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A Study of Sanganeri Handmade Paper Industries

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Abstract

Handmade paper is a heritage art of India which gives an opportunity of creating something novel with very few resources. Developing countries like India are struggling with the scarcity of raw material, power resources and lack of funds. In the meantime growth of the handmade paper industry is motivating an eco-friendly way of paper production. In a contribution to this endeavor, Sanganeri Handmade paper industry provides employment to several people. Distinctive art of Sanganeri Handmade paper is able to maintain its exclusivity until now. The present study was conducted to know the status of this sector. The primary data was collected with the help of questionnaire and observation to know the problems of workers as well owners. The secondary data was gathered to know the changes in the product with the time. The results of the study show that the major changes have been made during the last decade. Though, this sector is facing challenges of power and water scarcity as well as market competition with their counterparts.

Key words: handmade paper, eco-friendly, sustainable, reduce, reuse, re-cycle

Introduction

One of the biggest problems that the world is facing today is that of environmental pollution, increasing with every passing year and causing serious and permanent damage to the earth. Saving the environment is not an issue anymore, it is a survival truth (Kulshreshtha, Set al., 2011; Timane, R. and Tale, T., 2012.). Individuals, organizations, and governments have to come together and join hands to safeguard human health along with the natural environment: air, water, and land. We need to preserve our wetlands, rainforests, farmlands and arctic zones. And we need to save the endangered species.

There are several ways we can help save our planet. Practices such as organic farming, sustainable forestry, natural landscaping, wild gardening or precision agriculture, sometimes combined into sustainable agriculture, are increasingly becoming part of nature and ecology conservation. Environment effective housing through improved energy efficiency of buildings and effective economic growth through the more efficient use of resources, such as re-use, recycling, and recovery of waste are just the beginning.

Management of waste as a resource can be a great way of sustainable living. By encouraging the reduction, recycling and re-use of wastes as raw material for new products can make big difference. Paper is a fundamental part of most aspects of society. A total of about 300 million tons of paper are produced each day and 90% of this paper is produced from the mature pulp. And the demand of paper is increasing day by day. But one dismaying fact is that millions of trees are fell in a day to make paper. Paper made by the conventional method causes high pollution problems.

Handmade paper making is a traditional art, which plays a vital role in this venture and also has become as one of the important export-oriented sectors of India (Hubbe, M.A., and Bowden, C., 2009, Liebl, M. and Roy, T., 2004). The handmade paper utilizes nonwoody raw material and the smallest amount of chemicals thus considered as Eco-Friendly Paper. (Agarwal, S., et al, 2016.). The raw material used in this process is available in plenty in nature at a low cost comparatively. Handmade paper making is an alkali-free and nonpolluting process that has advantages over conventional process of paper making (H. Muraleedharan, 2010). The handmade paper industry is sustainable from social responsibility as well as natural resources and economic perspectives (Biggs, S. and Messerschmidt, D., 2005)

The paper industry is a forest based industry. Depleting forest cover is a major cause of concern. The handmade paper industry uses completely non-forest raw materials. At present, it uses only cellulose-rich materials such as cotton rags, waste

paper, and waste Kraft. This could easily be extended to the use of biomass materials and agricultural residues, some of which can be grown specifically for handmade paper production (T.N. Subramanian & Dr. Arun Kumar, 1994). Non-wood biomass resources have the other advantage of being amendable to conversion by environment friendly processes. Some steps have already been initiated in this direction for the utilisation of straws, rice husk, and grasses. Most of the HMP in India use cotton rags, equally white and colored or waste paper. When plant fibers need cooking and bleaching are necessary, the effluent needs.

Growing population and decrease in forest cover is one of the biggest concerns for the world. For rapid development environment pays a big cost. In last 200 years, six million square kilometer forests have been destroyed. (Rani, N., et al 2011). Paper is one of the core industries and is linked to the basic human needs. Paper is the pre-requisite for education and literacy and its use is an index of advancement in these two fields as well as the overall well being of the society. Despite increasing use of information technology and digital media demand of paper is still increasing. Per capita, paper consumption is higher in developed countries. Austria, Finland, Germany, USA, and Sweden are the top five highest per capita paper consuming countries. The per capita consumption of paper in India is still very low, at around 10 kg, **(9.3kg)** which is well below the global average of **55 kg**. The consumption of paper is often discouraged due to its impact on the environment. (Sandip Das, Aug 01 2013)

Despite the continued focus on digitization, India's demand for paper is expected to rise 53 per cent by the year 2020, primarily due to a sustained increase in the number of school-going children in rural areas. Growing consumerism, modern retailing, rising literacy and the increasing use of documentation will keep demand for writing and printing paper buoyant. According to Harsh Pati Singhania vice-chairman and managing director of JK Paper, India's per capita consumption is quite low compared to global peers, things are looking up and demand is set to rise from the current 13 million tons (mt) to an estimated 20 mt by 2020. (Business Standard, Monday, November 24, 2014).

Though demand and consumption are increasing, it's a social responsibility to save the environment by sustainable management of demand and supply. The handmade paper industry offers many opportunities for the innovative use of limited resources. For a developing country like India, faced with increasing scarcity of raw, materials, energy sources and capital, the development of the handmade paper industry offers considerable potential to meet the increasing demand for paper products in an environment-friendly way. Handmade paper production does not require large scale capital investment. Economically, this is one of its biggest advantages in the Indian context. (Subramanian, T.N., and Kumar, A., 1994.)

Handmade paper making process reduces waste emissions and energy consumption, it saves resource and overall cost, it protects the environment by recycling and reusing the material and widely used around the world because of these qualities. One of the most successful applications is recycling paper while making handmade paper. The Energy Information Administration claims a 40% reduction in energy when the paper is recycled versus paper made with non-recycled pulp. (Kitamura, T., et al 2014.)

Per capita, paper consumption in India is very low and far behind from the countries with the highest consumption i.e. USA, Finland, Germany etc (Table1). It is quite intriguing that despite low per capita consumption India is the second largest handmade paper and non wood pulp producer country after China (Table 2).

Table 1 Country-wise Production and consumption of Pulp and Paper in 2010 (Million MT)

Country	Pulp		Paper & Board		Per Capita Consumption
	Production	Consumption	Production	Consumption	
China	22.0	32.4	92.6	91.6	70.7
USA	49.2	46.7	75.9	74.3	236.0 IV
Japan	9.4	10.7	27.3	27.9	220.5
Germany	2.8	7.0	23.1	19.7	237.4 III
Canada	18.5	9.3	12.8	6.3	169.8
Finland	10.6	8.8	11.8	1.5	255.9 II
Sweden	11.9	9.2	11.4	2.0	231.3 V
South Korea			11.1	9.4	182.0

Indonesia	6.3	4.6	10.0	6.1	33.6
Brazil	14.1	6.1	9.8	9.5	47.7
India	3.9	4.5	9.2	10.8	9.3
Italy			9.1	10.8	175.6
France	1.9	3.5	8.8	9.2	149.4
Russia	7.4	5.8	7.6	6.6	43.5
Spain	1.9	1.8	6.2	6.5	168.1
Austria	1.7	2.0	5.0	2.2	274.0 I
Mexico			4.8	7.3	80.3
Thailand			4.7	4.8	62.6
UK			4.3	10.5	170.5
Taiwan			4.0	4.0	

Table 2 Top 5 Non-Wood Pulp Producing Countries (Million Metric Ton in 2014)

Countries	Million MT			
	Production	Imports	Exports	Net Consumption
World	13.2	0.41	0.4	13.2
China	7.6	0.1	0.1	7.5
India	2.0	0.0	0.0	2.0
Spain	0.90	0.0	0.0	0.88
Russia	0.40	0.0	0.0	0.41
Pakistan	0.37	0.0	0.0	0.37

(Source: <http://www.paperonweb.com/Country.htm>)

Handmade Paper industry: Indian scenario

Handmade paper making industries play a very imperative role in environment protection by reusing, recycling and reducing the materials and resources. It is very important to know the status of this sector to find out the problems and future prospects about this sector. Interview and observation method were used to collect the primary data. The Sanganer is the important center of handmade paper manufacturing in India. There are 40 units, out of them 31 are manufacturing handmade paper. (Khadi & Village Industries Board).

It was observed that handmade paper industry is facing several problems like- the high cost of raw material and power (electricity), old technologies with worn out machinery etc. Along with these, this sector is facing high competition from the low cost and high-quality products. It is difficult to maintain the quality of the product, as there are several problems with funding, training and technical support.

The technology and raw material used in this industry are safe for workers (human health) as well as for the environment, there is hardly any pollution or negative impact on the environment. Handmade Paper is a biodegradable, reusable, and recyclable product with which is widely used for writing, packing, decorating and gifting. It is also a substitute for a paper which completely depends on forests. So the handmade paper is the need of the hour for sustainable management of natural resources. The handmade paper industry should be promoted as it provides employment to many people as well as manage the natural resources in a sustainable way. Not only for the environment but also for mankind handmade paper industry is very useful as it provides job to no skilled laborers both men and women. A short and simple training is required to work in the industry. Hence the handmade paper is very much useful in many ways.

Literature Review

Sanganeri handmade paper is a unique art itself, which have a significant identity. Although it has been changed from time to time it is yet popular in and outside the country. In the 16th century Sawai Man Singh, the emperor of Amber brought the "Kagzis to Sanganer and settled them. Later it became the biggest centre of the handmade paper. (KVIC Report, 1997).

Handmade paper is completely natural paper. Cotton cloth rags, hosiery pieces, silk fiber and banana tree fibers etc the natural raw material which is used to make handmade paper. It is totally chemical free and no acid is used to make this. The natural raw material gives a distinguished strength to the handmade paper (Vivek Kumar,2006).

The traditional raw material of handmade paper is obtained from forests. Deforestation and environmental imbalance is immersing as a big problem worldwide. So to overcome this problem cellulosic (non woody) substitutes should be used as

raw material. These substitutes are straws of wheat, maize, bajara, and sugarcane etc. silk fibers also used for making handmade paper. Along with these substitutes, handmade waist material is also used (Arun Kumar, 2006).

Natural water colors are used to make handmade paper. Cam, Azo free, Atul, Sheeba etc. the brands of these dyes which are used frequently. Handmade made papers look very beautiful and attractive by use of these natural dyes. (Maria Arango, 1999). Winsor (2003) has collected the information about color and texture of the Sanganeri handmade paper. Sanganeri handmade paper is famous for its beautiful colors and textures. Different flowers and leaves are added to create different textures. The color and texture also produced according to demand. All colors used are natural dyes. There are all types of handmade paper industries i.e. small scale and large scale. This industry makes paper using hosiery waste, silk, and banana fibers. Hand paper is made by using bright and vibrant colors.

All India Khadi and Village Industry Board was established in 1953. Afterward, the handmade paper industry was merged in its developmental program. Economic and technological support, information about different varieties, use of available raw materials and support for business establishment were provided to the owners and workers. In some areas relaxations in state finance, promotions like relaxations in Central Excise Duty and Sales Taxes exemptions etc. also has been provided. (Vivek Kumar, 2006).

According to KVIC (2006-2007), the handmade paper industry is fulfilling demands and expectations of local demand. Centre and state governments purchase office supplies. Indian government purchase 50% of its required file covers and office stationary from KVIC/KVIB.

Ministry of Agro and Rural Industries (2006-7) is providing employment to 10,000 people. This industry doesn't require high education and heavy physical work. Thousands of women and uneducated people became independent by joining this industry.

In 1992-99 Indian Government and KVIC helped the entrepreneurs to establish their business by providing bank loans and other support. 7 years later UNDP worked on development programs for the upliftment of handmade paper industries. Later Government has launched a scheme REGP for rural people. In which loans for small scale handmade paper industries were provided. Along with these efforts, national level seller-buyer exhibition cum sales, seminars, and workshops were organized time to time to facilitate the entrepreneurs.

In 1953 the income through handmade paper products was Rs 5, 00,000. It became 150 million in 1993. Total production of handmade paper turned 13,000 tons and income 250 million in 1995. Uttar Pradesh, Maharashtra, Tamilnadu, Rajasthan, and Kerala are the major centers which produce and export the handmade paper (Vivek Kumar, 2006).

According to the Report of Environment and Coordination Organization (2000), the condition of the handmade paper industry was not so good before 1991. In this year the production got the highest growth which was 100%. Demand was increased in domestic as well as in exports. Indian handmade paper is known for good quality as well as for low cost. India alone exports 75% of total demand.

The literature reviewed for the study reveals that the cellulosic sources are the raw material for handmade paper. Government (KVICV/KVIB) provide each and every facility required for the industry i.e. bank loans, deciding minimum prices, exemptions in sales tax and central excise duties etc. The researcher tried to know the awareness of owners about the scheme of government. As well as a current scenario, upcoming changes about product, colors, and texture. The researcher also tried to know the owner-worker socio-economic status of this industry.

Methodology

The present study has been conducted in Sanganer, Jaipur, with the objective of - to **explore the problems of the handmade paper industry**. Sanganer is a major centre of handmade paper manufacturing in India which is situated 15 km far from Jaipur. Twenty factories were selected for the sample. From these factories, 20 owners (owner of each factory) and 40 workers (2 workers from each factory) were interviewed. The list of industries was provided by KVIC. The data was collected through interview and questionnaire method. Personal interview and observation method were used for collecting data.

A semi structured interview schedule in two parts was used which was made by researcher - For factory owners and For workers

(a)

he interview schedule for factory owners was divided into two parts;



In the first part, the questions about demographic profile were included.



In the second part questions related to their business i.e. upcoming changes in handmade paper products, government's role and status of exports were included.

(b)

The questionnaire for workers was also divided into two parts.



The first part contains the questions about worker's demographic profile.



The part second questions related to their work. Relationship with owners and facilities provided. As well as problems faced at work place.

The data were collected by using personal interview method. The questions were asked in the same sequence from all the respondents. And it was filled by a researcher at the workplace (factory) in the presence of respondents.

Analysis of data-

The answers to every question were coded. After collecting the data the result was obtained by frequency and percentage. Results were obtained into two parts.

1.

Results from owners-

In this part the problems faced related to this business, changes in product, color, design technology and import-export in last two decades. The facilities provided by the government for this business. And the disposal of waste material during the production etc. was included.

2.

Results from workers-

Socio economic status of workers, problems related to workplace and facilities provided by owners to the workers were included.

Results-

1.

Results from owners

Part 1 demographic/basic profile

The 45% owners were of ages 40-50 years. 25% owners were of ages 30-40 years and 15% were of ages 20-30years, rest 15% was of ages 50-60 years. This distribution shows that 70% owners were of ages 30-50 years.

45% owners belong to general (Muslim) cast and 55% were from backward (Mali) casts.

All of the owners were educated as 50% owners were graduate, 25% were educated at senior secondary level 10% were educated at the secondary level. Only 15% owners were higher (post graduate) educated.

Total 20 factories were included in the study, out of them 11 factories had 12-25 workers, 4 factories have 26-50 workers, 3 factories have 51-100 workers and only 2 factories have 101-200 workers. These numbers show that there is a majority of small factories.

There are total 925 workers in these 20 factories, out of them 251 (27.13%) female workers and 674 (72.86%) are male workers. The numbers of female workers indicate that the female workers are quite comfortable with the handmade paper making job.

This is a family business of 75% owners, 10% owners started it up this business because of good profit and 15% were doing this business because they were unemployed and don't have any other good option. On the basis of this result, it can be stated that this is a popular family business and most of the owners were involved due to the advantage of family

experience. The 75% owners who got this business from family also learnt this art from senior family members. And rest 25% has learnt this art from Kumar Appa Institute.

60% factory owners got trained in 1-6 months and 40% got trained in 6-12 months before starting their business. All the owners found this art is very simple to learn and an unskilled worker can easily learn it with few efforts. All the owners train their new workers themselves.

Part 2 this part includes details of problems faced in business.

In the establishment of business, almost all owners have few problems. The owners (25%) who started up this business their own faced the problems related the lack of infrastructure- space related. Problems related with the labors were faced by 35% of the owners and rest 40% has market related problems. Although this is a family business of 75% owners so they have only market and workers' problems. The 25% owners faced the problem of space and market as well as workers' problems, those who started this business their self.

Tough competition of market is the biggest problem faced by 55% owners. Power (electricity) supply problems were faced by 30% owners and rest 15% was facing the lack of unity and cooperation of the sector as a big problem in this business.

All 20 owners were anxious about expensive machinery. Maintaining standards and quality of the handmade paper was a big challenge for 75% owners. Half of the respondents (50%) were facing problems in creating new designs according to the demand of the market. The exporters were worried about the challenge of maintaining the quality of their products.

Facilities provided by the government

All the respondents were aware of the tax relaxations provided by the government. But only 45% owners availed the loans at low interest rate.

KVIC also provide training to the owners and workers time to time and organize seminars of related activities. All the respondents attended the same and will in future participation. Whereas relaxation/ discounts in electricity rates is a major demand of owners (50%) and raw material at low prices is also desired (by 20% of owners). Remaining 30% of owners want machinery at discounted/subsidized prices.

Method of treatment and management of waste

All the interviewed factory owners believe that handmade paper making process is safe for the environment as the raw material used is obtained from natural resources and waste products. These materials do not leave harmful residue. And the colors used in manufacturing are 100% natural and safe. Any harm to environment and workers not found. Edged and pieces left after cutting and finishing of paper sheets and other items are also used as raw material. The results show that the handmade paper making in Sanganer is completely natural and safe for the environment and for workers and users.

Conclusion

The handmade paper is playing a vital role in keeping the environment clean. The people who are aware of environment protection use handmade paper and products with pride. This sector is a victim of several changes in last few decades. Earlier it was simply made up without colors and designs but now it is. Sanganer handmade paper and products are not only famous in India but also getting the attention of the entire world as it's demand for export is increasing day by day. With the traditional goods like diaries, folders, drawing sheets, it is also used for making lampshades, decorative papers, envelopes, pen & mobile stands, cards, flower vases, jewelry boxes, photo frames and different kinds of packaging materials etc. the government of India is helping this industry by providing low interest rate loan, tax exemptions, training programs etc. But this sector needs more attention as it plays a vital role in saving the environment as well as providing employment to the unskilled workers. The industry should be promoted by the government by announcing promotional schemes as well as by advertising the handmade paper products for making it popular.

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