

Is Metal likely to Lose its Sheen or Add Shine: A Study of Opportunities and Threats of Indian Art Metal-Ware Handicraft Industry

Vaishali Dhingra

Professor, Strategic Management,
Teerthanker Mahaveer University

Manish Dhingra

Head, and Associate Professor,
Mechanical Engineering Department,
Teerthanker Mahaveer University

Rakesh K. Mudgal

Vice Chancellor, Teerthanker
Mahaveer University

Abstract

The study highlights the opportunities and threats of Indian handicraft industry with special focus on art metal-ware industry. Among others, an important art metal-ware cluster is Moradabad in Uttar Pradesh India. This cluster has over 5000 industries out of which 600 are export units have an annual export of Rs. 5,400 crore. The cluster has an annual turnover of Rs. 9,700 cr. It provides employment to 10,50,000 people. The sector is an integral part of the handicraft sector of the country and has the potential to generate employment. Despite this, the cluster faces the challenges like dearth of technological development, and poor usage of information & communication technology. (The Economic Times, June 17, 2018). Besides, there are a number of problems at the grass-root level like improvements required in processes, infrastructure and also development measures for developing the skills of the artisans (Sachan et al. 2013). If the predictable threats can be taken care of timely, art metal-ware sector can give a boost to the economy. The study uses External Factor Evaluation (EFE) Matrix which is a tool used in strategic management for analysing the opportunities and threats of an industry. Based on our personal interaction with several manufacturers and exporters of art metal-ware of Moradabad, the study concludes that it is an important sector for the economy and concrete measures are required to further strengthen it.

Key words: Threats, Opportunities, Art metal-ware sector, PESTEL Analysis, External Factor Evaluation (EFE)

Introduction

Handicraft sector can be defined as related to the goods manufactured either fully or even partially by hand, and are significant either in terms of utility or provide aesthetic or ostentation value.

Handicrafts, as defined by EPCH, 2011 are “items or products produced through skills that are manual, with or without mechanical or electrical or other processes, which appeals to the eye, due to characteristics of being artistic or aesthetic or creative or ethnic or being representative of cultural or religious or social symbols or practices, whether traditional or contemporary. These items or products may or may not have a functional utility or can be used as a decorative item or gift” (EPCH Circular, 2011).

United Nations Educational, Scientific and Cultural Organization/Information Technology Community (UNESCO/ITC, 1997) defines artisanal products as “products which are produced by artisans, either completely by hand, or with the help of hand tools or even mechanical means, as long as the direct manual contribution of the artisan remains the most substantial component of the finished product. These are produced without restrictions in terms of quantity and using raw materials from sustainable resources. The special nature of artisanal products derives from their distinctive features, which can be utilitarian, aesthetic, artistic, creative, culturally attached, decorative, functional, traditional, religiously and socially symbolic and significant”.

Art metal-ware handicrafts are famous for the aesthetic appeal they carry. Metal idols are preferred for worship in India thus; art metal-ware handicrafts have historical significance. It is being used in the country since Indus valley and Harappan civilization.

There are several threats and opportunities associated with this sector. It is comparatively easier to initiate an art metal-ware handicraft unit as they are governed by a separate Act and the government provides privileges for the same. Since handicraft products are hand crafted, their production is labour intensive, thus provides employment and is a source of livelihood to many. At the same time, the sector is surrounded by threats related to task environment and are more or less unmanageable and the threats like ailments, diseases to which the art metal-ware artisans are prone to which can be managed by taking preventive measures. There are several problems associated with the manufacturing of art metal-ware with hands. There are numerous occupational factors that contribute to diseases spread across the world. Job-related morbidity and mortality lead to the suffering of the artisans along with his family. This leads to decrease in productivity, increased expenditure on medical and welfare services, thereby adding to the overall cost borne by the society (Leigh et al. 1999). Hence, for these kind of threats, preventive measures must be taken.

Background of Moradabad Metal-ware cluster:

Historic advantage associated with the city of Moradabad is that the art metal-ware being manufactured here is widely recognised across the world for its uniqueness Sarkar (2011). There are roughly 2682 handicrafts and 491 handlooms clusters in India. In both cases around 10 states cover around two-third of these clusters. Uttar Pradesh leads both in handlooms and handicrafts. The 2682 handicraft clusters belong to 24 product groups, covering 292 products. These include 548 textiles, 418 basketry, 298 woodwork, 251 metal ware and 203 earthenware related

handicrafts products. Of these metal-ware clusters, Moradabad has a distinguished place. The city is known across the world for brass art metal-ware and has carved a niche for itself in the handicraft industry. The metal-ware is exported to countries like Canada, Germany, USA, Britain, Middle East and Asia.

During the early nineteenth century brassware industry in Moradabad developed when Britishers started marketing it in foreign markets. The artisans from other parts of the country like Lucknow, Benaras, and Agra formed the brassware cluster of industry of Moradabad.

During the 80s, other forms of metal, besides brass, like copper, iron and aluminium were introduced by artisans in the brassware industry of Moradabad which also started using sophisticated technologies like Electroplating, lacquering, powder coating etc. thereby increasing its scope even further. Few artisans have their in-house cottage manufacturing units and workshops. Disintegrated tasks related to the manufacturing of metal-ware are performed in these units. These units consist of furnace, electroplating, moulding tools, carving and polishing. The sector is based on low level of technology industry and is predominantly powered by hand work of the labor (2008 Design Museum IIT Kanpur).

The art metal-ware cluster of Moradabad, Uttar Pradesh is specialised in casting of metal which involves pouring of metal in the moulds, allowing it to solidify and taking the shape of a specific object. According to National Council of Applied Economic Research, 2012, maximum numbers of art metal-ware artisans in India are in the state of Uttar Pradesh. Together they make 29 per cent of the total handicraft artisans in India. There are around five thousand art metal-craft industries in Moradabad. In the industrial policy of 1999-2002, Moradabad was declared as an industrial corridor by the state government. There is a Special Economic Zone (SEZ) spread in vast area of 182 hectares (Uttar Pradesh Developmental Report, Planning Commission, Government of India, 2011). The Moradabad cluster of art metal-ware exports handicrafts worth approximately Rs 2,700 crores out of the total annual turnover of Rs. 3,500 crore which is approximately 20 percent of the total export of handicrafts from India (Sachan et al, 2013).

Despite such favourable environment, the metal craft industry struggles to keep pace with the safety norms, the new firms are finding it difficult to attain the economies of scale being enjoyed by existing firms (for example, C.L. Gupta Exports Ltd. is manufacturing and exporting art metal-ware for more than almost a century now). It enjoys the advantages of experience curve on the basis of low cost advantage. These firms which are enjoying the benefits of

experience curve, have started diversifying and integrating their operations. These firms enjoy a lucrative position in the market as compared to the competitors as they reap the benefits of experience curve and are become vertically integrated.

Materials and methods:

PESTEL Analysis was used to identify the external environmental factors which influence the art metal-ware industry. After identifying the environmental factors falling under task environment, External Factor Evaluation Matrix was prepared to find out the most and least influencing opportunity and threat in the industry.

PESTEL Analysis:

Based on PESTEL Analysis in the exhibit given below, the opportunities and threats of art metal-ware sector were identified.

Political:

Government efforts, converting it into an organised sector, provision for utilities, development measures for artisans

Economic:

Export oriented, high demand for handicraft products, economies of scale, cost based competition from countries like China, digital marketing efforts.

Social:

Employment oriented, establishment of Metal Handicraft Service Centre in Moradabad art metalware cluster for providing training and other facilities to local artisans thus boosting entrepreneurship and employment, high rate of attrition of artisans from this industry.

Technological:

Better products from China involving use of sophisticated machines and hands both, apps for marketing the handicrafts.

Environmental:

Air pollution, water pollution (especially due to the effluents being discharged in Ramganga River), use of coal based furnaces.

The EFE matrix was used to summarise and evaluate the thus identified external environment factors. The matrix was developed using five steps:

- 1) The external environment factors including the threats and opportunities were identified using PESTEL analysis.
- 2) Weight was assigned to each factor ranging between 0.0 to not important to 1.0 to very important. This weight indicates the relative importance of each factor in terms of its influence on art metal-ware handicraft sector.
- 3) Rating between 1 and 4 was assigned to each of the key external environment factor which indicates the response of the current strategies to the factor. 4 indicates superior, 3 indicates above average, 2 indicates average and 1 indicates poor response. Ratings are based on the effectiveness of firms' strategies whereas weights are industry based.
- 4) Each factor's weight was multiplied by its rating to determine the weighted score.
- 5) The sum of the weighted score for each environmental factor reflects the total weighted score.

Table 1: Opportunities and Threats of Art Metal-ware Handicraft Sector

Opportunities	Threats
The sector is employment oriented	Lesser economies of scale
Export oriented	Threat from machine made goods in terms of standardisation, economies and precision
Uttar Pradesh has maximum handicraft clusters in India	Threat from countries like China (cost factor)
These products are high in demand in international market	The division of labour in art metalware sector disintegrates the process leading to diseconomies
Revenue generating sector for the economy	Gap in terms of applicability of Safeguard Application.
Integrated efforts of Government to boost this sector (Mega Cluster Scheme)	Insignificant share in global handicraft market (2%) as compared to China having 30% share
Establishment of Metal Handicrafts Service Centre in Moradabad (Uttar Pradesh)	Lack of integrated handicraft sector friendly policies

	High rate of attrition of the artisans
	Prone to accidents
	Health hazards
	Use of coal based furnaces
	Marginalised nature of the sector keeps it of the purview of Labour Laws
	Involvement of middlemen leads to lesser profits
	Lack of digital marketing
	Lack of consistent power supply

Opportunities

Handicraft sector is employment oriented as the processes involved in manufacturing of handicraft goods are based on the skills of the artisans. There is immense potential to grow this sector as the level of investment is low and these units are easy to set up requiring very less space and investment. (Tamta, 2017) Indian textile & Handicrafts industry forms a critical component of the Indian economy. It happens to be one of the biggest employment generators in the country preceded by agriculture. The handicraft sector provides employment to approximately 7 million people directly and indirectly, which includes in majority women and weaker sections of the society. According to EPCH, “handicrafts sector is an employment generating, foreign exchange earnings, creative cottage sector of the Indian economy”.

(EPCH, 2018), according to a report published by Export Promotion Council for Handicrafts from April 2017 to October 2018, Indian art metal-ware handicrafts have recorded a sale of Rs. 2617.33 crore (EPCH).

The export to various countries has been growing over past few years. The export of Indian handicrafts to countries like UK and USA has been growing. As reported by a study conducted by Associated Chambers of Commerce and Industry of India (ASSOCHAM), the export of Indian handicrafts is expected to cross the mark of Rs. 24, 000 crore by the financial year 2020-21 surpassing the growth of 5.3 percent recorded in the previous decades (between Financial Year 2001-02 and 2011-12) when the handicraft exports were recorded to be rupees 12,000 crore (ASSOCHAM, 2015). Art metal wares (18.5 per cent) is having the largest share in exports (18.5%) as compared to wood-wares (15.3 per cent), hand-printed textiles and scarves (12.4 per cent), imitation jewellery (5.7 per cent).

Out of 2864 handicraft clusters in India, Uttar Pradesh, where the art metalware manufacturing city Moradabad is located, has maximum number of 325 handicrafts clusters followed by Odisha (268), West Bengal (257), Maharashtra (208) and Gujarat (198) (Business Standard, June 30,

2015).

(EPCH)The sector is growth oriented and significant from strategic point of view. Quite interestingly, over past few years export of handicraft from India to China has been on rise. Indian hand- made art metal-ware goods are in great demand in China as compared to the machine made Chinese products.

The handicraft sector of India is revenue generating and contributes to its economy substantially. It is a Rs. 24,300 crore industry having a substantial contribution of Rs. 10,000 to the country's annual export earnings. The 12th five year plan predicted that the growth of handicraft sector will double during 2012-17. The export of handicraft actually grew at a average rate of 18 percent during these five years providing employment to an additional 10% of artisans thus making it the largest employment provider after agriculture. An integrated approach is urgently required so that a roadmap is evolved which is well aligned with the country's development trajectory Mubayi (2016).

The artisans need platforms to showcase their art to the world which at present they are unable to do. There may be several reasons supporting this proposition like lack of digital marketing, disintegrated processes, and unaffordable space in handicraft fairs. The Minister of State for Textiles remarked at Ambiente 2019 organised by Messe Frankfurt, that India has skilled craftsmen for everything from soil to metal, and platforms like Ambiente and export fairs, handicraft fairs etc. provide an opportunity to these artisans to showcase the traditional handloom and handicraft of the nation to outside world (Tamta, Economic Times, August 29, 2018).

A hearty move by the Government is to gather and maintain the data set regarding India's handicraft and handloom sector encompassing details about the number of units operating across the country and the number of artisans engaged therein. This will help in organising the thus far unorganised sector. Further, the government aims to use

data to formulate a robust policy for encouraging the sector which has a huge potential for generating employment and exports (Yogima Seth Sharma 2018). Similarly, under another initiative of the government, two projects were sanctioned under the Mega Cluster Scheme by the Centre by Ministry of Textiles, Govt. of India which gave a boost to art metal-ware in the region: expansion of testing facilities and existing process facilities of the Centre.

Under the expansion plan of the facilities of the Centre, “a polishing shop consisting of 48 polishing machine of 03 HP, 2800 rpm two machine of 01 HP, 1400 rpm and two machines for Vertical & Horizontal ware brushing; an electroplating plant for plating of Copper, Nickel, Silver & Gold on Mild Steel, stainless steel, aluminium and Brass; an electroplating plant for barrel Nickel plating on Iron & Brass; an electroplating plant for plating of nickel & Chromium on ABS plastic; chemical etching & cutting machines with complete set up; installation of generators as per power requirement” have been institutionalised. This will provide boost to the artisans who don't afford money to integrate and arrange for all these process.

For providing training to the artisans the Metal Handicrafts Service Centre has initiated by chalking out a comprehensive plan to meet the requirements of local artisans.

The centre renders training to artisans in several techniques of “metal finishing/ coating like Lacquering, Electroplating, Powder Coating, Sand/Shot blasting and quality control”. The centre possesses facility and technical capability to provide the training in basic technique of metal handicraft like “Sand casting, Scraping, Engraving, Soldering, Threading, Etching and Computer Aided Designing (CAD)” etc.

MHSC has been involved with training programme since past twenty years and offers a number of courses in skills like “Electroplating, Lacquering & Spray painting, Powder Coating, Polishing, Sand casting & scraping, Engraving, Embossing and Etching, Quality Control & Monitoring” in Metal Finishing Industries. These efforts are likely to generate a gamut of opportunities for the present art metal-ware artisans and the ones who want to pursue entrepreneurship in this area.

Threats

Handicraft products present the best case of tussle between man-made and machine-made goods. For a developing economy like India, growth of handicraft sector will definitely prove to a boon given its low level of investment in space, machinery and infrastructure as compared to the revenue generated. Handicraft goods are hand-made which

generates the issue of standardisation and uniformity which is better met in case of machine manufactured goods. Given this problem it is difficult to reach the scale of mass production thereby leading to lesser economies of scale. Different types of designs require different skill set and different time in completion. Standardisation always remains an issue. No two pieces of same design will exactly be the same even if they have been manufactured by the same artisan. (Cable and Weston, 1982) thus markets may be under pressure from machine-made items which can replicate the character of the craft item to some extent.

More the mechanisation in handicrafts, better will be the standardisation and lesser would be the time consumed in their manufacturing. This advantage has already been tapped by China. (EPCH) It is a well known fact that due to excessive demand for handicrafts, China has resorted to mechanisation which provides it a competitive edge in terms of cost, timeliness and economies.

The industry is more oriented towards production of craft items by use of technology and mass scale production. China leads the world market in case of handicraft goods with app. 30% share in the global trade of handicrafts.

The processes for manufacturing the art metal-ware handicrafts are not integrated. The six processes involved in the art metal-ware exported from Moradabad viz: “(a) casting the basic c shape, usually in two or three pieces, (b) brazing the pieces together, (c) machining or planning them down to get a smooth finish, (d) engraving, (e) colouring in the engraved design with lac, and (f) polishing” are highly disintegrated. Different processes are carried out in different units (Cable and Weston, 1982). This disintegration serves as a limiting factor as the processes are not vertically integrated and may not generate the required economies of scale essential for competing on the global front.

Another significant threat which looms large in handicraft sector of India is that of applicability of Safeguard Application. The applicability of safeguard application is poor in India due to which the domestic production suffers. Moreover, the unorganised nature of the domestic market makes it even more difficult to compete with Chinese products. To study the exact impact of import of Chinese handicraft to India, data is required in terms of actual production of handicrafts in India and the variation caused by the imports from China thereof. The production details of the art metal-ware handicraft manufacturers are not recorded properly due to the unorganised and highly scattered nature of handicraft sector; the data requirement of the application under Directorate General (Safeguards) is largely unsatisfactory (EPCH).

Share of India in the global art metal-ware handicraft market is less than 2 percent as compared to China having a share of 30 percent. Reasons for this gap are the fine alignment of Chinese handicraft products with international standards, availability of cheap labour, price competitiveness, and efficiency in production and support of government. Indian handicraft industry needs to improve in design development and improve its marketing efficiency (SWITCHASIA).

Despite the rich legacy of Indian handicrafts, India's total share in the world market is merely 2% as compared to China having a share of 30% (Mubayi, 2016). During the year 2017-18,, handicrafts showed the increasing trends, but, art metal-wares, decreased by 16.90% in rupees terms respectively. In USD terms exports of art metal-wares, showed negative growth by 22.68% (EPCH). For around past nine years, the sector has shown a growth of around 10% except for the year 2017-18, when the sector registered a decline of about 5.59% in rupee terms and about 1.8% in US dollar terms. Despite this slight decline the exports of handicrafts in the year 2017 was Rs. 23,029 crore (\$3573 million] in 2017-18 (Tamta, 2018).

Besides threats on the global front, the handicraft manufacturers also face threats on the domestic level. Exporters faced problems due to blocking of working capital on account of introduction of GST in addition to general economic slowdown in the traditional markets of handicrafts like Germany, Japan, UK and UAE, the rise in the prices of raw material like metal (copper, brass, aluminium) and reduction in the duty drawback rates are the major ones highlighted by the exporters. The local artisans of one of the largest hub of art metal-ware in India reported that handicraft friendly policies are required in the country (Tamta, Economic Times, August 29, 2018).

Control over designs is required as the designs are immediately copied by competitors and the time duration in their market launch is so less that a legal protection is not possible. Rarity of the handicraft item is lost within no time, as soon as it is launched in the market. The rarity aspect cannot be protected for a long period of time.

Threat from new entrants in the market-The firm faces threats from entrepreneurs who are likely to enter the market seeing its growth prospects.

Due to the problems associated the handicraft sector and lack of an integrated policy, there is high rate of attrition. The artisans who are the back-bone of this industry might quit this sector and may not motivate their generations to learn these artisanal skills due to poor quality of work life conditions prevailing in art metal-ware handicraft sector.

At micro level the handicraft sector faces several threats on account of the problems faced by the artisans who are prone to accidents and health hazards

The working conditions of artisans in handicraft sector are improper which takes a toll on their health. Studies on other handicraft industries including the leather tanning industry, textiles and metal-ware have found that workers in these industries work in inhuman physical conditions for very long hours. In art metal-ware handicraft industry, eyes of the artisans are adversely affected due to severe impact of chemical agents like metallic fumes and physical agents like dirt, dust, particles etc. there is little or nothing that is being done as of now in this direction Bahl (2011).

There is a significant level of occupational health problems, especially among the welders and metalworkers. The artisans demanded a congenial work place, they solicit information on work related hazards, there is lack of protective equipments and they complained of health issues. The employees and employers, both are aware of the occupational and environmental health hazards but there is lack of policy on informal sector. There is also lack of permanent places to practice different processes of handicrafts which discourages investment in occupational health and safety Rongo et al, (2004).

The incidence of accidents is also very common in these industries as the molders are prone to get burnt when the molten metal is being handled; similarly during electroplating the employees come in contact with hazardous chemicals like hydrochloric acid and cyanide; the workers frequently inhale the metal-dust which leads to tuberculosis and other pulmonary diseases; the hands or clothes of workers get caught in rotating shaft causing serious injuries.

Moreover the meagre salaries at which the artisans work is insufficient to provide them access to nutritious food or even safe drinking water (Kumar, et al. 2013). The marginalised nature of these metalware units across the city of Moradabad adds to the problem as the unorganised units operating in the city don't employ more than 10-12 workers and are hence not covered under the provisions of Labour Laws in India.

The utilities essential for sustaining life are also full of hazards in the region. The river Ramganga that flows across the city of Moradabad is heavily polluted due to the presence of heavy metals. The level of alkalinity is highest in the river between Moradabad and Bareilly where majority brass industries are located (Agarwal (2017). The effluent consisting mainly of the heavy metals is due to the waste dumped by the metalware industries. This is enough to cause water borne diseases if safe drinking water

is not available to these artisans (Kumar, et al. 2013).

The involvement of middlemen leads to lesser profit margins to the artisans especially in case of exports where the individual artisans do not stand a chance in front of big manufacturers who outsource handicraft items from local artisans and sell them at heavy prices in international markets. The issue of quality and delivery checks also leads to rejection of a number of handicrafts in the international market. Indian handicraft manufacturers also need to work on the promotion aspect. Off-late it's only a few handicrafts selling websites which have taken a lead and control on the entire setup. These online sellers again outsource handicrafts from local artisans at negligible prices and sell them at huge profit margins in international markets Kathuria (1986). Muhammad Tughlaq of Moradabad, a national awardee and Shilpa Guru, who creates wonders

from brass, told SME Times, "Our government needs to look into the basic problems of ours. Global economic recession is entirely different. Our problems are related to the basic needs of livelihood."

"We want genuine buyers of our art-crafts and this can only be possible through proper marketing of our products. The government needs to exhibit these works not only through showrooms but also through national and international museums and trade fairs" (Gupta (2009). Various problems associated with the handicrafts sector are then discussed briefly ; (a) the scarcity of working capital; (b) the inadequacy of raw material supplies; (c) the shortage of skilled labour (d) the inappropriate technology, together with a variety of factors which can loosely be grouped under the term 'marketing' problems' (Cable and Weston, 1982).

Table 2: External Factors Evaluation Matrix :

Opportunities	External Factor	Weight	Rating	Weighted Score
	The sector is employment oriented	0.09	3	0.27
	The sector is export oriented	0.08	3	0.24
	Uttar Pradesh has maximum handicraft clusters in India	0.03	2	0.06
	These products are high in demand in international market	0.07	2	0.14
	Revenue generating sector for the economy	0.08	3	0.24
	Integrated efforts of Government to boost this sector (Mega Cluster Scheme)	0.07	3	0.21
	Establishment of Metal Handicrafts Service Centre in Moradabad (Uttar Pradesh)	0.04	4	0.16
	Total	0.46		1.32
Threats				
	Lesser economies of scale	0.08	3	0.24
	Threat from machine made goods in terms of standardisation, economies and precision	0.09	2	0.18
	Threat from countries like China (cost factor)	0.04	2	0.08
	The division of labour in art metal -ware sector disintegrates the process leading to diseconomies	0.07	1	0.01
	Gap in terms of applicability of Safeguard Application.	0.05	1	0.05

Insignificant share in global handicraft market (2%) as compared to China having 30% share	0.04	2	0.08
Lack of integrated handicraft sector friendly policies	0.08	2	0.16
High rate of attrition of the artisans	0.06	1	0.12
Workers prone to accidents	0.06	2	0.12
Health hazards	0.09	2	0.18
Marginalised nature of the sector keeps it of the purview of Labour Laws	0.08	2	0.16
Involvement of middlemen leads to lesser profits	0.04	1	0.04
Lack of digital marketing	0.03	4	0.12
Lack of utilities like electricity, gas pipelines for running furnaces which are otherwise dependent on coal	0.07	2	0.14
Total	0.88		1.68
Total weighted score	1.34		3.00

Conclusion:

Given the intense competition in the industry- both at organised and unorganised level, individual handicraft firms of art metal-ware in India must focus their attention on either of the generic strategies like cost leadership, differentiation and cost focus. Legal measures must be taken to strengthen the sector. Artisan favourable policies must be designed that can reduce the rate of attrition. At the same time hazards faced by artisans working in art metal-ware industry must be addressed. Sincere efforts towards promoting and marketing the handicraft products online can provide an inducement.

During a personal meeting with Mr. Shafaat Ahmad Khan, MD of Hamraaz International, he told that “we are suffering a lot from the shortage of skilled labour and insufficient of power supply. We need help from the State Government as well as from Centre Government to uplift the life style of artisans.” He confidently assured that if the manufacturers are given 24 hour power supply, we can be a leader in the art metal-ware handicraft market across the world. Due to poor supply of electricity, the orders are not completed in time and the consignments could not reach the destination during the peak season. This finally affects the reorder of the goods from the same buyer besides putting a question mark on the credibility of the supplier. The purpose of this paper is to draw the attention of the readers towards several such handicraft industries which are capable of providing employment to lakhs of people,

are being neglected for the want of basic necessities like public utilities.

The stakeholders associated with this sector need to awaken before the metal loses its sheen!

References:

- EPCH, Background note on definition of handicrafts. Export Promotion Council for Handicrafts, Circular. Retrieved on November 18, 2018 from <http://www.epch.in/circulars/circulars/definition.pdf>
- Building confidence: crafts for development. Crafts and Design. UNESCO (1997). (Definition adopted by the UNESCO/ITC Symposium "Crafts and the international market: trade and customs codification" - Manila, 6-8 October 1997). Retrieved November 28, 2018 from <http://portal.unesco.org/culture/en/ev.php>
- Dhingra, V. (2015) Ph.D Thesis. “A study of perception on quality of work life of manpower in handicraft industry in India”.
- Sachan, N., Munagala, V., & Chakravarty, S. (2013, January). Innovation Cluster in the Brassware Industry at Moradabad, Uttar Pradesh, A Case Study Based on the Innovation Cluster Initiative of the National Innovation Council by Indian School of Business (ISB), Hyderabad.

- Uttar Pradesh Development Report, Planning Commission, Government of India. Vol- 2, pp. 127-152
- Tamal Sarkar. 2011 Yojana. Artisanal Clusters: Towards A Brighter Future. pp. 8-11
- Check out the list of India's manufacturing hubs. The Economic Times. 17 June, 2018. Retrieved on October 24, 2018 from <https://economictimes.indiatimes.com/news/economy/infrastructure/check-out-the-list-of-indias-manufacturing-hubs/what-india-makes>
- Design Museum IIT Kanpur. Retrieved on October 24, 2018 from <http://www.iitk.ac.in/designbank/Moradabad/History.html>
- Agarwal, P. (2017). Ramganga most polluted in Moradabad, says study. The Times of India. Retrieved on October 24, 2018 from <https://timesofindia.indiatimes.com/city/bareilly/ramganga-most-polluted-in-moradabad-says-study/articleshow/61157634.cms>
- Mega Cluster (2005). Retrieved on October 24, 2018 from http://www.metalfinishanddesign.in/mega_cluster.html
- Kumar, A., Sahu, N., and Batar K. A. (2013). Progress in environmental management: Indian experiences. Edition: 2013, Chapter: Environmental Implications of Brass Industry in Moradabad City, Uttar Pradesh. Edited by Anand, S. Research India Press. Retrieved on Oct 24, 2018 from https://www.researchgate.net/publication/305380852_Environmental_Implications_of_Brass_Industry_in_Moradabad_City_Uttar_Pradesh
- Leigh, J., Macaskill, P., Kuosma, E., and Mandryk, J. (1999). Global Burden of Disease and Injury Due to Occupational Factors. *Epidemiology* 10(5). 626-631.
- Cable, V., and Weston, A. (July, 1982). The role of handicrafts exports- problems and prospects. Based on Indian experience. Working paper No. 10. Overseas Development Institute. P. 22
- All India Handicrafts Board, Art Metalware at Selected Centres, Survey Report, 1973
- Sharma, Y.S. Handicraft industry data on artisans, units soon. The Economic Times. 15 October, 2018. Retrieved on November 18, 2018 from [66208993.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst](https://economictimes.indiatimes.com/articleshow/66208993.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)
- Tamta, A. (Nov 8, 2017). Indian textile & Handicrafts industry is the largest employment generator after agriculture. Retrieved on November 28, 2018 from <http://assocham.org/newsdetail-print.php?id=6576>
- Tamta, A. India's handicrafts exports should tap new markets. Economic Times 29 August, 2018 Retrieved on November 19, 2018 from [/ / economictimes.indiatimes.com/articleshow/65593986.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst](https://economictimes.indiatimes.com/articleshow/65593986.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)
- Indian handicrafts exports may cross Rs 24K crore mark by 2020: Study. (June 28, 2015). The Associated Chambers of Commerce & Industry of India (ASSOCHAM). Retrieved on November 18, 2018 from <http://assocham.org/newsdetail.php?id=5051>
- Review Exports during 2018-19 (April- October). DGCI Retrieved November 18, 2018 from <http://www.epch.in/policies/exportdata.pdf>
- Indian handicrafts exports may cross Rs 24K crore mark by 2020: Study. Business Standard, June 30, 2015. Retrieved November 18, 2018 from https://www.business-standard.com/article/news-cm/indian-handicrafts-exports-may-cross-rs-24k-crore-mark-by-2020-study-115062900334_1.html
- Brief Summary on Competitive study on Handicrafts Sector in China. Retrieved on November 18, 2018 from <http://www.epch.in/ChinaStudy/Summary.pdf>
- Mubayi, Y. SWITCH ASIA. Retrieved on December 2, 2018 from https://www.switch-asia.eu/fileadmin/user_upload/Project_Downloads/Batch_5/Going_Green/Going_Green_Final_Policy_Gaps_Study_Nov_16.pdf pp 6-7
- Borpuzar, P. India's handicrafts exports should tap new markets: Ajay Tamta. Economic Times August 29, 2018 Retrieved on November 22, 2018 from [/ / economictimes.indiatimes.com/articleshow/65593986.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst](https://economictimes.indiatimes.com/articleshow/65593986.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)
- Report of the Steering Committee On Handlooms and Handicrafts Constituted for the Twelfth Five Year Plan (2012 – 2017), VSE Division Planning

- Commission Government of India. 2 May, 2012.
- Brief Summary on Competitive study on Handicrafts Sector in China. Retrieved Nov 28, 2018 from <http://www.epch.in/ChinaStudy/Summary.pdf>
- Mubayi, Y. Policy Gaps Study on the Crafts Sector in India. SWITCHASIA
- Kathuria, S. (1986). Handicrafts Exports: An Indian Case Study. *Economic and Political Weekly*, 21(40), 1743-1755. Retrieved Nov 28, 2018 from <http://www.jstor.org/stable/4376184>
- Vincent Cable and Ann Weston (1982). The role of handicrafts export- problems and prospects: Based on Indian experience. Working Paper No. 10. Overseas Development Institute. Retrieved on December 3, 2018 from <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/6841.pdf>
- Gupta, S. (2009) Indian artisans - crafting a way of life. SME Times. Retrieved November 29, 2018 from <http://www.smetimes.in/smetimes/in-depth/2009/Jun/22/indian-artisans-crafting-a-way-of-life9074.html>
- Bahl, N. (2011). Yojana. Promoting Occupational Health and Safety. P. 19
- Rongo, L. M. B., Barten, F., Msamanga, F., Heederik, D., and Dolmans, W. M. V. (2004). Occupational exposure and health problems in small-scale industry workers in Dar es Salaam, Tanzania: a situation analysis. *Occupational Medicine*, 54. pp.42–46
- Dhingra, V., Mudgal, R. K., & Dhingra, M. (2017). Safe and Healthy Work Environment: A Study of Artisans of Indian Metalware Handicraft Industry. *Management and Labour Studies*, 42(2), 152–166. <https://doi.org/10.1177/0258042X17714071>