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Article

Rural Entrepreneurial Transformation: A Study on Indian Handmade Paper Industry

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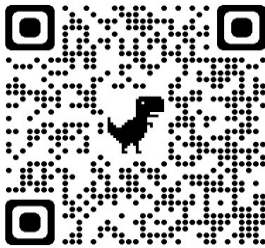
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ABSTRACT

The adverse face of recession is large scale employee sacking by multinational companies throughout the world. As highly decreases of employment opportunities and mass scale firing often leads an economy into a vicious level of unemployment, poverty and severe recession. Thus to enhance economy from this vicious circle, it becomes essential for an economy to identify prospective employment opportunities and, to stabilize and strengthen its traditional ways. Although Multi-National companies are backbone of both developed countries and developing countries in current scenario; but global crash of sub-prime crises have substantially shaken these pillars, so when pillars become weak it becomes essential for a country to strength its roots. Traditional small scale manufacturing sector although inconsequential in supporting economy, however is the root of manufacturing sector of the country, and being labor exhaustive and less investment challenging can be identified as a redeemer of current economic crises. This paper is a contribution to study the big potential of traditional small scale handmade paper industry in India over more than a decade, hence to make world economies, to realize the prowess of small when large corporate sector is showing thrust.



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1. Introduction

"Handmade Paper is layer of entwined fibers held together by the natural internal bonding properties of cellulose fibers lifted by hands, sheet by sheet on moulds in suspension of fibers in water with or without sizing."

(The Dictionary of paper, American Paper and Pulp Association)

The Handmade Papermaking is a traditional industry of India. Innovation of papermaking was taken in 105 AD by China but there is a controversy on that issue. However, recent researches have given credit to India for this innovation of Paper from cellulose fiber even in third century B.C. The Handmade Paper Industry has been recognized as traditional craft of village industry under Khadi & Village Industries Commission (KVIC) Act-1957". KVIC provides special assistance to this industry for the development of rural craft and artisan work. In India it has been developed as cluster based industry. The most effective clusters are situated at Kalapi(Uttar Pradesh), Sanganer in Jaipur(Rajasthan), and Mahaboobnagar(Andhra Pradesh). Apart from these clusters there are some small clusters spread in all over India.

The KVIC has developed separate programme for Handmade Paper (HMP) industry during last fifty years in the association with Khadi and Village Industries Board and other Khadi Institutions.

Achievement of Handmade Paper Industry

In 1953 this industry was having 35 -40 units for production but today after half century hand made paper industry is having more than 3000 production units and increase of 35 times (1991 Rs 6 millions to Rs 210 millions in 1999-2000) recorded in hand made paper industry and its value added items. The Handmade Paper Industry has provided gainful employment to around 18000 direct and indirect people today. Rural artisans are benefited through this industry.

The handmade paper units are scatter throughout the country with concentration most in the Kalapi (Jhansi, Uttar Pradesh), Sanganer (Rajasthan), Pune (Maharashtra), Kurukshetra (Haryana), Mahaboobnagar (Andhra Pradesh) and some clusters are in West Bengal. The production capacity of the units ranges from 50 kg to 700 kg per day. Kalapi is main cluster of handmade paper production and its value added products. This cluster has more export oriented units. Today more than 60 production units are working. Registered institutions, co-operative societies, entrepreneurs and individual artisans are running their units. The capacity utilization of Handmade Paper Industry stands at 60-62 percent.

Marketing of Handmade Paper

The marketing of handmade paper is different than any other goods and products. In spite of, so many qualities and attraction could not reach at the optimum level of its market share. Still in this global era the handmade paper industry does not have systematic and planned marketing strategies for its promotion at a wider level. The wide publicity about the use of handmade paper and its promotion activities will surely increase its acceptability and people habit to use it frequently. It has cyclical effect on the overall industry like acceptability increases its uses or demand which leads to more employment generation as well as increase in the income level of factors of production.

The cost of production will be decreases because at large level of production industry can obtain large production economies and technical up-gradation in the product and this will certainly increases quality of product. In this present scenario customer are more quality conscious. Industry must know the customer's preferences, their perception about the products and its uses. In customer survey we have got few factors which influence the consumer's behavior for handmade paper products:

1. Quality of products
2. Price
3. Multiple uses
4. Availability
5. Durability
6. Advertisement and awareness



7. Substitute goods etc.

The handmade paper industry can produce variety of papers and its value added products but due to lack of awareness the demand of all varieties is not sufficient at various stages. Many countries like Philippines, Japan, Korea etc are producing handmade paper in different varieties on the basis of colors, shades, thickness, smoothness, size etc. To the limited extent the people are recognizing this paper for eco-friendliness.

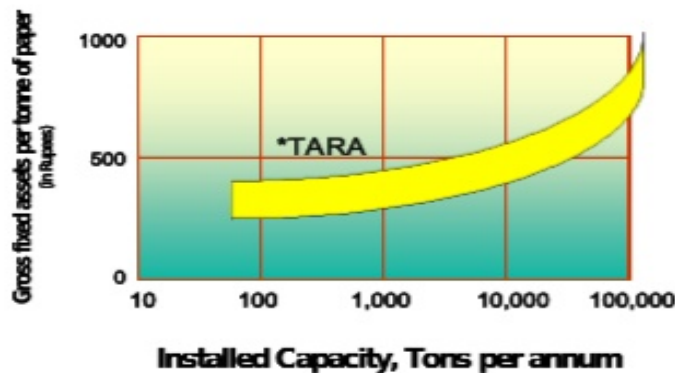
Potential and characteristics of handmade paper production

Handmade paper units are defined essentially by the fact that their operations are carried out manually. With pure cellulosic (or raw) materials to be pulped, mechanical rather than chemical pulping methods would be used. In fact, the existing handmade paper industry relies wholly on secondary resources. There is no theoretical limit to the size of handmade paper units, though in India, they are often limited in practice to a production capacity of 300 tonnes per year.

According to the Khadi& Village Industries Commission,2 the combined production 0010 working handmade paper production units in India amounts to some 7000 tonnes per year. This sector produces goods valued at \$2.5 million with a work force of 5300 persons.

The handmade paper industry uses exclusively 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 Development of the Indian handmade paper industry a case study.

Handmade paper production also 'offers extensive possibilities for in-plant recycling. The paper waste emanating from industries incorporating intensive use of paper can very conveniently be recycled for reuse in the parent industry, often saving costs. Moreover, opportunities exist for interfacing paper recycling systems with a host of industries involved in, for example, packaging, printing, and industrial filter manufacture.



In its effort to develop effective systems for small-scale paper production, Development Alternatives has analysed the performance of the Indian paper industry on all scales. This analysis has drawn on industry publications and information concerning technology, trade and production obtained directly from operating units.

The Indian paper industry can be divided into four categories:
i) large-scale (integrated) units - 50,000 tonnes and up per year; ii) medium-scale units - 10,000 to 50,000 tonnes per year; iii) small-scale agro-based units - up to, 10,000 tonnes per year; iv) handmade paper units - 60 to 300 tonnes per year.

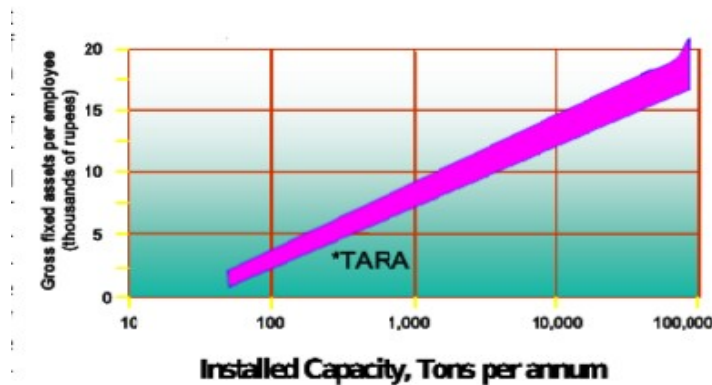


Our analysis indicates that specific consumption of resources is lowest in handmade paper units. Water consumption per tonne of paper is 150 cubic metres for handmade paper, compared with some 250 cubic metres for paper from large-scale integrated units. Large-scale integrated units also consume large quantities of electricity and chemicals, and are polluting. Small-scale agrobased units are severely polluting, as they are usually unable to afford pollution control equipment.

Large-scale units consume an average of 2.5 tonnes of forest-based raw materials per tonne of paper; small-scale units consume an average of 3.5 tonnes of raw materials, mostly agrobased, per tonne

of paper. In contrast, a handmade paper unit uses only 1.1 tonne of raw materials per tonne of paper produced. One important reason for this is that waste generated in the manufacturing process is internally recycled without loss of quality.

Handmade paper production does not require large scale capital investment. Economically, this is one of its biggest advantages in the Indian context. It is clear from Figure 1 that capital intensity increases dramatically as the scale of production increases. For large-scale integrated



Installed Capacity, Tons per annum units it can cost up to US\$ 1000 to add each extra tonne of capacity. Adding capacity in handmade paper units costs only about half as much. Handmade paper enjoys a similar advantage in employment generating potential. Employment creation in a handmade paper unit requires only one tenth the capital required in a large-scale integrated unit

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 escalating, 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 pioneering use of limited resources. For a developing country like India, faced with increasing insufficiency 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 reward in the Indian context. (Subramanian, T.N., and Kumar, A., 1994.) Handmade paper creation 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 traits. One of the most triumphant 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 counties with the highest consumption i.e. USA, Finland, Germany etc (Table1). It is quite intrusting 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 (MillionMT)

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
Japan	9.4	10.7	27.3	27.9	220.5
Germany	2.8	7.0	23.1	19.7	237.4
Canada	18.5	9.3	12.8	6.3	169.8
Finland	10.6	8.8	11.8	1.5	255.9
Sweden	11.9	9.2	11.4	2.0	231.3
South Korea			11.4	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
Mexico			4.8	7.3	80.3
Thailand			4.7	4.8	62.6
UK			4.3	10.5	170.5

Top 4-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



Handmade Paper industry:

Indian circumstances handmade paper making industries take part in a very very important role in environment protection by reusing, recycling and reducing the materials and resources. It is very significant to know the position of this sector to find out the tribulations and future scenario about this zone. 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 quite a few 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 uphold the eminence of the product, as there are several problems with funding, training and technical hold. The technology and raw material used in this industry are protected for workers (human health) as well as for the environment, there is scarcely any pollution or negative impact on the environment. Handmade Paper is a biodegradable, reusable, and recyclable product with which is extensively used for writing, packing, decorating and gifting. It is also a alternate for a paper which entirely 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.

2. Literature Review

Sanganeri handmade paper is a exclusive art itself, which have a noteworthy identity. Although it has been changed from time to time it is up till now 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 entirely 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 immerging 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, maze, 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).

3. Research 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) The 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.

4. 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.

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.

Results from workers-

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

Results-

Results from owners

Part 1 demographic/basic profile

- (i) 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.
- (ii) 45% owners belong to general (Muslim) cast and 55% were from backward (Mali) casts.
- (iii) 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.
- (iv) Total 20 factories were included in the study, out of them 11 factories had 12-25 workers, 4 factories have 26-50 workers,

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- (v) 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.
- (vi) 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.
- (vii) 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.

- (i) 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.

- (ii) 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

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

- (i) 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.

5. 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. Sanganeri handmade paper and products are notonly 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, envelops, 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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