



Cluster Development Programme, India

DIAGNOSTIC STUDY

ARTISAN

THE TEXTILE HAND PRINTING CLUSTER

JAIPUR, RAJASTHAN

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EXECUTIVE SUMMARY

Textile hand-printing as a craft with its colourful ethnic designs has thrived in several states of India for centuries. The rich raw material base for cotton and a diversified structure of looms in the decentralised sector has only helped the craft to grow over time. Some of the important centres of this craft are in the states of Uttar Pradesh, Orissa, Madhya Pradesh, Gujarat, Maharashtra and Rajasthan. Within Rajasthan, the four districts of Jaipur, Jodhpur, Palli and Barmer have their unique designs and product features.

With a total of approximately 960 small firms based in Sanganer and Bagru in the district of Jaipur, this industry provides employment to almost 14,600 persons directly and indirectly. The product finds its market at two broad levels; one is the utility products such as bedspreads and casual wear dress material for the mass market, while the other one comprises of connoisseurs who value the ethnic designs and usage of eco friendly dyes for ready-made garments, bed spreads and dress material.

To cater to the market demand at national and international level, there used to be only one process of printing; the conventional hand block printing where the artisan used to print the impression through small carved wooden blocks on the fabric, one after the other. However, the process was much more laborious due to the pre-requirements of fabric preparation which involved washing, kneading, sun-drying, bleaching and dyeing. Besides, the eco friendly natural vegetable dyes were also prepared in-house, a process that required six to ten weeks for the entire process. This process although time consuming and highly laborious is still being used by a large group of almost 400 entrepreneurs organised as a social community.

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With the increase in demand for ethnic printed designs on the fabrics, both in India and abroad, a comparatively faster, more mechanical and economical way of printing was taken up about two decades ago by a different community, who migrated from the then western region of India after India's partition. They saw an opportunity to mass produce the similar looking product although with the help of synthetic dyes and chemicals that are used for bleaching and dyeing. The screen printed fabric is ideally suited to meet the requirements of price conscious consumer whose requirements are bright colours, ethnic designs and more important, a lower price.

With the changed scenario and low production capacity by the traditional block printers, which is almost one tenth that of the screen printing unit of similar size, the ideal market segment that it could target at, would comprise of the high end consumers who can afford higher prices and would value the other distinctive features such as eco friendly dyes and traditional art of processing. But this has not so happened.

The industry in fact is faced with a multitude of problems. First, the printers had little access to the market directly. The trader community which controls the entire market setup with a higher financial strength procures goods from both the groups on job work basis. The printers find it beyond their means to buy the grey fabric and process it for a long time before marketing it directly. The traditional printers have therefore lost their strategic direction and developed conflict among each other in their endeavour to lower down the prices even if at the cost of

quality. Second, the industry traditionally set up in residential area, with the expansion of work and population in the adjoining region finds lack of space, water and other infrastructural facilities. The pollution level has increased quantitatively and qualitatively and the enforcement from government has meant a lingering threat of industry closure, specially due to the polluting nature of screen printing industry. The traditional industry, although not polluting in ideal cases has also resorted to the usage of chemicals and synthetic dyes which require treatment before discharge of effluents. Third, there has been hardly any technological upgradation to make the process less labour intensive and environment friendly.

In order to make quick gains, some of the intermediaries have taken to unethical practices that has lowered the brand image of the entire cluster. The industry, which is presently at the low road end requires better linkages of the printers with the market to produce what is desired by the consumers, besides developing a self driven mechanism to check such malpractices. In the long term, steps need to be initiated to increase value addition of the product and set up a separate industrial estate with several common facilities for supplies, designs, related services and pollution control. For such units that are non polluting, recognition of the firms as industrial units by the Government will enable them to get access to financial resources provided by banks and better infrastructure facilities by the government.

With differing interest groups in the industry, it does not seem feasible to organise them under the same umbrella for the modernisation of this cluster. Smaller groups with active intermediaries will have to located to initiate small but productively useful activities that would build trust among the firms to enable them take up long terms issues for resolution. Poor educator background, financial constraints, lack of interface with the local government and high level of dependence on the trader community are likely to be the most crucial bottlenecks. Most of the institutions set up to serve the interests of the industry are not able to fulfil their role due to lack of interest from the beneficiaries and service providers. A market survey in order to understand the scope for future prospects seems to be a necessary pre-requisite.

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1. INDUSTRY SCENARIO AT NATIONAL LEVEL

Rich Raw Material base :

Jaipur is well known internationally for its ethnic designs printed on pure cotton base with the help of natural vegetable based dyes. Cotton, the base raw material of Cotton textiles on which printing is done in Jaipur is available in plenty in India. Cotton Yarn production in India has been increasing at an average rate of 3 percent annually over the last decade. The out put of cotton yarn was about 1600 million kgs in the year 1994-95. Although man -made yarns such as polyester, nylon and viscose have shown even more rapid growth rates over the years, their quantum compared to cotton yarn is much lower. Cotton continues to be the dominant component with the share of 70 % for yarn and over 75 percent for the fibers.

Decentralised sector as the prime processor :

Of the total out put of 27,975 million metres in respect of the cotton fabrics, the share of decentralised sector for the year 1994-95 has been estimated to be 26,196 million metres constituting 93.6 % . It is only in the blended fabrics that the organized sector accounts for the lion's share in 3361 million metres of fabrics.

Powerlooms Dominant in decentralized sector :

Powerlooms have a dominant role to play in the decentralized sector as there are about 13 million looms in different regions with concentration in Maharashtra , Gujarat and parts of Uttar Pradesh. These looms account for over 72 % of the total production and provide employment to about 6.5 million employees. Bulk of this production is absorbed by the domestic market while exports are upto 5% of the total output. Another 22% of the total output of fabrics is accounted for by the Handlooms sector with 15.4 million weavers employed in the households and in industrial complexes.

Decentralized sector dominates textile printing as well :

The coarse grey cloth produced by the powerlooms and handlooms finds its way to the small scale sector for bleaching, dyeing and printing. These operations are carried out on the bedspreads, home furnishing fabric and other made-ups such as ready made garments that are also produced by the small sector. There are several clusters that have developed in India for the finishing operations including printing. Most of these clusters consist of small firms of printing in the unorganized sector.

Textile hand printing, a well diversified industry:

Textile hand printing is geographically and in terms of its product range, a well diversified industry. The traditional pockets for textile handicrafts are based in the states of Uttar Pradesh, Orissa, Madhya Pradesh, Gujarat, Maharashtra and Rajasthan. Within Rajasthan, the four

districts of Palli, Barmer, Jaipur and Jodhpur have emerged as major centres for hand printing of textiles. The product range on which printing is done comprises of bedspreads, running cloth for the dress material, home furnishing products and ready made garments.

Textiles generate substantial exports :

Exports in the textile sector have increased tremendously during the recent years. The total of all textile exports in 1994-95 had a value of Rs. 31,336 crores representing an increase of 25.3 % over the year 1993-94. The extent of growth under individual heads varied considerably. Handicrafts of which printed textiles are a component, grew at a rate of 33.8% during the same period with the total exports of Rs 2635 crores. The total exports of hand printed textiles was Rs 475.12 crores which grew at a rate of 34% during the same period. The cumulative average growth rate of hand printed textiles during the last five years i.e. 1992-97 has been 37 percent. The table of hand printed textile export is shown below :

Exports of Hand Printed Textiles and Scarves from India				
Year	Rs Crores	% age Inc/Decrease	Dollars US\$ Millions	%age Inc/Decrease
1992-93	196.50		68.83	
1993-94	354.25	+80	112.95	+64
1994-95	475.12	+34	151.43	+34
1995-96	580.45	+22	175.8	+16
1996-97	695.17	+20	204.46*	+16
Cumulative Average (p.a.)		37		31.3

*calculated at Rs 34 per US \$

Destination of Hand Block Printed Textile Exports from India :

USA is the most important export destination for Indian Hand Printed Textiles with a share of almost 32 percent in the total exports of Rs 580 crores in 1995-96. The other important destinations are United Kingdom and Germany with a share of 13.5 percent and with 11 percent respectively. A table reflecting the destination for hand printed textiles is given below:

Destination of Hand Printed textile exports					
Country	1991-92 Rs Crores	1992-93 Rs Crores	1993-94 Rs Crores	1994-95 Rs Crores	1995-96 Rs Crores
U.S.A	67.00	68.11	144.35	168.13	185.35
U.K	12.90	19.65	36.18	65.12	78.70
Germany	13.32	23.51	46.45	60.30	65.50
Canada	12.91	15.84	29.89	45.32	46.15
Japan	6.79	9.41	12.11	15.75	25.05
France	2.66	5.19	9.82	16.83	20.6

Italy	2.05	4.08	7.62	14.10	15.40
Australia	4.38	5.69	8.10	10.70	12.20
S-Arabia	4.99	6.15	8.70	11.42	12.18
Netherlands	3.17	3.81	5.20	7.28	10.55
Switzerland	1.05	1.65	2.80	4.76	5.08
Others	18.59	23.41	43.03	55.41	103.69
Total	149.81	196.50	354.25	475.12	580.45

Positive future scenario :

The contribution and growth of textile industry in general and printing in specific is aided by the strong policy thrust towards handloom and powerloom sector. Certain kind of products have infact been reserved for manufacturing in the small scale sector. With the government policy continuing to be in favor of the decentralized sector in this industry, the future of this sector continues to remain bright. Secondly, with the lower economies of scale and cheap labor, the decentralized sector is likely to continue to dominate in this industry. Ethnic designs for printing particularly with ecofriendly vegetable dyes have been in vogue in the western countries. The demand for such products is likely to continue rising in future as well.

2. LANDMARK HISTORY AND PERFORMANCE OF THE TEXTILE PRINTING CLUSTER

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Five centuries old history :

Textile printing finds its early existence in the Seventeenth century in India. However, some findings suggest that colorful printing of fabrics existed in Rajasthan even during the Fourteenth and Fifteenth centuries. It is believed that colorful printed fabric was then exported to European and African countries. Among the various places known for the industry in the states of Rajasthan, Gujarat and Uttar Pradesh are the villages and towns of Pali, Sanganer, Bagru, Jodhpur, Ahmedabad, Jetpur and Pilakhua. The two locations in district Jaipur of Rajasthan, viz. Sanganer and Bagru have been quite famous for the traditional Rajasthani style of printing.¹

Traditional printing styles are many :

There are several modes of printing that can be seen in Rajasthan. They are hand block printing, printing 'dabu' (resist printing) and 'chhint' (sprinkling of colour) printing. However the more famous among them is the hand block printing and has become generic word for all types of traditional printing styles. According to the kind of printing, the printer artisans, called 'chhipas'' (both Hindus and Muslims) were classified as 'rangrez' (ordinary dyer who dyed in colours) and 'nilgar' (dyer who dyed in indigo). The type of fabric printed included 'chaddar' (bed-sheets),

¹ The Bagru Print

'safas' (head gears), 'pagris' (turbans) and 'ghaghras' (skirts). These printers have a strong affiliation to their respective deities. The printers from the village Bagru have an affiliation to 'Baba Namdev'²

Export potential of the Industry :

About 30 years ago this industry was mainly catering to the Domestic market. From last two decades the export of hand printed textile has picked up with the worldwide appreciation for ethnic designs and ecofriendly dyes. hand printed textile Industry of Jaipur enjoys a share of almost 15 percent with an export of Rs 100 crores in the Rs 690 crores national export market. The major destination from Jaipur are USA, UK, Japan, Italy, France, Australia and Canada.

Climate ideally suited for the cluster :

Among the two major centres of district Jaipur, Sanganer is situated at a distance of 15 kilometres south of Jaipur. The geographical location of Jaipur in India is shown in *Annexure I*. It has remained a centre of historical prominence for dyeing and printing. Bagru is situated at a distance of 30 kilometers and have its own place in Hand Block Printing and ecofriendly vegetable dyes. This industry is influenced by the natural environment around such as level of water availability, sun shine duration, atmospheric humidity and the local herbs and flowers. As water had always been available in abundance here, washing of fabrics has formed the basis of dyeing and printing at Sanganer.

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There are about 150 Chhipa families each engaged in traditional printing at Bagru and Sanganer. The industry continues to be based around the families. All the members of family find themselves engaged in their respective units in one way or the other. Traditional printing industry finds its basis mainly in hand-block printing. Bagru, in historic times, had a rivulet flowing nearby which proved to be an easy source of water for the printing industry here. Through interviews it was brought out that with special characteristics, that it had, the river water gave a remarkable shine to the fabrics treated in it. The rivulet either got dried or else changed its course. Similarly, Sanganer had a stream flowing through it as well, with washing areas built adjoining it, but this has also dried due to growing pressure of the rising population in the adjoining city of Jaipur.

Sanganer and Bagru enjoyed their distinctions :

Printing at the villages of Sanganer and Bagru in district Jaipur have their unique characteristics of their own. Sanganer printing is done mainly on white ground where as Bagru printing demands a dyed base (indigo, red blue or yellow colored ground). Again, there exists a special type of print (based on the use of two colours - red and black only) which is famous as 'Bagru Print'.

² Baba Namdev is a deity revered by most chippa

Inherited skills :

The skill of artisans is mainly inherited from their forefathers. Formally trained persons, who might have picked up the skills in printing industry through classroom instructions, did not come to be spotted anywhere in the field by the present researchers. The 'Chhipa' women contribute to production from their households. They are masters in preparing dyes, with a sharp colour sense. They partake in other activities with equal adeptness although mainly in the traditional printing.

Traditional processes are highly laborious :

It is usually reja (course cloth) which is prepared in Rajasthan and used for printing. The printing was then done with the help of wooden hand blocks of the size upto 6"X 6. The base of hand block was engraved manually to provide various shapes and designs. The printer then used the block and the natural dye prepared for this purpose to stamp the impression on the cloth one after the other for printing. However preparing the cloth ready for printing took rounds of washing and drying manually which was very time consuming and would often run into a few weeks. Preparation of natural dyes also took days of soaking flowers, leaves, cereals and metal strips.

Mechanized ways of processing developed :

Elsewhere in the country, printing of fabric is being done by bleaching the grey fabric with the help of chemicals and dyeing of it done with the help of electrically powered machines that run the large lengths of cloth on rotating winch in large metallic tanks. In Sanganer, screen printing came into being during the early 1960's. Drying continued to be done in the open under the sun, while pressing the fabric for removal of wrinkles was done with the help of calendering machines. But none of these new ways were then considered to be natural to be adopted by the traditional printing industry.

Chemical and synthetic dyes were adopted :

Instead of using the natural dyes that had to be prepared before using them, increased number of fast and luminous chemical dyes came to be easily available. While some of the colours that are not possible to produce by natural means, have been produced through the synthetic dyes, yet the base colours are still prepared in the traditional manner. These dyes have thus come to be associated not only for their convenience of use, diversity of colours and current mechanical processes of weaving, dyeing and printing all have led to significant changes in the industry.

Screen Printing led to mass production :

It has now led to new ways of printing with the help of screens (sort of printing stencils), although manually operated, yet are capable of large scale printing, several times faster than the hand block printing. It was estimated that on two tables it is possible to print 100 meters length per day. This has led to reduction in the cost of printing with the same designs. The change in the lives of printers has not only come from changes in technology related to printing per-se but

also due to new chemical dyes. This type of printing has emerged only during the last one and a half decades.

Mass production relegates the traditional printing :

The traditional printing by Dabu and Chhint have not been able to cope with the pressures of the demand which grew rapidly during the decade of 1990s. These pressures led to the emergence of growth in screen printing industry which was able to handle large volumes in a short period of time. The current scenario demonstrates that almost four fifth of the total printing is being done on the screens with the same traditional designs which Sanganer and Bagru are famous for. This is despite the fact that the number of units and the employment generated among the two sub-sectors of screen and hand block printing are almost equal.

Traditional printers facing an identity crisis :

The cultural environment of Rajasthan, the colours associated with the people's traditional costumes and the designs related to the diversity of their local customs, behavior and broadly to the caste system then, all led the society to observe distinctions. However, these distinctions have over the last several decades gone into oblivion. The colors of the costumes chosen in Rajasthan itself no longer reveal the identity and social status of the consumer now. With the loss of traditional market and lack of readiness to meet the requirements of the market that values the ethnic tastes, the new generation of traditional printers seems to be at a loss.

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The 'Khatris' form a big group who are engaged in screen printing industry at Sanganer. The Khatris migrated from Pakistan (i.e. Mirpur, Sind) during partition of the country in the year 1947. They too had a long printing tradition in Mirpur before partition. They are settled mainly in Sanganer and not in village Bagru. One of such locations in Sanganer has known to be called as 'Khatra Nagar'. Trading activity, which is dominated by the local trader community has continued to remain so. Only a few of the printer community have set up showrooms of their own and stepped into trading and in export business directly.

Emergence of rivalry :

The traditional printing has two distinctive characteristics viz. traditional designs and usage of natural dyes. While the screen printers have been able to piggy back on the reputation of the industry by picking up the same designs, the usage of vegetable dyes has been done away with in favor of synthetic chemical dyes. This have generated a feeling of ill-will equally among the torch bearers of the traditional industry. The lower cost of screen printing has put tremendous pressures on the profit structure and wages of the traditional hand block printers. With most of the consumers, both the domestic and export markets unable to figure out the distinction of eco-friendly dyes and chemical dyes' usage, the traditional industry is under severe pressure.

Community factor adds to the problems :

The traditional sub sector is dominated by the original settlers from the pre partition days of India. On the other hand most of the screen printers are the migrants from Mirpur village of Sind in Pakistan. During the last one and half decades the size and numbers of hand block printers has remained stagnated while the growth of screen printers has increased multi-fold. To cater to the demand of local mass market, the industry has largely resorted to cost cutting. Certain special types of fabrics were woven in the old times such as Kota-Doria, were quite expensive due to their exclusivity but with the focus on mass market, this has also been marginalised.

Unethical practices complicate the matters :

The accusations by the traditional printing industry representatives that the screen printed fabrics are sold off as block printed ones are known well in the industry. The coarse cloth is sometimes sold in the name of Kota-doria, an expensive exclusive variety. Similarly, the synthetic dye based printed fabric is marketed as natural dye based printing. While this seems to be true in several cases, the cause of accusations also seems to be since the business of traditional industry has been seriously affected and reputation of the ethnic and exclusivity of the cluster tarnished. Some of the export consignments have also seemed to have been rejected adversely affecting both the segments of the industry.

Recent history mired with stagnated performance :

The recent history of printing had a rough progression. Prior to the devastating flood of 1981 in this area, the industry had been doing quite well. Hand Block and Screen printing both suffered badly during the floods. During 1981-85, the industry showed a little recovery, but experienced a boom in the 10 years that followed, with screen printers gaining the most. But with their tarnished reputation due to the use of synthetic dyes while claiming to use vegetable dyes and little innovation, signs of stagnation are felt in the industry at present.

Ethnic exclusivity is gaining a chance :

It is once again that the traditional industry is gaining a fresh appreciation. But while the demand for eco friendly dyed products is gaining momentum, the traditional printers continue to perform as job workers for the trader and exporter community. The printer community in general and traditional printers in specific, without a good educational background continue to struggle finding a direction for themselves. It is understood that 5-6 exporters have set up their computer facilities to create new designs in house which may then be appreciated abroad.

Domestic and international competition increasing :

For the export market, domestic and international competition has increased. Meerut, a town in Uttar Pradesh has become known for superior quality of printing and higher productivity for bed spreads. The printing work on dress material (Saris printing) has been said to have shifted to Jodhpur in Rajasthan. At the international level, competition from other neighboring countries such as Bangladesh, Pakistan and China has affected the export prospects.

3. SKETCH OF THE SMES, OTHER ENTERPRISES AND INSTITUTIONS

General industry Structure of Jaipur :

The city of Jaipur, called the Pink city of India is quite famous for its tourist inflow especially from abroad. In terms of its industrial performance, the place does not find prominence on the industrial map of India. Jaipur has been known by the tourists for traditional handicrafts, ethnic printed fabrics, artificial gems and cotton quilts. The city being the capital of Rajasthan has some good infrastructure to offer for modern range of industrial units such as electronics and food processing.

Industry structure of textile printing:

It is estimated that there are as many as 960 units in this industry, each one employing on an average 10 persons which leads to a direct employment of almost 9,000 persons. Besides, in the related business ventures and the trading activities it is estimated that another 5,000 persons should be dependent for their livelihood. The village of Bagru, houses only traditional hand block printing units. A classification of these units according to the geographical area in Jaipur district is given as under in the table :

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PLACE	Type of Printing Units		Total no. of units
	Traditional (a)	Screen (b)	Total (a) + (b)
Sanganer block	350	350	700
Bagru village	150	0	150
Jaipur city	30	80	110
Total	530	430	960

Local market seems to be the only common link :

The nature of business operations in the screen printing and block printing differs completely. Therefore, the type of support enterprises and institutions related to the two subsectors are also different. Probably the only common link is the local shopkeeper who procures the product from both the sub-sectors. This link however is very important since he not only buys the produce but also provides the grey fabric for printing. Most of the units in both the sub-sectors do not buy the fabric on their own but depend upon the trader to provide it to them.

Designs are a relatively small factor in the mass market :

The designs for printing are supplied either by the fabric supplier or the printer himself, although it is the printer who usually stocks the designs with him. When the job order is given by the trader, it is printer who is mainly given the flexibility to choose from a large collection of available common range of designs. The cost of making blocks or screens is included in the processing and printing cost, unless a specific new design is ordered for by the trader.

Sketch of support institutions :

(I) **Apparel Export Promotion Council (AEPC)** : The prime objective of the Council is promoting and regulating the growth of readymade garments from India and to project India's image as reliable supplier of high quality readymade garments and services. The local office of the AEPC runs a training & design centre for ready-made garments. They under took a number of activities for export promotion like participation in national and international fairs, buyer seller meets, trade delegations, seminars & workshops and publications etc.

(ii) **Export Promotion Council for Handicrafts (EPCH)** : This council is sponsored by the Ministry of Textiles, Govt. of India. The local office of this council helps the craft persons for the exports of their handicrafts. They also provide various support services for export promotion of the handicraft like participation in trade fairs and buyer seller meets etc.

(iii) **The Cotton Textile Export Promotion Council (Texprocil)** : This council works for the promotion and development of cotton fabric exports. The local office of this council provides various support services for the export of hand printed cotton textile.

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(iv) **India Trade Promotion Organisation (ITPO)** : With the head office in Delhi this organisation is the nodal agency to develop and promote exports. They also assist in upgradation of technology through the participation of fairs held in India and abroad, undertake publicity through the print and electronic media. The ITPO has been running a trade information centre which is engaged in procuring, processing and disseminating trade information on all aspects of international trade.

(v) **Textiles Committee** : This committee is set up under the ministry of Textile, Govt. of India as a reliable third party Test House as envisaged in ISO-9000-Series. The local office of Textiles Committee at Jaipur provides services for most of the testing requirements of hand printed textile products. This office is also in the process of establishing an eco-friendly test laboratory at Jaipur.

(vi) *Handloom and Handicraft Export Promotion Corporation (HHEPC)*, a government body provides and promotes new designs for the printers. Besides, the institution organizes promotion of handicrafts through participation of the artisans in national and international trade fairs.

(vii) **State and central government emporia** : These emporia buy the printed fabric from the industry although the share of their purchase compared to production may not be beyond 10%. The institutions that are involved in procurement are the state government emporia

called 'Rajasthali ' and from the central government, it is the 'Central cottage and handicrafts emporium'.

Sketch of support enterprises and institutions related to traditional printing :

Most of the block printing units are situated either within the residential premises of the printers or in other residential premises nearby, both in the villages of Bagru and Sanganer. The unit size within the industry and the organizational capabilities of these units vary considerably. In the village of Bagru, it is estimated that while 10 out of the 150 units take direct orders from the local fabric suppliers or exporters, rest of them work as sub-contractors to these 10 units. A sketch of the cluster map is shown in *Annexure II*.

The type of other support enterprises and institutions related to the traditional printing industry are given as under;

- (i) *Block Engravers* : Within the industry, the role of wooden block manufacturers has assumed special significance since there are about 50 wooden block engravers supplying these blocks directly to the printing units. These block engravers usually hail from Farrukhabad in Uttar Pradesh. These Muslim engravers are considered to be faster and more skillful than the local engravers.
- (ii) *Washermen* : Washing of the fabric at the beginning of the printing cycle and during the process is traditionally carried out by the washermen called "Dhobis". The village has a community washing area called the "Ghat". Due to the increasing scarcity of water in the community, the washer-men have to go to the agricultural fields of the local farmers where the water from tube-wells for irrigation is used to wash and the drained water is then used for irrigation purposes.
- (iii) *Bleachers, Dyers and Calenderers* : Similarly for bleaching, dyeing and calendering there are a few units that have come up in the villages. However, in most cases the printers, especially the smaller ones undertake these operations themselves. Sub-contracting for such operations is carried out only when the printers can afford or if there is an urgent order to be executed and time becomes a constraint. Estimates from the discussions held with the industry reflect that almost half of such work is sub-contracted.
- (iv) *Chhipa Samaj* : The printer communities are socially inter-related with each other revering the same deity. Further, family relationships are quite common because of the branching out of the same families over the last few generations, all of them yet remaining in the same business. The printers interact with each other quite often under the community umbrella called ' *Chhipa Samaj* '. Besides there is also social inter-relationship among the printers from Bagru, Sanganer and their adjoining villages.

Sketch of support enterprises and institutions related to screen printing :

The screen printing firms are set up either in the bigger residential premises or area earmarked as agricultural land. Only a few units are believed to be set up in the industrial estate set up by the state government. This is mainly because the units do not get the industrial plots and sheds without complying to the standards stipulated for pollution control. In terms of marketing relationship these enterprises are also dependent upon mainly the local traders, who supply the grey fabric. There are only a few isolated examples of such printers who have either directly exported or set-up a local marketing outlet.

Nature and structure of industry enforces subcontracting relationship :

To organize bleaching, dyeing and calendering from other units is the responsibility of the printer. Secondly, since many of the printing units are set-up in small unauthorized plots, they have limited space to carry out all the operations thus enforcing subcontracting relationship. Thirdly, it helps to avoid the problems related to effluent discharge which are more severe in case of bleaching and dyeing. So the basic support enterprises are;

(i) **Bleaching units.**

(ii) **Bleaching and dyeing units.**

(iii) **Calendering units.**

(iv) **Designers :** The sketch is usually produced by the specialist designers who come from the state of Gujarat. The first sketch of the design which is made on drawing sheet is then traced by a tracer according to the number of colors required. Subsequently the designer with the help of the tracing sheets, chemicals and the terene cloth based screen prepares the final screen. There are such several screen makers in Sanganer, estimated to be twenty in number who are called '*Designers*'. Depending upon the experience in the industry the designer may also undertake to prepare the sketch and modify the existing designs as per the requirement of the printer.

(v) **Masons :** The basic infrastructure required for printing comprises of work tables which are made of concrete and bricks, prepared by the local masons.

(vi) **Synthetic dyes and other material suppliers :** The dyes which are used for actual printing are available in plenty because of the shops located in the region. Besides, the dye manufacturing units also send their sales representatives on a regular basis to visit the printing units. Acids, nitrites and urea, used for fixing the colors are also available from the local market.

(vii) **Sanganer Rangai Chhapai Association :** The printers, bleachers and dyers have formed their associations called 'Sanganer Rangai Chhapai Association' which undertakes certain activities to lobby with the government and to organize some training workshops. The association strives to get the agricultural land where these units are based, converted into industrial land in official records. Another important objective of

the association is to fight the common legal battle against the state Pollution Control Board to avoid the closure of these units.

4. ANALYSIS OF BUSINESS OPERATION

a. Products and their markets

Screen Printed Products and their Distinction

The emergence of screen printing was mainly because of large quantity demanded by the market that Block printers due to their slow process were unable to produce. Those who like bright colors and are more price conscious are the customers of screen printed products. The range of screen printed items include mainly bed sheets, furnishing items and garments. The other products are running cloth and quilt covers. The distinctions of the screen printed products are the large variety of bright colors, low cost and uniformity. Being a cost effective way of production, screen has comparative edge to cater to the mass market which is yet to be exploited fully.

Block Printed Products and their distinction:

Traditional block printed products are known by their ethnic appeal and ecofriendly vegetable dyes, appreciated worldwide by the domestic and international buyers. The range of products that are printed comprise of bed spreads, made ups and ready made garments. However, among these, printing of bed spreads remains the main stay business of the printers. The connoisseurs however value the hard work that goes into block printing and the preparation of natural dyes, that makes it eco friendly. The affluent segment of population in India and several people in the western countries and in Japan appreciate the distinction and thus are willing to pay more for the product. This is despite the fact that the designs of the two kinds may seem to be quite similar.

Designs an important factor for high end market:

Buyers from high end market though the ethnic designs explore and savour the culture and heritage depicted thereon with ecofriendly vegetable dyes. Demand of hand block printed textile in fashion garments is also picking up. Buyer from this segment demands exclusive designs that may be custom made as per the buyers' requirements. However the buyers' expectations are not fully met by the industry.

Buyers from Middle end segment of the market:

The buyers from this segment consist of mass middle market and to some extent foreign markets. The buyers from this segment are mainly price conscious and like the Sangneri/Bagru prints the buyers of utility products are more or less satisfied with this industry.

Designs of little consideration for Middle Income market :

During the discussions with a few dealers in the market, it became clear that designs and the variety of printing was not the major consideration with the domestic mass middle class consumers as also with the sellers. With price being the most important factor, volumes were obtained from the units of screen printing. The so called new designs are new combinations of the old patterns and designs with shapes of flowers, leaves and animals. So, when a government body called HHEPC (Handloom and Handicraft Export Promotion Corporation) provides new designs to the printers in their villages at their door step at a nominal price of Rs. 15/- to 25/- each for traditional designs, the takers are few.

Quality suffers with the Mass Market :

Reacting to the domestic consumer needs, the screen printers are better placed to cater to the needs of a large segment of population. They print on the lower to medium quality fabric and print it bright with the help of synthetic dyes which are brighter than the natural dyes. The cost of printing with the help of screen is lower by at least 50% as compared to hand block printing keeping the important parameters same such as the number of colors used.

Markets and their distribution channels :

There are two types of markets viz. Domestic and Export. In the domestic and export markets, the traders based in the local market of Jaipur and in Delhi market the product. The printer does the job work on the fabric supplied to him and arranges for the processing and printing. An estimated 10 percent of only the traditionally printed fabric is marketed through the state and central government emporia. However the emporia do not supply the grey fabric and the investment towards this has to be made by the printer himself. Secondly the procurement schedule of these institutions is irregular. The distribution channel which connects the production channels to the market are different for different buyers whom we can define in three broad categories of Domestic Buyer, foreign buyer and foreign tourist buyer. The market channel flow Chart is attached in *Annexure III*

Most Printers find marketing beyond their means :

Most of the printers when asked whether they wanted to undertake marketing themselves, refused. The reasons cited are lack of resources to invest in the grey fabric. Secondly, in order to sell the product, he would also need to invest in the retail outlet, stocking the product range and providing credit for the sold items. With little help available from the financial institutions and the banks, such a feasibility is remote.

b. **Industrial Space**

Industry based on unauthorized land :

At Sanganer, the new comers (the Khattris) set up their units wherever a piece of land was available - a phenomenon that comes to be noticed even today. The result is, that the Sanganer printing industry came to be dubbed as the one that stays on, at the land classified as 'agricultural land' in the official records of the government. Laid down upon agricultural land, the industry is put to face a lot of difficulties. The units are not accepted for being registered as industrial units by the State Govt. As a result, most of them have not found favor with banks for various facilities, including grant of loans. Permanent electricity connections are denied and temporary electric connections could be three times costlier. With no roads and sewage facilities, there is virtually no development of civic facilities in and around their settlements.

That leads to several problems :

The banks and financial institutions have assumed a very limited role to play. This is because most of the units have not been registered by the district industries centres , a pre requisite usually felt necessary by the lending institutions to lend the money. Several moves to get the registration done by the authorities have not met with any success. The major reason for the denial of registration facility to these units is that Pollution Control Board has denied the issuance of 'No Objection Certificate' which is a prerequisite for the registration itself.

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Associations are weak :

Further, since the units are not strongly united with each other through their association, lobbying itself is quite weak. The screen printers association and the 'Samaj' belonging to traditional printers as it exists currently, do not co-ordinate their efforts nor repose any confidence in most of their members. The type of services provided in terms of their range and quality do not seem to have any impact on the industry so far. The 'Samaj' in Bagru remains a social platform for the social functions and ceremonies.

c. **Entrepreneurial Background, Labor and Training**

Poor education background :

Most of the entrepreneurs in this field are not well educated. A few who have been to schools, and have had good exposure to the export markets have earned national awards for the skills displayed and capitalized upon it rich through display in exhibitions and trade fairs etc. This is however limited to the traditional hand block printers only. The link between the consumer and the printers in the village is quite weak. The frustration of not being able to do some thing to alleviate their problems shows up on the faces of entrepreneurs, especially the traditional printers.

Younger generation facing identity crisis :

The younger generation which is comparatively well educated, does not get good jobs and the education is not practical enough and therefore does not help them to seek better business avenues. So they have also remained stuck to the same business despite their not being quite contented with it. Screen printing business, although growing, is not only unreliable due to pollution control regulations and land un-authorization but also constrained due to other problems such as financial, infrastructural etc.

Financial constraints and dependence on traders :

Financial constraints induce dependence due to the scarcity of financial resources with the printers. They depend upon the traders to supply them the grey fabric. The problem is compounded by the fact that in case of traditional printing, the processing cycle varies between 2-6 weeks depending upon the weather conditions and internal business exigencies. After the printing is done and the goods delivered to the cloth supplier, it takes another two to six weeks to recover their processing charges. This provision of credit on the processing billing is extended by all the actors in the chain such as bleachers, dyers, washers and designers. The cost of printing in the finished product varies between 15 to 20 % of the total cost including that of the grey fabric.

Contract labor helps escape labor laws :

The workers are employed on piece rate basis. This helps the entrepreneurs avoid the arduous labor laws. Both, the skilled and the un-skilled labor is available in and around the places of industry. Only the colour master, the accounts clerk and the helper (pach/chowkidar) are employed on a regular basis. For exports, the exact shade as per the contractual agreement is a must and it is here that the judgment of the colour master becomes crucial. The processing charges paid to the labor for printing are quite low and a worker can earn between Rs. 1500 to 2000/- per month. The earnings of women workers are still lower. The labor is unorganized migrants from Uttar Pradesh and Bihar. Without the basic training, the quality of output suffers, some entrepreneurs noted.

d. *Production Systems in traditional printing*

Traditional printing is a processing art :

It is the block printing which displays extensive variety of `butas' (leaves and flowers). The dyes for block printing are mainly obtained from herbs, roots, flowers, local minerals and iron pieces. In 'dabu' printing, coating is initially done on the fabric with material that comprises of largely wax, clay and raisins. The preparations are all made by the printers themselves. Thereafter the cloth is dyed. The coating applied on the fabric in the form of a design does not allow the dyed colour to spread on the coated surface. The processing involved is an art developed with experience. Some of the new substances which are being put to use for the purpose include madder, kesula flower, bark of the babool tree, rattan jot, blue vitriol, heerakashish, red vitriol and alum. However such experiments are limited now. The production process flow chart is given in *Annexure IV*.

Block making is an integral component :

The blocks used in hand-printing are engraved with designs by carpenter lathe-men popularly called as Block makers. The type of wood used is 'gurjan', 'sheesham', 'rohira' or 'teak' all available in the local market. The engraving required for the design is about half an inch deep. The size of the blocks used to be small earlier in the range of 2"X2" to 4"X4". The ones of the size of 6" X 6" are common in use currently. These blocks are stamped on the cloth with one hand. Each one of the blocks costs somewhere between Rs.100/- and Rs.200/-. However with the pressures of cost reduction, blocks upto the size of 12" X 12" are becoming popular with printers and are normally stamped with both hands together to ensure the sharp impression on the cloth.

Base dyes are made in-house :

The printing dyes are made either from the herbs or minerals by the traditional printers. The vegetable dyes are made from red soil, jaggery, various parts of pomegranate, a spice called 'harda', iron filings and horse-shoes. Some flowers are also used. The red dye is developed from red soil (geru). The black dye is made through a long drawn process. In it, the iron-filings, horse shoes and jaggery are placed in a jar of water and kept there for a fortnight. The extract becomes the black dye. When this very extract is applied on cloth in combination with 'harda', it produces a yellow tint.

Synthetic dyes are also finding use :

The types of base colors that can be produced with the help of natural items are limited. In order to meet the market demands & expand the range of colors, synthetic colors are being put into use although in a limited way.

Dabu printing, a speciality, has a long processing cycle :

The cloth which is to be printed is soaked in cold water on the preceding night. Cow dung is then mixed in this water proportionate to the length of the cloth. On the next day morning, this cloth is thoroughly washed with action repeated after another two days. Thereafter the cloth is soaked in 'harda' powder (obtained from the bark of a tree) for 10 to 15 minutes so that it turns yellow. It is then dried in the sun till the fabric becomes hot. The side of cloth exposed directly to sun rays absorbs the colors well so that they appear sharp and fast. After this treatment, the cloth is beaten and kneaded to make it print worthy.

Based on the skills :

For dyeing, it is important to note that the colour which is used should be of exact weight and that the utensils used are also of proper shape and metal. The first colour taken up for printing is red which is prepared using gum, alum, and ochre (geru). Printing is done with the help of the wooden block which is rubbed against the pad kept soaked in the prepared colour and pasted on the cloth laid on table one after the other in series with hand. However, the printers rely on their judgement for the quantitative estimates regarding the usage of these colors and dyes.

No Research on Block Printing:

No research work on the process has been initiated on hand block printing so far. The production process is traditional and passed on generation to generation. Technical support to this industry from research institutes is very rare.

Process is time consuming :

As may be realized, this process of printing is long drawn. It becomes all the more difficult when several dyes are required to be used for printing since the cloth has to be re-washed, soaked and dried again for each dye usage to make it ready for the next stage. This is also the reason why the printers who have taken up to printing of the main colors only that is red, brown and black using natural dyes.

Rainy season means no work :

During Monsoons, although a short-term period here is a duration of lull with practically no work due to dampness in the weather which leads to colour leaking on the cloth if printing is continued. Bright sun-shine provides fabrics an extra lustre making it easy to dry.

Testing has little relevance :

The testing facilities to check the quality of fabric and the type of dyes used are available in Textiles Committee, but most often, testing is not resorted to. This is because the grey fabric is supplied by the buyer and so the responsibility of ensuring the right quality of fabric does not rest with the printer. For the export market however, there are certain dyes which are banned being carcinogenic in nature. Since the printers are not directly involved in exports and the exporters themselves do not provide specific instructions that may require testing of dyes, the same is not resorted to.

e. **Production Systems in screen printing**

Screen Printing in contrast is easier and faster :

All the drudgery related to washing, drying, soaking, colour preparation, 'dabu' application, block manufacturing and thereafter printing the impressions one by one is avoided when screen printing is used. It is mainly the ready-made dyes based upon chemicals which are used for the printing work. Such dye colors are comparatively more shining. Printing is not only much quicker by this method but also requires less labor. Once the screen stencil is ready it can easily print three to five thousand metres of cloth in a day, while in hand printing this much work will take continuous printing for ten days.

Processing starts with bleaching :

The grey cloth for printing mainly comes from the near-by region of Kishangarh as also from far away areas of Erode, Salem, Tirupur, Coimbatore etc. This cloth has to be bleached before being taken up for dyeing. The bleaching process is undertaken in large cemented tanks where

the cloth is soaked along with the bleaching powder and other chemicals. Thereafter the cloth is given a few washings and dried up.

Followed by dyeing :

A mechanized system called Winch dyeing is the most commonly followed method to dye the cloth. In a metallic tank, water mixed with the synthetic dye is filled and the cloth turned over and over through this water with the help of winch in order to ensure uniformity of colour spread. The cloth is then dried up under sun. For bleaching and dyeing it is usually the same units which undertake both the operations together. However, some units undertake either only bleaching or dyeing. Only a very few big units of printing also undertake bleaching and/or dyeing within their premises along with printing. These units may be involved in direct exports and thus the quality and timely delivery of the fabric may be too crucial for the unit to subcontract.

Calendering irons out the wrinkles for printing :

The dyed and sun dried cloth with a lot of wrinkles is still not ready for printing and has to be sent for calendering which is done with the help of a calendering machine which consists of two or more metallic rollers. In order to ensure smooth surface, the rollers are heated with electrical energy. In bigger calendering machines, steam is injected on the cloth just before it passes through the rollers.

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The calendered cloth is then spread over long concrete tables ranging from 20 to 40 feet in length and 4 to 6 feet in width. The screen which is got prepared from outside equivalent to the length of 4 to 6 feet is then used to spread the dyes manually on the fabric by two workers, one on each side of the screen. This is done with a wooden scrubber (called stepper) that is used to push the dye across the width of cloth from one side to the other. With this, an impression of one part of the design in that specific colour is thus imprinted on the fabric. For each colour a separate screen is used. The fabrics are printed normally in four to eight colors.

Screen preparation is a separate business activity :

Screen stencil preparation is a separate business activity. There are different actors who are involved in the preparation of a screen. First of all an artist makes a multi colored sketch of the design on a white drawing sheet which is approved by the printer. Artists based in Jaipur and from Jetpur in Gujarat sell their sketches at the rate of Rs. 500/- to Rs. 1500/- each. The paintings so obtained are then given to the designer for tracing and development of screens used subsequently for printing. A tracer then traces the sub-designs from that sketch, one each for a colour. Thus the number of tracings made are equal to the number of colors to be printed on the fabric. The tracing is then placed over the polyester based screen through which chemicals are applied within the contours of the tracing. The screen is thereafter fitted on steel pipes in a square or rectangular frame. This screen frame after being dried up is ready to be used as a stencil.

5. ASSESSMENT OF THE ORGANISATION OF THE CLUSTER AS A RESPONSE TO THE COMPETITIVE ENVIRONMENT :

Inadequate response to the changing Scenario:

30 year ago Block Printing was the only method of production for both utility products and exclusive items. With the changing scenario market demanded utility products in large volumes in short period. As an result Screen printing gain recognition in mid seventies. Which was capable of producing in large quantities at much lower cost and time than Block printing. This method of production easily took over the industry in terms of volume of production in utility items. Exclusive items with ethnic designs and ecofriendly dyes remained comparative advantage for Block printing. But block printers didn't changed themselves with changing scenario and remained competing with the utility products. It was outsiders (mainly Khatri) who took the growing market demands with screen printing. There exist huge potential for exclusive products and large market still remain untapped. Block printer being disjointed form the market didn't find their way to this segment and remained competing with low cost screen printing. They lowered down their quality and also started mixing chemical dyes in order to lower down the cost. There are only a few exporters who have access to this segment and are providing them quality, ethnic and ecofriendly vegetable dyed products.

Unfair Competition among Screen Vs Block:

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Screen has mass middle market whereas Block have exclusive High end market. The taste and preferences of both end markets are entirely different one is price conscious other is not so. One loves bright colors other loves Eco-friendly vegetable colors. One ask for uniformity other is buyer for exclusivity. So it is vary unfair competition among those whose markets and their requirements are entirely different. Block printers are seeing Screen as there competitors because they don't have reach to their high end customer. They want to compete with low end market where Screen has clear competitive edge. It is not wise for Block printers to compete with Screen. Because of this unfair competition and mismatch Buyer and producer from Block printing specifically and hand printing in general facing number of problems.

Cluster on the low end road :

The hand block printing industry at Jaipur is competing on the basis of low prices, usage of cheap materials and cheap labor. Lack of innovation and infighting among various actors in the industry are the other characteristics of the cluster. The industry whether in the field of screen printing or hand block printing, does not inspire confidence since it seems to be bogged down with several problems. The industrial units despite being dependent on each other are not united to take up issues for their long term development. The level of co-operation among the units, traders and designers is poor. The strength of the trader who invests in the raw material and provides it to the printer and then sells the final product is the maximum beneficiary in the industry. He has been able to squeeze the maximum out of the other actors by ensuring cost

cuttings by all the actors in the chain. A tendency of undercutting each other by printers is generally noticed.

Unfair practices galore :

The complaints of not using the right quality of fabric and dyes were mentioned quite often by the units themselves. In the name of using natural dyes, synthetic dyes were used that were either not permitted as per the regulations or were not to be used as per the mutual agreement, especially with regards to the export market. For the domestic market, the size of bed spreads has been reduced from the conventional size of 90 inches X 108 inches to 90 X 85 inches reflecting the reaction to demands for price reduction per piece.

Association activated due to pollution related litigation :

The screen printers had formed an association called 'Sanganer Rangai Chhappai Association' which got activated mainly because of the public interest litigation filed and won by a local lawyer on the issue of pollution created by the units. The judiciary had directed the 'State Pollution Control Department' to issue notices for the closure of polluting units thus affecting most of enterprises in Sanganer. 188 units had been issued notices by the Pollution Control Board. 46 units had then applied to the board for issuance of the 'No Objection Certificates' but all of them were rejected during the year 1995. The association has been able to get a stay order against the closure in the High Court and thus provided a breather to the industry.

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The units await the final judgment of the court with their fingers crossed but unwilling to take up a step to set up facilities to prevent and control pollution. Their hopes hinge on the slow system of judiciary which may take years to decide on the pending litigation. An important reason for not investing in the pollution control facilities is that the areas that these units have set up their enterprises on, is in any case unauthorized and thus devoid of civic amenities. The telephones, electricity connection, and roads are all in a bad shape. But the association's plea with the state government has not met with much success. The Sanganer Rangai Chhappai Association has set up a 'Pollution control society'.

Sporadic activities sometimes :

During the current year, the Sanganer based association had arranged a training camp with the help of Rajasthan Consultancy Organisation with the funding from the central government. 50 trainees from different firms had participated. Besides this, the association had not been providing any services. There is neither any staff nor a formal office of the association. It operates from the personal offices of the office bearers.

Traditional printers still dithering :

It is understood that almost 25 years ago, the printers had formed a co-operative society in the name of 'Calico Cooperative Society' which not only provided grey cloth to its members but also marketed the printed fabric on their behalf. It has been stated that the society disintegrated and stopped these functions because some of the members had developed personal interest in going ahead in marketing their own products. This society which exists today helps the members to remain socially together. The fear of creating conflicts has dissuaded them in reviving the co-operative venture on commercial footings. The society has two showrooms and some more property which is not being put to use. The people in the industry are gaining consciousness on government apathy and forming or reviving their associations.

Traditional Printers at Sanganer beginning to revive activities :

A new association of the traditional printers in Sanganer is under formation. The main programme set out before this association is the development of a 'Shilpgraam', i.e. 'village of the artisans'. The association will undertake to provide services to its members for providing raw material and will also undertake to market the produce on co-operative basis. Besides, it would provide other necessary services related to common effluent treatment plants. The social body of the traditional printers has already some infrastructure in the form of a building where they can hold meetings. But the new initiatives are still being worked upon and modes of financing being explored.

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Interface with the government lacking :

Co-operation with the government is quite poor almost at all levels. The local administrative institution such as 'District Industries Centre' and the state agency for development of real estate and industrial sheds called RIICO are not in close tandem with the units in the industry. The only facility set up by the government is the facility of a 'Dry port inland container terminal' at Sanganer which is appreciated by the industry.

Separate Industrial estate:

Rajasthan Industrial and Investment Corporation Ltd. (RIICO) has now announced a plan of developing a new industrial area near Jaipur to be meant exclusively for textile and printing units.³ Pollution seems to be only and the major problem by policy makers to rehabilitate hand printers at proposed industrial estate. The cost of unit in proposed estate is seemingly beyond the means of most of the traditional block printers.

An old initiative on pollution never took off :

3 Ref. : Advertisement note printed in 'The Economic Times', New Delhi, dated 17th September, 1996 on behalf on the General Manager, RIICO, Udyog Bhawan, Jaipur.

NEERI, a Government institution was to have been commissioned to assess the extent of pollution problems related to the industry in Sanganer for the screen printing industry. The step was to have been taken up by the local authority called Jaipur Development Authority. But the fee demanded was said to be too high and so the project never saw the light of the day.

Other developmental institutions also not appreciated :

The service and support institutions set up by the government such as 'Weavers Service Centre', 'Rajasthan Emporium' and 'Handloom, Handicraft Export Promotion Council' and 'National Craft Institute for Hand printing of Textiles' have also not been able to make sufficient impact on the industry growth. Neither the units themselves nor the associations thereof mentioned about these institute.

6. CONCLUSIONS AND RECOMMENDATIONS :

The core issues affecting the industry adversely may be summarised as under;

- (i) Lack of enough space. (Bagru, Sanganer both)
- (ii) Scarcity of water resources (Bagru, Sanganer both)
- (iii) Pollution Control (Sanganer mainly for screen printers, bleachers & dyers)
- (iv) Lack of Education and shortsightedness. (Bagru, Sanganer both)
- (v) Lack of Organizational skills. (Both)
- (vi) Lack of financial resources leading the printers to become jobworkers. (Both)
- (vii) Lack of trust and lack of long term relationships at all levels. (Both)
- (viii) Poor marketing skills. (Both)
- (ix) Lack of clear understanding about the market prospects in domestic and export markets.(Both)
- (x) Lack of New Design inputs (Both)
- (xi) Lack of New product innovation services (Both)
- (xii) Lack of R & D for upgrading production process and controlling time factor (Traditional)
- (xiii) Lack of Infrastructural facilities like washing facilities and process houses (Both)
- (xiv) Lack of Quality assurance mechanism (Both)
- (xv) Disjointed with the market (Both)

The strengths of the sector are :

- (i) Availability of the grey fabric.
- (ii) Skills of the people.
- (iii) Ethnic designs and associated reputation.
- (iv) Established contacts of the trader community with the export community.
- (v) Ecofriendly Vegetable dyes
- (vi) Young and Educated next generation

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Strategy for the future:

Hand printing textile industry is a well diversified industry, on the basis of geographical location, method of production, working communities and also their access to the market. These groups can be differentiated on the basis of their individual characteristics, priorities and requirements. The identified groups are:

- Block Printers located at Bagru
- Block Printers located at Sanganer
- Screen Printers located at Sanganer
- Exporters/Manufacturers located at Jaipur

Initiating a programme to bring them all under one umbrella may not be feasible at present because of their different priorities. Initially small focus groups can be identified with their common problems and requirements to solve their problems. With the level of confidence building up among themselves, the different groups could then be brought under a single umbrella.

Recommendations :

- (i) Get a consumer survey conducted to understand the requirements, tastes, problems and preferences of consumers. It should lead to clear understanding about the parameters responsible for the growth and cycles of the industry.
- (ii) Assuming that there are good prospects, there is a need to set up a mission to revive the old art and build up its market value and common brand image.
- (iii) Training Programme on marketing for young and enthusiastic printers who are keen to market their own products. Market linkages are most required input for developing this industry.
- (iv) In the short term, exposure to the markets directly is a must. For years, the Chhipas (Printers) continued to work as subcontractors without getting a direct access to the consumer. The Govt agencies that are already in the process of providing support should be involved in arranging visits to the various handicraft fairs. This should provide support to such new units who have not been exposed to these type of fairs earlier. Education to the printers is also a must. Currently there are a limited number of printers who are assisted through financial assistance. This must spread out.
- (v) Set up grey fabric supply facility, it would help the industry to a great extent as a means of financing and thus provide an incentive market the product directly to the consumers.
- (vi) Encourage the setting up of a few marketing co-operatives in the form of NGOs - comprising of some enlightened and dynamic leaders who are willing to co-operate with each other. Each of these cooperatives with a membership of 10-20 persons could help

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to achieve economies of scale in terms of marketing and raw material sourcing. One big society may not be a feasible option. This is more true for the traditional printers.

- (vii) The state government should consider the demand of industry for conversion of the agricultural land to industrial land so that they could register themselves as SSI units and be eligible to get access to the civic amenities and credit facilities. This however is only feasible subject to the industry working out feasible option for setting up pollution treatment facilities, individually or commonly. The Sanganer Rangai Chapai Association could be encouraged to run the common effluent treatment plants on behalf of the industry.
- (viii) Simple improvements in the technology could be simultaneously worked at to ease the labor intensity of the job. This could relate to the printing by hand operated machines that need to be developed and drying of fabric through drying machines.
- (ix) Designs are the life line of traditional block printing industry. Compatible design inputs are badly required by this industry. A design centre with professional designers and CAD/CAM facility is required.

Structure of carrying out the implementation programme :

In order to achieve all this, it is equally necessary to set up a structure that would have the developmental outlook through commercial route. Persons who are close to the units there and have the confidence of the units need to be joined together to carry forward the programme of building up co-operation. A society should be encouraged to be formed consisting of advisors of the trusted people. It must employ some professionals and seek necessary assistance to promote the uniqueness of the product so that it provides higher value addition. UNIDO/ UNDP and other donor institutions should undertake to support the small set up on a contractual basis for a period of say 3 years and thereafter renew it if necessary. The Executive Committee should be run by the professional as Chief Executive Officer.

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AEPC	Apparel Export Promotion Council
CAD	Computer Aided Design
EPCH	Export Promotion Council for Handicraft
HEEC	Handloom and Handicraft Export Promotion Council
ITPO	India Trade Promotion Organisation
NEERI	National Environment Engineering Research Institute
RIICO	Rajasthan Industrial and Investment Corporation Limited
SME	Small and Medium Enterprises
SSI	Small Scale Industries
TEXPROCIL	The Cotton Textile Export Promotion Council

Rs : Indian Rupee with the current exchange rate in November, 1996 at US\$ = Rs.
35