



## Challenges in Supply Chain of Tie and Dye Handicraft Apparels

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### ABSTRACT

Handicraft is the second largest industry in India; second only to that of agriculture (Katiyar, 2009). Its importance is felt when it is assessed that it provides employment to lakhs of artisans especially in the weaker sections of our society and the women. It produces goods worth thousands of crores of Rupees per year. (Jena, 2007)

In the apparel sector one of the well-known handicrafts produced by resist dyeing is known as Bandhej or tie-dye which is popular in Rajasthan and Gujrat. Bandhej is a complex and sophisticated method of adorning cloth by way of manipulation of dyes with the resist material generally thread. It produces magnificent patterns the beauty of which remains unmatched to any kind of embellishment done on the cloth. In Rajasthan most productive centres of Bandhej are Pali, Sikar, Jaipur, Udaipur and Jodhpur. The tie and dye passes through various stages viz. procurement of raw material, production and distribution. All these stages in turn involves a chain of people involving traders, manufacturers and artisans—each stage having different people specialist in one certain activity of production or trading. The present paper attempts to explore the current scenario of the entire supply chain of the Tie and Dye Handicraft sector in three cities of Rajasthan State viz. Jaipur, Jodhpur and Sikar. For this data was collected from traders and artisans involved in the trade through semi structured interviews and in-depth interviews. The results throw light on the constraints and the issues afflicting the supply chain.

**Keywords :** Artisans, Tie and Dye, Bandhej, Supply chain management

### Introduction

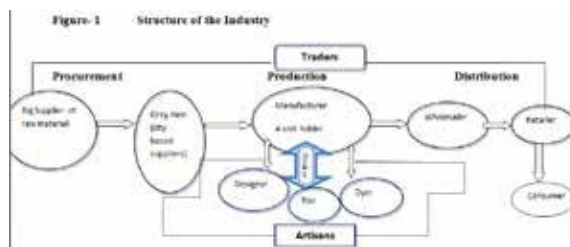
A supply chain is a sequence of processes and flows that take place within and between different stages and combine to fill a customer need for a product. The primary purpose of a supply chain is to satisfy customer needs, in process generating profits for itself. *Bandhej* garments more specifically the sarees are indispensable in an Indian women's wardrobe as they have symbolic significance. The products are made by tying with the thread or any other means according to some pattern and then dyeing them. This tie and dye handicraft also has its supply chain including various stages viz. procurement of raw material, production and distribution. All these stages involve a chain of people involving traders, manufacturers and artisans—each stage having different people specialist in one certain activity of production or trading. A *Bandhej* sari or a suit passes through various production stages and trade activities before reaching to the consumer through end market. Hence, to explore the entire supply chain of this sector in the three cities and to diagnose the constraints and the issues afflicting, the current scenario of production of tie and dye handicrafts was examined.

### Methodology

Exploratory research design was used and the cities selected were Jaipur being the capital city, Sikar, the most productive center and Jodhpur having a traditional fame for products like *Safa*, the head gear for the man. Since the entire sector is unorganised, initially the established pioneers were contacted, the structure of the industry was understood and then the sample from the prepared source list selected using snow ball technique. The primary data was collected through semi-structured interview schedule administered to people involved in the traders' category (91) viz. grey men (26), manufacturers (22), wholesalers (23), and retailers (20) and artisans' category (90) viz. designers (30), tiers (30), and dyers (30).

### Results and Discussion

The finished garments reach to the consumers through the chain of grey-suppliers (the persons who deal in raw material), wholesalers and retailers after being manufactured by the skilled hands of designers, tiers, and dyers. The structure of the industry is shown in figure-1 given below. The figure depicts the three important stages viz. procurement, production and distribution and the personnel involved at each stage.



**A. Raw Material Procurement.** There are three types of raw material viz., silk, cotton and synthetic with different varieties as shown in the table below and the garments made out of them in the three selected cities. Different garments are made with different variety of raw materials; the demand for these is influenced by fashion making the procurement schedule of raw material more complicated.

**Table-1 Type of Grey Used for *Bandhej* Garments N=26**

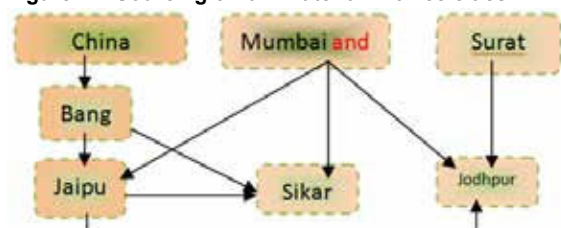
City	Type of Grey	Garment
Jaipur and Sikar	Silk	Ojharia
		Georgette
		Crepe
	Italian	
Cotton		Odhani (half sari) and dupatta

Jodhpur	Synthetic	Saris, Salwar-suits
	Cotton	Suits Skirts, Scarves, Bedsread Sari, Safa

**B. Sourcing of Raw Material.**

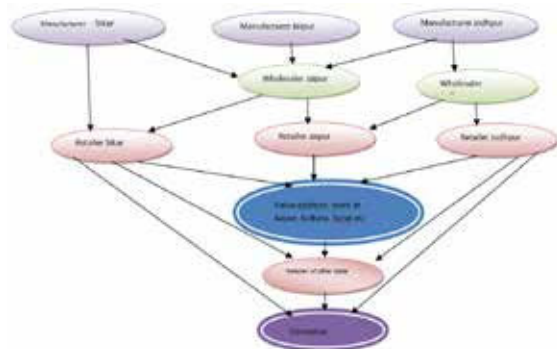
In all three cities the greymen buy the grey material from out of the state depending on the variety and quality of the cloth required. They revealed that in all the three cities cotton is purchased from Bhiwandi and Mumbai. (Figure-2) Silk is purchased in Jaipur and Sikar from Bangaluru. Jaipur is also a big centre of grey-material distribution in the state as it supplies to the other two cities also. Mr. Ramavtar Agarwal greymen from Sikar expresses, "The major suppliers of silk are in Bangaluru only. However, we buy silk from Surat also but very rarely in case of emergency". Here it is especially mentionable that Bangaluru based traders also sell silk made on Bangaluru looms but as it is generally more expensive than China made silk. Hence, China made silk is more in demand.

**Figure- 2 Sourcing of raw material in three cities**



**C. Production.** After buying the grey-cloth is cut into suitable pieces according to the intended finished product. Then the cloth is processed through different stages designing, tying and dyeing. The peculiarities of the various stages were asked from the artisans functioning at the specific stages. The designer themselves collect the raw material pieces to imprint the design after imprinting he returns back to the manufacture city based wholesaler places order to the manufacturers and after getting the delivery sells it to the retailers of the state and the country.

**Figure 3: Physical flow**



The *Bandhej* clothes purchased by the wholesalers are never in finished condition. The cloths are always in tied condition and they are sold in the same condition by them to the retailers. All manufacturers of Sikar sell their garments to the Jaipur based wholesalers. The wholesalers of Jaipur sells the sarees to the Jaipur, Sikar and Jodhpur based retailers. The retailers of three cities in turn get the finishing and value addition work done.

**E. Challenges of supply chain.**

**Obstacles in procurement.** China is the monopolist supplier of grey silk cloth and the yarn. Resultantly, the prices of grey material are governed by China only. This causes problems for the local greymen of the state. Prices can never be predicted and the supply also is irregular. Being monopolist China sells grey yarn more expensive than the grey cloth. Therefore the silk made in Bangaluru which is of even better quality than that of China becomes more expensive. Hence,

the greymen have to buy China silk in bulk in spite of being inferior in quality.

Shortage of supply is also an occasional problem with the grey-traders. Sometimes the silk from China is not supplied in adequate quantity or the consignments are over-delayed resulting in the price hike of the grey. Sannapamma and Mahale (2000) in their study on 'Silk sarees of Molakalmuru' encountered the same kinds of problems in grey procurement such as hike in the prices of filature, charka silk and zari, irregular supply and scarcity of zari.

There is no fixed procurement schedule for the manufacturers. Therefore, the greymen cannot assess the demand and place order against the demand. In this case they have either to order goods with rough estimation and store it as inventory or they place order after receiving it from the manufacturer and wait till the order is supplied. This also happens due to a long flow of information- the consumer's demand is analysed by the retailer first, who in turn conveys it to the wholesalers. It comes to the manufacturer through the wholesaler later. Thus the long process of information communication also affects the process adversely. Similar problem have been reported by Dash (2007) in his study of a Tie-Dye (*Ikatt*) weaving cluster in Boudh District of Orrisa where the demand and trend analysis is done by the trades and that in turn is communicated to the artisans resulting in long flow of information.

Fluctuation of the prices causes hoarding of the stock which creates problem. The manufacturer purchases on credit basis and pays interest but sometimes he does not pay the entire amount. When the prices of grey increase or decrease in market it affects the manufacturer as the manufacturers have to bear loss many times when the price of the grey dips since he is the person who holds the goods for three to four months.

**Constrains in production.** Problem of finances: As the manufacturers purchase grey on credit, they have to pay interest. Sometimes when the tiers or dyers take more than the stipulated time in delivering the order, the manufacturers have to pay more interest on the amount due to the grey man. Moreover, majority of the artisans do not have Artisans Credit Card. Even the banks are not inclined to give loan to those few manufacturers who have such cards. Hence, the manufacturers cannot buy the grey in big lots and they prefer to prepare products in small chunks so that payments can be done early. During the season when wholesalers need huge supply, it become a problem for them to supply the desired quantity.

Irregular demand. As the procurement schedule of the wholesalers is irregular, the manufacturers cannot assess the demand. Thus the production process starts with an order from the wholesalers only. Similar problem was found by UNIDO, New Delhi who conducted a *Diagnostic Study of the Artisan in the Textile Hand Printing Cluster Jaipur, Rajasthan in 1997*. It revealed that the procurement schedule of the wholesalers as well as the government emporia is irregular. The manufacturers cannot continue their production unit for the whole year. This results in attrition in man power.

Faulty mode of payment: There is no systematic record of the goods sold by the manufacturer; wholesalers don't give voucher or invoice of the goods they purchase. In order to save taxes a rough estimate is signed. The wholesalers delay the payment also as much they can. It delays in turn beginning of the next production cycle.

Storage problem: As the prepared goods come with irregular intervals from the artisans, the manufacturers have to store the goods until its quantity reaches to the level of the ordered quantity. Hence, storage and safety of the goods also becomes a problem sometimes. Not all the manufacturers have their own storage places and most of them keep the goods in big plastic bags and put them somewhere in their houses.

Sustainability Issues: Where ever the human labour is the

sustainability issues have to be seen. Artisans work on piece rate basis. Designers get least wages for their work among the artisans though the cost of the product depends on the beauty of the design which they create.

Tiers being women are more exploited they are dependent on the agents for the work. The agent pays them less and charges more to the manufacturers depriving them the worth of their labour

Mostly dyers get low and untimely wages. There is problem of deduction in pay due to poor dyeing since dyeing is done in a very traditional manner with rudimentary equipments. As there are ample dyers available, it is the manufacturer who decides the wages to be given and the dyer has to accept it without grumbling. Dyers often work for long hours when the demand is high. **Dash (2007)** who conducted a study entitled *Handloom Potentiality Study in Boudh District* also found the similar results. He relates "The weaver has only satisfaction to get the wage in time though it is very nominal. Always the trader has the capability to bargain not the weaver if the weaver becomes rebellious for the nominal wage, he is sacked from the job, as the trader has no scarcity of weaver."

**Constraints in distribution.** Main problem with the wholesale is the storage. As wholesalers buy garments from several manufacturers, they need a big place to store the inventory. Physical verification of inventory becomes a big problem and generally there is attrition in the stock.

Timely payments are not done by the retailers. Hence, one invoice always remains due with each retailer they deal with. Consequently a huge amount is always on the credit side of the balance sheet.

There is no way to assess the future demand of the *Band-*

*hej* products except having estimation on the basis of past trends. However, past experience shows that the demand has been varying every year. Sometimes some designs get instant popularity and some other fail to attract the consumers. Some designs are sold in particular seasons only. If the stock remains high at the end of the season, the remaining lot has to be sold on heavy discounts. Sometimes, a particular design goes out of fashion suddenly and the stock of the same remains dumped. For instance a particular design named *Shibori (named after Japanese Bandhej)* came into fashion like a storm and later it became so common that went out of vogue suddenly.

### Recommendations

There is a strong need to develop a definite marketing strategy. The sector being unorganized, there is no central body to make marketing strategy. Even there is no government intervention also. The products have no branding and there is no definite way to market the products. The need is to brand the products based on design specifications and peculiarities of the producing region.

Manufacturers should form Cooperative societies so that certain problems related to the raw material can be controlled.

Geographic identification of the products needs to be done; this will help safeguarding the products against printed goods or any other kind of imitation.

In the manufacturing unit it is the tier women who take longest time to make the designs. These women sit idle during off season, if demand forecasting is done, this time can be utilized and products can be tied and stored and dyed whenever the wholesaler places order. These women should be organised to form self help groups so that the manufacturer cannot dictate the wages.

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