few half-hearted attempts in this direction are being made by some Urdu journalists of the town.
# Table 5.1

## The Religious Composition of Population in Moradabad Town

<table>
<thead>
<tr>
<th>Year</th>
<th>Muslim Population</th>
<th>Total Population</th>
<th>Absolute Growth Nos. over Prev Period (%)</th>
<th>Absolute Growth Nos. over Prev Period (%)</th>
<th>Proportion of Muslim Population Over Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1865</td>
<td>NA</td>
<td>57304</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1872</td>
<td>30212</td>
<td>62417</td>
<td>8.92</td>
<td>48.40</td>
<td></td>
</tr>
<tr>
<td>1881</td>
<td>34383</td>
<td>67387</td>
<td>7.96</td>
<td>51.02</td>
<td></td>
</tr>
<tr>
<td>1891</td>
<td>39483</td>
<td>72921</td>
<td>8.21</td>
<td>54.14</td>
<td></td>
</tr>
<tr>
<td>1901</td>
<td>42472</td>
<td>75128</td>
<td>3.03</td>
<td>56.53</td>
<td></td>
</tr>
<tr>
<td>1911</td>
<td>48053</td>
<td>81168</td>
<td>8.04</td>
<td>59.20</td>
<td></td>
</tr>
<tr>
<td>1921</td>
<td>48223</td>
<td>82671</td>
<td>1.85</td>
<td>58.33</td>
<td></td>
</tr>
<tr>
<td>1931</td>
<td>63710</td>
<td>110562</td>
<td>33.74</td>
<td>57.62</td>
<td></td>
</tr>
<tr>
<td>1941</td>
<td>87017</td>
<td>142414</td>
<td>28.81</td>
<td>61.10</td>
<td></td>
</tr>
<tr>
<td>1951</td>
<td>81511</td>
<td>161854</td>
<td>13.65</td>
<td>50.36</td>
<td></td>
</tr>
<tr>
<td>1961</td>
<td>NA</td>
<td>191826</td>
<td>18.52</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>1971</td>
<td>133561</td>
<td>272652</td>
<td>42.14</td>
<td>48.99</td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>163804</td>
<td>345350</td>
<td>26.66</td>
<td>47.43</td>
<td></td>
</tr>
</tbody>
</table>

Source: Various Census Records of British and Free India.

NA : Stands for not available
changes in the economic composition of the town. However, no such attempt is made here, lest it might lead to digression. The important point to consider is the religious composition of the population of the town, which will be linked up with the growth of brassware industry of the town in subsequent paragraphs.

The growth of Muslim population in the town had always been much higher than the total population growth during the pre-Independence period. However, after Partition in 1947, the migration of Muslims to Pakistan and immigration of non-Muslims in this town has reversed the trend both in absolute numbers as well as growth rates, which may be considered as one of the important causes of the frequent communal voilences and might have also affected the growth of brassware industry adversely.

It is with these remarks, a brief history of brassware industry may be attempted, so that in subsequent chapters the study of Muslim entrepreneurship could be linked up with the historical patterns.

Brassware Industry: Historical Setting

No claim is made here of writing a history of Brassware Industry in India. However, the focus is being
placed to remove a few misconceptions and a general description of what must have been happening to this metal craft industry through the ages. The general belief, as was discovered during field visits to Moradabad town, that this town had been the most important centre of brassware production since very early years and that the life of this craft is not more than 400 years. However, scholars and writers are not inclined to share this belief. Another important misconception is that the industry is originated and is expanded by the Muslims, and probably the items manufactured are of Muslim taste.

A Brief sketch of the course of this craft and related metal craft is made with the help of a few evidences, quantitative or otherwise from Ancient to the period of partitioned India and also using such indicators as places of production, number of persons employed, annual production, export etc., wherever possible.

Ancient Period

It may be pointed out that brass, bronze and bell metals belong to the same category of metals (non-ferrous).

but differ according to the proportion of various base metals forming an alloy. For instance, good quality of brass for utensils is the one that contains 65 percent copper and 35 percent zinc. The proportion may vary and will determine the quality. For instance, 60 percent copper and 40 percent zinc will form a poor quality of brass. Similarly, if tin or lead is added, it becomes a bronze or bell metal depending on the proportion of metals mixed.

Either of these metals were used from time immemorial. For instance, idols in ancient times were made of eight metals, e.g., gold, silver, aluminium, tin, lead, mercury, copper and zinc. Probably the earliest known article from non-ferrous metal category is the bronze statue of a dancing girl, discovered during the excavations at Mohenjodaro. But the bronze is of different composition than brass, consisting of gold, silver, copper, zinc, tin, lead, mercury and aluminum. Whatever be its composition, it is clear that these metals were fairly used around 3000 B.C., and that casting was also in a pretty advanced stage of development at that time.

There seems to be no evidence available upto 200-300 A.D. either because the continuity of ancient Indian

culture could not be recorded from excavations or there had been the decline in the growth of metal culture due to natural destruction or political upheavals. However, it seems that craftsmanship might have been going on through the ages, and because of lack of tradition of preservation of history, the evidences are lost.

But there are a few evidences. That "Major Hay discovered a lota in 1857 at Kundlah in Kutch from a Buddhist Cell buried for 1500 years (200-300 AD), with gravings of Prince Siddhartha with his officers going on some special mission".\textsuperscript{12} Further, "the copper statue of Buddha at Sultanganj-larger metal work of ancient times and the iron pillar (400 AD) not forged (so big) in Europe todate (1888)."\textsuperscript{13} "_________ that in ancient times, the natives of India appear to have worked the copper mines at a larger scale than they do at the present day (1889). The tradition of the old digging in Nellore, Singhbhum and Hazaribagh is lost."\textsuperscript{14}.

A few more reference to support that the metal craft including brassware were widely practiced in ancient

\textsuperscript{12} Ibid. p. 157
\textsuperscript{13} Ibid, p. 157
\textsuperscript{14} Watt;George, \textit{A Dictionary of the Economic Products of India}, vol. 11, Cosmo Publications, Delhi, 1972 (Old 1889), p. 648
times: the figure of Harpocrates from Taxila - a specimen of Indus Greek Art of the first century; is an instance in point. V.K.Mathur 15 gives more instances of such works at various places in India, e.g., bronze casting at Amaravati of Satvahna period (235 B.C to 200 A.D), a prince standing with a bow in hand excavated from Nagarjuna, Konda of Ikshvakas period that followed the Satvahana period. Buddha statue recovered from Sultanganj - the finest and the largest bronze work of the Gupta period in 5th century A.D., and Brahma statue excavated from Mirpurkhas in Sindh of the same century. A herd of aesthetic quality bronze items of second to seventh century A.D., kept at Baroda museum, gives some idea of the tradition followed by the West Indian craftmen. A lot many items of metal casting during the Pala dynasty of Bengal during 750-1200 A.D at Nalanda and Kurlihar. Metal work of Chamba of Punjab Hills of about eighth century AD are also found.

In south the metal craft was at its zenith during the dynasties of the Cholas and Pallavas between eleventh to thirteenth century, especially the beautiful idols of Siva, Rama, Durga, Lakshmi, Kali, Rukmini etc. Similar dancing image of Natraj from Tiruvarangulum in the Vijaynagar period of tenth century, subsequently patronised by Nayakas and

latter by Maratha rulers. P.P.R. Rao describing the state of handi crafts before the arrival of European companies, refers to Industrial Commission Report, which states, "At a time when the West Europe, the birth place of the modern industrial system, was inhabited by uncivilised tribes, India was famous for the wealth of her rulers, and for the high artistic skills of her craftsmen. And even at a much later period, when the merchant adventurers from the West made their first appearance in India, the industrial development of the country was, at any rate, not inferior to that of more advance European nations." Also, Professor Weber wrote, "the skills of the Indian in the production of delicate woven fabrics with the mixing of colours, the working of metals and precious stones and in all manner of technical arts has from very early times enjoyed a world wide celebrity." 

In 155 BC, "----- so full is the city (of Sialkot) of money and of gold and silverware, of copper and stoneware that it is a very mine of dazzling treasures". Further, "The Indo-Aryans of Rigvedic period were remarkably advanced


17. ibid., p. 3.


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in the mechanical arts and considerably familiar with the process of weaving, tanning and metallurgy ... that then and afterwards both men and women engaged in it."19.

Gupta, in his study on industrial structure during Indian Middle Ages writes that, "Non-ferros metals like copper, lead, tin, bronze and brass and bell metals were widely used in different industries (in ancient times). Copper, in spite of its availability in the country, was imported in large quantities in the kingdom of Nambanas, Cheras and Pandyas. Copper was mostly used for making weight and measures, coins and utensils".20

The engraving work is also an ancient tradition. For instance, Bidriware originated from Bidar by the Hindu King during fourth century B.C. and developed by his successors unless excelled by Mussalman.21 Bidri work is a coarse kind of substitute for true niello work, with a softer and lacquered metal, less permanent than its base. It is different from the Japanese method of enamelling. It is

probably a Turanian art from Persia.\textsuperscript{22} Due to these contradictory statements, it seems possible to assume that Bidri work might have originated in India in ancient period and due to ancient trade links with Babylonia and Western Asia the art must have been stabilised in Persia, wherefrom it must have been rebrought to India during the medieval period. Although it might have survived up to middle period in India itself\textsuperscript{23}. The government encouragement through Melbourne and London and similar other exhibitions at Simla, Culcutta and Jaipur popularised it. At the turn of the century the major countries of Artsware were Bidar, Lucknow, Purnea and Murshidabad. It is claimed that it was introduced by one Mir Ilahi Bukhsh at the beginning of eighteenth century in Murshidabad and is now stated to be dying for want of encouragement. It existed (1888) with Muslim artisans in Murshidabad, Purnea and Lucknow and with Hindus in Bidar.\textsuperscript{24}

Going back to the ancient times, and considering the division of labour into varna model, the Kasera and Thatera castes seem to have been engaged in manufacturing and trading of the brass utensils and other items of pujaware, for which the trade guilds (Srenis) existed to

\textsuperscript{22} Encyclopaedia of India, Technology of Braswara, 1908, p.71
\textsuperscript{23} Mukherjee, 1974, op. cit., p. 181.
\textsuperscript{24} ibid, pp. 183-184

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safeguard the interest of the trade.

Thus the history of craft and culture of art metalware can be traced back to prehistoric times. The cire purdue castings or 'lost wax' process was known to Indian people from the prehistoric times. The engraving and bidriwork were known throughout the ancient historic period and fairly practiced by the tribals of Madhya Pradesh, Jagadalpur in Bastar district. Other pockets of cire purdue were established at Bankura in West Bengal, Lowadia in Bihar, Mayurbhanj in Orissa and Swamimalai in Tanjore district of Timil Nadu25.

Thus it becomes clear that the history of brassware, in particular and metalware, in general, is not of medieval origin but of ancient times. Nor is true the fact that it was originated by Muslims, for Islam is only 1200 years old in India, whereas the craft dates back to prehistoric times of 2000-3000 B.C. Not only casting but engraving and bidriware were also known to ancient Hindu castes.

Medieval Period

It appears that the development of art metal,
along with handicrafts continued upto 1000 A.D. The early rulers of Muslim India were too much occupied with conquests and order, that the economic development was relegated to the background.\textsuperscript{26}

But Khiljis brought a welcome change to open a 'daftar' (office in which merchants were required to register), with prices regulated by the state and, treasury made advances to the Muslim traders for the large purchase of commodities. However, after Allauddin's death, the system disintegrated until the Tughlaqs took over the empire. They maintained "--- a manufactory employing 400 silk workers, (there were) 500 manufactories of golden tissue embroidery."\textsuperscript{27}

This state manufactory was born out of state paternalism, which throughout medieval India was a virtue borne out of necessity, where individual enterprise lacked. The state in Mughal India was the chief, and in fact, the only manufacturer. Every major city had its manufactories. Under the patronage of the nobility the crafts continued to be developed.\textsuperscript{28} It is not clear whether

\textsuperscript{26} I had not been able to locate any direct significant references related to brass or bell metal production during the Muslim rule in India.

\textsuperscript{27} Rao, op.cit., 1935, pp. 15-16.

\textsuperscript{28} ibid., p.17.
brass, copper and bell metal continued to grow or decline during the Muslim period.

**Modern Period**

The Francis - Buchanam - Hamilton survey of 1800 A.D. records crafts in both south India and North India but did not mention any thing except about Gorakhpur, where brazier manufactured utensils and ornaments, bracelets; copper and iron manufactures of Malda in Bengal and pottery of Bhagalpur in Bihar. It is surprising that the survey did not mention anything about the brassware of Moradabad or Varanasi. It may, therefore, be concluded that the brassware of Moradabad was either an insignificant craft or was missed by the survey. May be only Thateras of the town were manufacturing only brass or copper utensils in very small quantities.

There are some stories prevalent in the town about the origin of brassware in Moradbad. According to one story the origin of brassware took place in Moradabad and its subsequent spread to other parts of the country. One carpenter Parsadi Lal lived in Deewan-ka-Bazaar who used to make wooden door frames and windows, when Rustam Khan came to Moradabad. This carpenter inspired one carpenter and one blacksmith, who had come with Rustam Khan's caravan, who innovated the engraving on the utensils.

29. ibid., p. 58.
30. Kumar, Naresh, op. cit, p. 18
According to another story, one Imamuddin used to go to Delhi for the work of Bahadur Shah, who had a "hukka' made of zinc presented to him brought by Nadir Shah (around 1739) from south. The emperor wanted to present him similar Hukka of brass. Imamuddin made a similar hukka and engraved but filling the colour was a problem, which was solved by an old lady, by putting 'kajal' (antimony used by natives for eyes) into the gravings. This is how the innovation of 'Siah qalam' was introduced 31.

According to yet another story, the place kajri-ka-van at Moradabad was inhabited by 'Yam margis', who manufactured lustful, artistic idols and this place was converted into 'Kishoralaya'; now a mohullah called by the name of 'Kisrol'. There are still some temples which might have been built by these 'Yam margis' that contained such idols. Thus, these idols were introduced by Yam Margis, long before the Mughal influence came to the town. Later on this city made the brass idols and other articles 32. There are some more stories like this. Based on them, one scholar concludes, that the art of brassware was existent at Moradabad before the entry of Mughuls in India, but certainly developed and patronised by them. Initially simple

31. ibid., p. 19. For similar stories see Bhatnagar, Shiv Prem, op. cit., 1975, pp. 10-13
32. Nav Bharat Times, (Hindi Daily), November 30, 1976
items were manufactured but artistic wares were introduced during the Mughal period.  

Therefore, the origin of brassware and subsequent innovations in this craft are uncertain. It is likely, as is described earlier, that the brassware was in use, along with copperware, for which the main use for the natives was in the utensils, much before the Mughals came to India. The presence of Thatera caste (both Hindu and Muslim) suggests an ancient origin of this. The courts and the emperors might have encouraged to produce better and artistic quality of the ware, since there was no competition from European utensils, where glass and porcelain, china and other metal-based utensils were in vogue. The absence of evidences in the records of the East India Company suggests that the craft was not an important activity. Therefore, the brassware grew unnoticed. In fact, D.R. Gadgil mentions that all the crafts declined in artistic importance throughout the British period, but a few, like gold and silver wares, cotton and silk fabrics, brass and copperware still retained their commercial importance.

35. Ibid.
The British censes operations\textsuperscript{36} began in 1865 with limited data collection. But nothing was recorded in the 1865 censes about brassware. However, the extent of data collection, and region was widened in 1872. The census does not provide very clear evidences to the number of persons employed in brass. However, in the whole district some 358 adults were recorded in brass and copper, including metal polishers in the list of occupations of the census.

The census of 1881 recorded 134184 workers in India including those in copper, bell metal and electorplating, both for rural and urban areas. For North-Western Provinces the respective number recorded was 28599, including 1645 females. In urban areas the workers under this category were 12922, representing 45 percent of the total workers. Therefore the craft was prevalent even more in rural areas, contrary to the belief that it was never a rural industry\textsuperscript{37}. Similar situation was prevalent among almost all the provinces of India. Although the brass and copper workers were found almost in all the districts of all the provinces. However, numbers varied widely. Moradabad district\textsuperscript{38} had 976 workers (including 16 females).

\textsuperscript{36} All the census records from 1862 to 1981 were examined to find out the development of brassware industry in Moradabad town. Therefore, individual references are not given to avoid the messiness.

\textsuperscript{37} Gadgil, op.cit, p. 191

\textsuperscript{38} The district in 1881 belonged to Agra Division, which was incorporated in Rohailkhand Division in 1891.
and ranked third in the district of North-Western provinces, after Benares (2639) and Mirzapur (1055).

The other tendency that was noticed in the distribution of workers in rural and urban areas, that wherever the concentration in a district was more the less was the spread in rural areas. It implies that whenever an urban town had acquired some prominence, the rural artisans started moving to urban areas or the trade was routed out of existence. In many of the larger town workshops as many as twenty or more persons were employed. The chief centre in the provinces were Benaras, Moradabad, Lucknow, Mirzapur, Agra Farrukhabad. However, every village has its trade in copper vessels, and most have in addition their coppersmith.

In 1891 census, the number of workers recorded for India in brass and bell metal was 4,05,600 of which 2,61,956 belonged to rural areas, representing about 65 percent, which supports the point discussed above. The

39. Dampier, A Monograph on the Brass and Copper Wares of the North-Western Provinces of Oudh, Calcutta, 1894, p.18. Unfortunately the monograph does not contain anything on the size or extent of this industry, although he describes the religious values towards metal vessels, its organisation, methods of production and the consumption of raw material etc.

40. Watt, Sir George, Commercial Products of India (1885-94), reprinted by Today and Tommorrow Publications, New Delhi, 1966, p.401. Until 1881 no data were available for the town of Moradabad separately.
chief provinces producing brass, copper and bell metals were Bengal, N.W. Provinces of Oudh, Madras, Bombay and Sind, Hyderabad and Punjab, although the workers were found in all the provinces.

In the North Western provinces of Oudh, the higher number of workers recorded were in Benaras Division, followed by Faizabad, Allahabad, Rohailkhand and Lucknow. In the United Provinces of Agra and Oudh there were 12,922 workers and the total population supported being 56,210. In Moradabad district there were 960 actual workers in brass, copper and bell metal industry supporting 3327 persons. It appears that the number of workers in this craft were increasing, as some of the items of tin were replaced by brass.41 Writing in 1888, Sir C.M. George Birdwood informs that "Benares, in the North Western Provinces, is the first city in India for the multitude and excellence of its cast and sculptured mythological images and emblemate, not only in brass and copper but in gold and silver, and also in wood and stone and clay".42

It is, therefore, clear that by this time Moradabad brassware was known for its tin soldering, floriated patterns, engraving and lacquering, yet it was not

41. Census of India, 1891, p. 106
42. Birdwood, Sir George C.M., The Industrial Arts Of India, Chapman Hall Ltd., Piccadilly, London, 1888, p.159
the most important town manufacturing brassware. It was fairly widespread throughout India that "Each province has two or more cen tres noted for copper and brasswork."\textsuperscript{43} Mentioning O'Connor's \textit{Review of Trade and Industry, 1898-9}, the contemporary writer states that trade in brass and copper fluctuates due to price, material conditions of people and speculation. In distress people sell their metal utensils and replace by earthenware. Trade in copper is a sort of barometer to measure the absence or presence of economic pressures.\textsuperscript{44}

In 1901, brass, copper and bell metal actual workers constituted 0.5 per cent of all workers and supported 1.3 percent of the total population of India. The urban workers shared 35 percent of the total workers in this group.\textsuperscript{45} The total persons being 390,2266. In North Western Provinces of Oudh, the total dependents on this craft numbered 81,859. The other important provinces being Bengal, Madras, Bombay, Hyderabad, Punjab, Rajputana and Central provinces. The actual number of workers in brass, copper and bell metal in the distinct of Moradabad were 915 with additional 2,420 dependents. Thus the total population supported being 3335 persons. The working females being

\textsuperscript{43} Watt, Sir George, op.cit., p.402
\textsuperscript{44} ibid., p.403
\textsuperscript{45} Census of India, 1891, pp. 244-245.
only 73. The respective figures for the districts of Benares and Mirzapur were 3198 and 3035.

It appears that Moradabad had acquired a better position and Benares had started loosing, because. "It is, however, cheap and is the best known style of Indian metal work met in Europe, and has accordingly done much to lower the desire to possess example of brass and copperware. ----- that many of the items in Benares exhibition halls were poor imitation of Poona type, ---- and manufacturing is degraded European shapes and purposes, ---- that the Benaras brass would have to be excluded (for repetition and poor work)" 46. Therefore, as the comparison with 1891 census would suggest that the share of brass, copper and bell metal declined between 1891-1901 throughout India. However, Benares seems to have started loosing its pre-eminent position to Moradabad.

But this situation does not correspond to the town comparisons, as the census of 1901 provides evidences. 47 In brass, copper asnd bell metal, the reported number of actual workers for each town were: Benaras 1115, Mirzapur 1056, Lucknow 582, Farrukhabad 421, Faizabad 357, Hathras 356 and 

46. Watt, George, Indian Art At Delhi: Supdt. of Govt. Printing, Calcutta, 1903, pp. 56-57

47. The census of united provinces in 1901 reported number of workers in 19 importants towns of the province on pp 314-315.
Moradabad 272. Therefore, the craft seems to have been more concentrated in district towns, rural areas other than Moradabad, where the process of concentration had not acquired as much momentum - the process that was repeatedly captured in Indian context, thus "It has been repeatedly pointed out that there is a tendency for the copper and brass industry to become more and more concentrated in towns, a movement which must motivate to its better organisation."\textsuperscript{48}

It may also be noted that only 5.19 percent population of Moradabad town depended on metal industries, of which brass copper and bell metal formed only 26 percent. Therefore, this town craft supported only 1.35 percent of the population. The highest number of persons among all the districts of the province and very few rural workers and a relatively small number of workers in the town suggests, that the other towns of the districts were also served, in large measure, by the craft.

In the Census of 1911 more precise data had become available to reflect on various aspects of the industry. In the United Provinces of Agra and Oudh in metal industry, there were 115448 workers and 286922 dependents, supporting the total population of 402370. In brass and bell metal the

\textsuperscript{48} Watt, Sir George. op.cit., 1966, p.401.
respective figures were 15153, 53938 representing, respectively the share of this industry to the metal industry by 13.13 percent actual workers and 18.80 percent population. This also implies low earner-population ratio.

In Moradabad town there were 2427 actual workers supporting 9158 persons in metal industry. In brass and bell metal there were 2220 workers supporting 9051 population. Therefore, the share of this industry had increased considerably at the expense of other metal crafts during 1901-1911 period in Moradabad town. The ratio of brass and bell metal over metal industry workers and population supported being 91.47 and 87.91 percent respectively. The migration to city from other places shows 9090 immigrants. Therefore, it may be concluded that the craft in question grew at the expense of other metal industry and also due to large number of migrants into the town, which formed 11.20 percent of the total population of the town. The earner-population ratio of the town in brass and bell metal being 24.24 per cent and that of metal industry being 26.50 per cent. If compared with respective figures of United Provinces it becomes clear that employment opportunities drew more earners from within the family also. Further, Benares employed now only 974 workers, Farrukhabad 462, Agra 396 all of which lost their workers as compared to

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previous census. Therefore, Moradabad town brass industry grew very fast during this decade at the expense of other metal industries, and perhaps at the expense of other towns also. The period 1901-1911 may be marked as the watershed in the development of this industry.

The religious composition suggests that Muslim represented about 98 per cent of the total population engaged/dependent in brass and bell metal industry of the town. The non-Muslim population had a share of only 2 per cent. This state of affair is related to the general trend of industry in relation to religious composition. "Mohammedans take rather more freely to industry, transport, domestic services and Hindus to trades, profession and learned arts". 49 Thus, the industrial entrepreneurship until this time was more common among Muslims in India than the Hindus, who were engaged in more lucrative, secured professions or less risk involving activities like trade, which might have originated partly from the money lending tradition, which were often combined with trade.

In 1921, the population of the city grew with a simple annual growth rate of 0.18 per cent, the migration to the city also retarded both in absolute number of 8780 as compared to the migration in 1911 of 9098, and in proportion

to the total population (10.62 percent as compared to 11.20 per cent of 1911 census). Therefore, the migration was still significant even if the higher growth of population is also taken into account.

The share of brass, copper and bell metal workers to metal industry (2672/3131) declined from 91.47 to 85.34 per cent in 1921 and that of the population supported from 87.91 to 85.08 percent. It appears that significant economic and demographic factors were operative. The number of workers in this industry in whole of the district was 2940, that is outside Moradabad town there were only 268 workers, representing only 10.03 percent. It may, therefore, be concluded that the movement of this industry to concentrate in this town was becoming vigorous - a tendency that was witnessed in earlier decades in case of other districts.

In Benares town, although the number of workers in this industry increased from 974 to 1339 (a simple annual growth rate of 3.75 percent); whereas the number of Moradabad town increased from 2427 to 2672 (with respective growth rate of 1.01 per cent) during the period 1911-1921, yet Moradabad maintained its lead having twice as many workers as Benares town. The other important towns in the

50. See table 5.1 of this chapter.
province being Barailey, Allahabad, Lucknow and Agra, although in these towns the number of workers in this industry was depleting fast. The religious composition of the workers in the town suggests that 97.9% were Muslims, supporting about 12 per cent of the total Muslim population. Besides, 7 factory establishments (employing 10 or more workers) had come into existence, and probably belonged to Non-Muslims. These employed 109 workers, including one female. The number of females in this industry of Moradabad had been almost insignificant all through these decades.

In the United Provinces of Agra and Oudh, the industry supported 32476 persons of which 13580 were Muslims representing about 42 per cent, which was much higher than the Muslim population inhabiting the Province. Moradabad town alone accounted for more than 25 per cent of all the workers in the Province in this industry, which by and large may be expected to be Muslims as is clear from the previous census figures. In the United Provinces this industry supported 0.07% of the population of all religions and 0.28 per cent of that of Muslims.

In India the population dependent on this industry was 259203. It appears that this industry was declining in importance in other provinces barring Bengal, Bihar and

51. This point is substantiated in Chapters VI and VII.
Orissa, Central Provinces of Berar, Madras and Punjab, beside United Provinces.

However, the organized sector seems to have started taking roots (300 establishments of brass, tin and copper in India), of which 141 were in Bengal and 108 in United Provinces. Other Provinces had very small share, since Bengal and United Provinces combined had 83 per cent of these establishments. These establishments employed 14095 workers (about 47 persons per establishment). However, Bengal had larger establishments with an average employment of 53 as compared to United Provinces with an average of 17. Bombay, although had only 20 establishments, but with an average of 146 workers per establishment. The respective figures for Madras being 87, Cochin state 112, and Rajputana 19. These establishment were mainly located in larger towns, where growth of organised sector was underway quite for some time.

The population of Moradabad town grew very rapidly during 1921-31; an increase of 33.74 percent, the highest increase of any town in the province, due to high survival rate, but mainly due to immigration, as the brass and other industries continued to flourish. The brassware has greatly benefitted by its advertisement at the Wembley Exhibition. 52

Electric machinery now being used in fashioning the vessels and "... it is reported that mass production methods are resulting in a deterioration from the high standard of the hand-made products. Sheet brass from outside is displacing 'bharat' brass or the brass formerly bought from peddlers and villagers."  

In the United Provinces the actual workers in brass and bell metal have declined from 15153 in 1911, 12638 in 1921 to 13127 in 1931. In fact, there was a rapid decline of industries in United Provinces in general, from 1911 to 1931, despite the rapid increase in population. In United Provinces the brass and bell metal industry employed 11.8 percent of the total workers in the industrial sector and 0.05 per cent of the total working population - an insignificant industry indeed!

In the district of Moradabad, there were 81374 workers in industrial sector, of which 3886 (4.78 per cent) were in metal industry and 2354 (2.89 percent) were in brass and bell metal industry. Despite the fame of its artware, it was not the chief industry in 1931, although it was the most important of the metal group (60.58 percent). The actual number of workers declined during 1921-31 from 2672

53. ibid, p. 425.
to 2387, consistent with the trend in the Provinces as well as in the country, yet it ranked highest amongst the towns of the provinces, followed by Benares, Farrukhabad and Lucknow. All other towns were becoming less significant. Significant is the drop in number of workers in this industry in Benaras during this period (1921-31) - from 1339 to 753. The decrease was much less in case of Moradabad town. The religious composition of brass workers could not be ascertained. However, it may be assumed, going by the trend, that Muslim workers in this industry must have been in the vicinity of 97 per cent.

Unfortunately, because of World War II, the census data for 1941 could not be published, and therefore, no evidences bearing on the study could be collected. At best the population distribution in the town could be ascertained. The decennial growth rate (1931-1941) of the town was 28.81 percent, whereas that of Muslims was 36.58 per cent.

During the British period for which census data for the Moradabad town is available (1872-1941), the population has increased 228% and Muslim population by 288% by raising its share from 48.4 per cent to 61.1 per cent which was to be upset by the Partition of India in 1947 as is reflected in 1951 census where the share declined to
50.36 per cent and could be one of the causes of frequent communal riots in the town after independence.

The important point related to this aspect is that the industry was mainly nourished by Muslim artisans and entrepreneurs, supported by the British Government through various exhibitions. It is also clear, that the industry in nineteenth century was fairly wide spread in the country and had heavy rural bias. However, over the years it started concentrating only in a few towns of a limited number of provinces. The Moradabad brass ware industry grew at the expense of rural areas, and other towns mainly because of the innovative zeal and quality consciousness of its Muslim craftsmen, which did not happen in case of Benares town, which mainly specialised in puja ware, with ever deteriorating quality of metal and workmanship. However, Moradabad could acquire its position of eminence only after the turn of the last century, although the tradition of craftsmanship might have been in existence for last two and a half centuries.54

Post Independence Period

After partition, in 1951 the first census was carried out by the Indian Government. However, the methodology and type of data collected were substantially different.

54. The situation of the industry after 1947 is briefly described in Chapter VI.
changed. Except the religious composition of the population, all other communal details were eliminated. Also, the data on workers and dependents underwent change, beside introducing detailed National Industrial Classification in 1961 Census. The industrial establishment tables were further classified into household and non-household categories. The brassware and bell metal establishments were classified under 365 NIC code. However, no consistent series either of number of establishments or number of workers or dependents could be built. The information based on census enumeration in the town of Moradabad was, therefore, could not be utilised.

However, to understand and improve the lot of those engaged in various industries, due to the explicit policies favouring industrialisation, many census and sample surveys, both by official machinery and private individual or by institutions were carried out, throughout the period beginning with the middle of 1950's.

The growth of brassware industry, based on these sources, is detailed in chapter VI. However, a few historical trends after 1947 to the terminal year of the present study are given below.

According to these sources, it may be stated that the number of units increased to 7125 in 1983 starting with
882 units in 1950. The distribution of the production processes had been changing over the years, due to the change in the production pattern, favouring from indigenous market to export markets\textsuperscript{55}.

It may also be stated that the changing composition of the industry due to better organisation, technology and increasing capital intensity, during this period, led to the changes in the community composition. This change has worked against Muslims, in relative terms, although the growth of industry benefitted both the major communities. The non-Muslim entrepreneurship was found to be of higher order, if measured by the indices like, size of employment per unit, capital investment, production, profits and sales\textsuperscript{56}.

The growth of this industry after 1947 may be ascribed to the national policies to revive and strengthen cottage industries and by creating a support system, encouraging entrepreneurship\textsuperscript{57}. The other factor being the foreign demand for art brassware, and the efforts made by the entrepreneurs of the town, in response to the incentives offered by the government.

\textsuperscript{55} See tables 6.2 and 6.3 of Chapter VI

\textsuperscript{56} These points are detailed in Chapter VII.

\textsuperscript{57} This aspect is discussed in detail in Chapter IX.