

**Powerlooms in the New Market Economy:
A Case of Nagari Cluster**

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Preface

The present article is an attempt to understand the changes in the business environment and their implication on powerloom weaving in the country, in general and the powerloom cluster of Nagari, in particular. Many of the issues have been explained from the perspective of changes occurring on account of historical growth coupled with liberalization of economy and changes in the international trade scenario on account of globalisation. It also looks at the possible ways of improving the competitiveness of the cluster to remain commercially viable in the new market economy. Some of the concerns need further investigation and elaboration.

We hope this will provide an interesting reading. Comments and suggestions are welcome.

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Powerlooms in the New Market Economy: A case of Nagari Cluster

Introduction:

The dynamism of the textile clusters is partly explained through their historical perspectives. Several studies have been modeled through the historical growth path and are able to establish excellent growth models depicting neatly the production relationships (Roy, 1998, 1999, Karuppanam, 1987, Desai, 1976). Roy (1999) has noted the handloom root of all powerloom clusters and has established the link to saree weaving during the transition; a preserve for handlooms and became uneconomical to weave in mills in a relatively high speed. He further went on to add the transition of handlooms to powerlooms have been most pronounced in the Western India. Malegaon, Bhivandi, Surat, Sholapur, Ichalkaranji, Dhulia, Burhanpur are some of the examples of powerloom clusters developed originally from handlooms (Haynes, 1996a, 1996b). The Powerlooms also grew in South India mainly after 1950 due to the failure of market and also due to irregular yarn supplies; besides the government product reservation policy under which all designed cotton sarees were reserved for handlooms (Roy 1998). The analytical literature on small firms suggests four reasons for the growth of powerlooms [You, 1995]. First, small economies of scale or the absence of indivisible inputs. Weaving in general satisfies the condition. The industry that satisfies this tends to be labour intensive and labour market segmentation is an added advantage and success of small firms. Second, low assets-specificity. This condition is also satisfied for the reason of a good competitive development in the areas of fibre, yarn, fabric and processing. Third, the inter-farm cooperation can obviate the need to enlarge or integrate. This is satisfied as large part of handlooms and powerlooms are under cooperative arrangements and even the mill sector, etc., have well-organized associations. Fourth, market-structure and ease of entry can also be a factor. Indian textile sector also satisfy

this condition as it has been away from oligopolistic formations but more towards a perfect competitive market conditions. Though the four conditions of small firm success are satisfied by the textile sector in India, the most prominent reasons cited in favour of powerloom growth are the productivity difference of the powerlooms as compared to handlooms and a small investment difference in acquiring the looms and accessories of the former (Roy 1999, Karupanam 1987, Haynes 1996).

The Powerlooms of south India has been well developed in many places like Erode, Karur, Somanur, Avinashi, Palladam, Salem, Madurai, Chennai, Nagari, Siricilla, Anantapur, Nalgonda, Bangalore, Gadag, Tumkur etc. Each of these powerloom clusters produces different cluster specific homogenous products and to that extent they differ in their technologies & skills. The difference in product, technology and skill of the powerlooms are reflective of the handloom clusters from where they are graduated. In a micro-economic sense flexible specialization does not apply well to Indian Powerlooms. Individual powerloom firms manufacture low quality, generic fabrics, even intermediary cotton grey cloth and are rarely equipped to diversify. And yet in a macro-economic sense, the short production run of powerlooms does constitute a significant advantage over the mills. Thus apparel producers prefer to deal with powerlooms to better achieve product differentiation (Roy 1999, Bhavani, 2002). The liberalization of market economy during 1990s and the impact of WTO rules have put several challenges to the products originated from powerlooms. The powerlooms do try to adjust to meet the changing demands of market in terms of quality, price and delivery schedules in this new market economy. Nagari, the powerloom cluster, in the backdrop of a rural set up, has been adjusting to remain in the business and grow in this competing globalized market.

The main objective of this paper is to explain (1) the historical growth perspective of the organization of powerlooms of Nagari, the product, the technology and manpower; and (2) its competitive strength in a new market economy and then (3) goes on to make some proposals for policy interventions.

II

The Profile:

Nagari mandal area has approximately 105 sq. kms, consisting of 29 villages, located 50 kms from Tirupati on the way to Chennai. These groups of villages have around 2764-registered small-scale powerloom units¹, which have been graduated from handloom weaving units producing fine fabrics for stitching clothes. The origins of handloom weaving dates back to good old days of the past and organised as a unit of weaver-master weaver-trader model. Weaver's community called Mudaliars and Chettiars were running the handlooms mostly using cotton and silk yarn for weaving. Mudaliars constituted about 90% of the total weavers and the rest belongs to Salia chettiar- another community who also weave. The silk yarn were procured from neighboring Tamil Nadu and Karnataka, while the cotton yarn was made available to the weavers from the spinning mills in Tamil Nadu and Andhra Pradesh². The handlooms were originally producing the same shirting cloth, ladies dress material [LDM], saree, dhoti and lungi, shirting cloth having a higher share in the total production. These shirting fabrics mostly stripes and checks made out of yarn dyed material were finding markets in erstwhile Madras, Bangalore, Kolkata, Assam and many other places in the country. The Madras checks of 40^s x 40^s are still popular today. Besides the domestic market, Nagari has a history of trade & commerce with many Asian, Middle East and European countries, more particularly, the textiles³. That is why the shirting cloth production in handlooms has been ascribed to the overseas

demand for apparel production. It is said that the products were sent to Middle East countries, Singapore, Indonesia, Malaysia, Europe and USA by the trader-exporters. The products were reaching to the exporters through the master weavers/ middlemen procuring directly from the handloom weavers. Lungis are favourite among Indonesians, Malaysians, and people in Middle East Countries, Arabians, and Singapore etc. Besides, lungis were in great demand in Madras state, Calcutta tea estates and other places. The popular count of yarn used for lungis is 36^sx36^s. The sarees and dhoties have a better domestic demand.

On the advent of powerloom weaving during 80s, the handlooms became uneconomical in their operation. During the time, the farming communities were mostly in distress due to receding of water tables and poor cultivation in the area. Hence, a large number of farm labour moved into textile manufacturing. Since, the Mudaliars and Chettiars are holding capital, the switching over to powerlooms was mainly to employ the capital, rather than labour, that is, in terms of intent to maximize total returns to capital by dividing up resources between farming and textiles according to their relative risk return profiles (Roy 1999). Besides capital and cheap labour, other factors, which helped a smooth transition of handlooms to powerlooms is the plentiful available raw material resources at a reasonable cost and small investment difference in acquiring an ordinary powerloom easily available in the local market. All these factors together contributed significantly to the powerloom growth of many powerloom clusters of South India and especially Nagari. Powerlooms have obviously superior technology than handlooms. Though the manual skill and co-ordination of various activities of the weaver eroded to a great extent on account of their movement to powerlooms, the skill of managing the powerlooms increased manifold⁴. However, the weaving continued to produce the fabrics for shirting, ladies dress material [LDM], dhotis, sarees, lungis

etc. The annual production of Nagari is estimated at around 350 crores a year, of which more than 65% of the production goes to shirting cloth manufacturing. Most of the shirting cloth is meant for export through the exporters of Chennai, Bangalore, Mumbai and Delhi. The rest of the products find their market in domestic sectors, particularly Chennai, Kolkata, Bangalore etc. besides the local markets of Tirupathi, Tiruttani etc.

The manufacturing organisation is based on the weaver-master weaver/trader model in which the powerloom weaver receives the dyed yarn, the warp beam and necessary financial support to manufacture the desired product dictated by the master weavers/traders who exercise control on a number of looms in the area. About 98% of looms produce for the master weaver/ trader. The master weaver provides the warp beam and the yarn to the weaver for fabric conversion at a prevailing rate⁵. The warp length varies between 400 to 1000 metres. Normally the finer quality of yarn will have longer warp. Marketing is the complete responsibility of the master weaver/trader. The weaver feels safer by allowing the master weavers to handle the marketing for him. Secondly, the weaver's financial investment in terms of working capital remains at very insignificant level, the onus lying on the master weaver.

The Master Weaver/Trader controls the quality and price - the two important variables, which commands the marketing of the products. Presently, more than 200 master-weavers are operating in the cluster. The master weaver procures yarn from the yarn dealers (about 25 in the area at present) or from spinning mill outlets (about 15 at present) of the required counts. The normal counts of yarn used in the cluster ranges from 20^s to 80^s and some doubled yarn such as 2/80^s, 2/60^s and 2/40^s. The standards adopted for weft and warp yarn in the area are generally (i) 2/80^s in warp and 40^s in weft, (ii) 2/60^s in warp and 30^s in weft and (iii) 2 /40^s in warp and 20^s in weft and its combinations.

The weaving is carried out in looms, which have been graduated from the handlooms to the first level of powerlooms, i.e. from handlooms to conventional type ordinary powerlooms. The total number of looms is around 25,000 of which 60% are only active. These powerlooms have drop box attachments and sometimes dobby, which are suitable to produce cotton fabrics for shirting cloth in checks and stripes. The quality of the warp yarn supplies and their length depends on the count of yarn to be used for fabric production. But the productivity remains to be much smaller as compared to a semi-automatic or auto-looms. The quality of weaving and productivity suffers mostly on account of absence of warp stop and positive let-off motions. Many of the weavers' skill level do not change for the reasons of mainly in the contract manufacturing. Most of units operate with less number of looms (small size groups) as the industry has retained the household character of its operation. The household character is justified for the most units in the cluster employ around 4 looms (60%) which is easily accommodated in the household premises and uses the family labour in the complete manufacturing process having a very small hired labour component. The loom size varies from 1 to 8 looms with the modal class of 4 looms. Because of small size structure, it denies the weavers the advantage of the economy of scale.

Generally dyeing is done at the yarn stage, since shirting cloth of stripes and checks requires dyed yarn. The area has about 30 independent dyeing units who process the product on job work basis and unofficial estimation suggests the independent processors carry out a 25% yarn dyeing while rest is through the master-weaver himself. The master weavers, who invariably own dyeing houses, dye the yarn used by them. All of them apply manual wet processing method – using vat and reactive dyes, which are cheaper and easily available in the nearby urban markets. About 60 percent of the master-weavers also own their own

dyeing units. The process of dyeing has remained more or less in manual mode except 3 to 4 units having mechanised operations.

The quality of the cloth in terms of counts, dyeing and finishing is largely determined on the price decisions of the buyers. Accordingly, the master weaver starts generating samples through the weavers in desk looms and then gets it approved from the buyer. Once it is okay, master weaver causes the bulk production through their own and controlled looms in a lead-time of 60-70 days. The entire product is then picked up by the master weaver and transported to the destinations.

III

The Market:

The business environment in the world over has been changing very fast. There have been 3 critical areas of change, which are important to industrial manufacturing. First, during the last two decades the economic policies of the nations especially of the developing countries has been shifting from policy regime towards a market orientation. This has exposed the industry to a greater competitive market forces. Second, the globalization has been demolishing the entry & exit barriers of trade besides providing a panorama of duty rationalizations. This gives rise to a stiffer competition in price, quality, delivery schedules and compliances besides other conditionality. Third, there has been a boost to technological advancement, which has provided leverage for higher productivity, reduction in cost per unit of manufacturing, improvement in quality and also provides opportunities for achieving the delivery schedules. The process of globalisation has also increased the market competition by allowing imports and multi national corporations easily into the country. This in turn is creating pressures on industrial units to pay more attention to quality, price and delivery schedules rather than to profitability. All these require

substantial improvement in technology, organization and information (Chandra and Sastri, 1996). Non-trade issues of WTO such as Environmental Standards, Non-Tariff Barriers, Safeguards etc. are further adding pressures to these compliances to remain in the competitive markets.

In India a major reform process has been underway since 1991. Informal liberalization process, many argue, was initiated during 1980s (Ahluwalia, I.J. 1996, Ahluwalia, M.A. 1999, and Srinivasan 2000). The liberalization processes have provided a better playing field for the players by removing anomalies in various spheres but also exposed them from an assured closed market to a greater competitive market. One of the reforms processes, which have made the small & medium scale enterprises more exposed to competition, is the rationalization of duty structure, abolition of licensing and de-reservation of items. Coupled with the above, the financial sector reforms have squeezed the benefits of lower interest rates, credit guarantee scheme and priority lending etc. All the above have forced the SMEs to operate on the basis of market forces.

The new economic reforms coupled with globalisation induced a major transition. On one hand, it encouraged export of fabrics and garments, made new technologies available, enhanced capability and quality. But, on the other hand, the market has exposed some very serious weaknesses of both technological and organizational kind of powerloom production. From mid-1980s, textile exports surged. By far, the larger part of this consisted of cotton garments, cotton fabrics and cotton knitwear⁶. About half of the fabric-exports came from powerlooms, and by far the greater part of fabrics used in garment exports also come from powerlooms. It is a fair assumption that powerlooms supply most of the demand. As long as, there was excess demand for cloth in the market, roughly during 1992–1995, powerlooms did well. After 1995 till 2002, however exports have not kept pace with

the addition to capacity and a crisis has developed (Roy, 1998). The year 2003 and first six months of 2004 has shown a progressive growth in the export front⁷.

Setting up a powerloom unit of 6 to 8 looms in the area is easy as the local looms and expertise to set up the loom is plentiful. The cheap and quality labour is available in and around Nagari who are willing to work. There have been no entry and exit barriers for new firms, but these firms do not pose any formidable threat to the existing manufacturers in a big scale as most of them are small and suffer from the economies of scale. The average powerloom firm works with managerial and labor resources that are inefficient to the point of negligent. In a way the training, quality control and ability to diversify have never been the priority. The strength of the weaving is considered as a household work and employment of cheap labor, if hired. But adjustment of manpower, breakage rates and appropriation of power manage the margin of profit. It has been demonstrated that the margin only amounts to the wage rate of the weaver. However, production is prone to endemic moral hazard problem. The exports of powerloom product from India have a high percentage of defects and categorized as "seconds"⁸. Foreign buyer's usual complaints are unsustainable and unstable quality of production and delivery. The export business in textile sector is based on small supplies since the manufacturing lacks mass production of a particular quality. The principal reason assigned to such a phenomenon obviously attributed to the smallness of the firms and their decentralized character. There are many intermediaries who cause production act as an interface between the weaver and trader, and then to the market. There is, then, a sustained tendency on the part of trade to squeeze rates, and a tendency on the part of the producer (the weavers) to adjust compromising the quality.

In Nagari, the looms really represent a problem. The existing ordinary powerlooms are inadequate in providing quality of weave, speed and lower power consumption. The efficiency of auto looms to that of the conventional types is nearer to 170% i.e. when a conventional type powerloom produces around 30 meters in an eight-hour shift, the auto loom produces somewhere above 50 meters and with less blemishes / defects. The Rapier loom whose productivity is much higher than even the auto looms are suitable for shirting cloth production and have been used by the Salem powerloom cluster of Tamil Nadu (Textiles Committee, 2002). The competitive market has brought in enough competitive technology into the textile weaving, and failure to incorporate such technology will not improve the quality and productivity of weaving. And hence, the weaver will be uncompetitive and will be compelled to be out of business in the long run. The mid nineties, which witnessed a worst recession of its kind, have not touched all products across industry lines. In the eyes of many, the recession hit largely the unorganized small powerlooms who produce relatively substandard material as the new market economy became wiser to choose only the better products from better ones. The product lines of greys and coloured fabrics remained the worst hit categories, whereas, the quality checked / striped shirting cloth continued to remain in the main stream with steeper competitive market conditions⁹. Obviously Nagari producer survived the major onslaught of market forces even during the recessionary period.

The grey fabric producers of the Coimbatore cluster comprising of Avinashi, Palladam and Somanur have been vastly successful for their acumen to judge the situation and respond well to the change of the market forces. The rules of importing machines have been made simpler and the duty rate has been slashed to the level of 5% now¹⁰. The Government of India has been encouraging the textile sector to modernize by availing loans from the Technology Upgradation Fund

Scheme (TUFS) floated in the year 2000, providing interest subsidy. The scheme has been modified suitably for the benefit of the powerloom weavers¹¹. Wherever the technology has been upgraded to suit the particular product manufacturing depending on the market demand, the cluster has been successful. The success of Tirupur as a cotton knitwear cluster is good enough to emulate¹². Three important factors have been responsible for retarding the technological dynamism of Nagari cluster; first is the lack of awareness, which is partly due to the remoteness of the cluster from the mainstream and second, the arrangement of marketing through the weaver – master weaver/trader model. The weaver since receives only conversion charges equivalent to roughly the daily wage rates; there is little initiative from him to move along the changing technology lines. The main agent who causes the manufacturing is a master weaver or trader, who provides the jobs on contract basis. The looms being the property of the jobbers, the master weaver / trader will not venture on investing and neither can impress on the weaver to move with the changing technology levels. Third, the weaver is apprehensive about the return on investment, unaware of sources of procurement, apprehensive about its after sales-service maintenance besides training to him. All these factors have worked as impediments to the higher level of technological acceptance and change.

The present market demands high quality processing of the yarn or fabric besides use of eco-friendly dyes and chemicals. Since, the processing facilities in the country are comparatively less developed, a large quantum of grey fabric produced from powerlooms is exported and country loses good amount of value addition¹³. In case of the shirting cloth production, the weaving is made in dyed yarn. A good quality of processed yarn will only be able to generate a good quality of fabric. Quality yarn processing is achieved in the cabinet dyeing and the high-end processing machines. Most processing jobs at Nagari is carried out

by manual dyeing method by using cheap quality dyes and chemicals. This process not only generates low quality processed yarn but also leaves a good amount of pollutants to the ground water. Most importantly, the primitive method of dyeing coupled with untrained manpower, results into a larger quantum of dye use, lack of optimization in dye combination and wastage. The method increases cost on account of dyeing. Further the improper dye absorption, stains, etc., leaves the processing quality undesirable. Drying is made in open sheds and many often in open ground, leaving a good amount of dirt in the dyed yarn. Another factor, which contributes to the cost, is the hardness of the water. The laboratory testing shows the hardness of water in Nagari is 1000 ppm whereas the normal water should contain < 50 ppm¹⁴. The processing quality rests on good water, which also consumes less quantity of dyes for preparation of solution, increasing the capacity of dye absorption of the yarn. Experts feel, if water is softened before use, the benefit-cost ratio will always be more than one besides increasing the processing quality manifold¹⁵. Besides, the improvement in dyeing technology, one important culture, which is missing in the cluster, is to test the efficiency of dyeing. For example, the computerized colour matching or to test the fastness properties or identification of hazardous dyes, chemicals used in the dyeing process are some of the parametric measurements, for quality. The adoption of quality culture including testing has already become a buzzword in the globalized economy and the cluster needs to vigorously adopt the testing culture, if they have to survive in the new market economy¹⁶.

Increase in productivity, achieving quality and a well-trained weaver who scores better in the latest information sources can only achieve reduction in cost. The cluster somehow has not been able to draw attention of private service providers, though a few government agencies are present with inadequate facilities¹⁷. There is at present very

little formal training facility available. The powerloom service centers have also inadequate training facilities for teaching loom operation and lacks in generating interest in the weaving community. Further, the technical colleges around teach students for degree / diplomas but not the weavers (extensive training programme). The Institute of Handloom Technology has very limited role to play for powerlooms, poor training facilities have resulted into no improvement in the knowledge level of the weavers, and hence the quality of fabrics. The second reason, which is hindering the interest of the weavers, is to acquaint them with the developments in their smallness. They depend on the jobs and are satisfied in finding enough jobs for them to perform in the present looms with their existing knowledge. The master weaver, on the other hand, squeezes the rates and expects a better quality at the same pay off without any regards to the knowledge of the weaver, and his refreshment training, etc.

Market demand as inducers to supply side expansion though has been universal and has been working to a larger extent, the Nagari weavers utterly lack their exposures to the markets, either in domestic and international. The size of the market has been tendentially obscured from the actual manufacturers, the knowledge resting with the master weavers or the traders. They also restrict receiving orders from the buyers, if they feel that they will not be able to organize such orders and thereby further restricting the market expansion. The non-existence of information on market, technological developments, governmental schemes and policies, etc., has been the major hindrance to the general development of powerlooms and more particularly of the Nagari.

IV

Some proposals for growth:

The trade liberalization in the late 1980s had a significant effect on the small firms. The small firms dominated the four major commodity groups – textiles, leather goods, processed foods and polished gems that contributed the most of the unprecedented export boom experienced by India during 1992 – 1997 (Roy 1999). The export boom, many authors feel, segmented the industry into two broad segments – one consisting of firms where the economies of scale exists but governmental regulation did not allow them to play independently and, therefore, could not exploit their full potential. The other segment is the small firms who are devoid of economies of scale. The trade liberalization adversely affected the organized sector while created opportunities for the small sector. The powerlooms belong to the later type and benefited from the reform process that represented a positive and creative-side of the ongoing restructuring process. It is further demonstrated by the experiments conducted elsewhere, particularly in Italy, that the closeness of the small firms (cluster positions) provided them not only the advantages of gaining economies of scale and flexibility in production but also made them hugely competitive in spite of the fact that the individual firms remained vulnerable in the competitive markets¹⁸. As discussed the powerlooms have common history, infrastructure, information and tendency to congregate but have rather weak cooperative organization. The main weakness with these small firms is their isolation from the international market. The Nagari powerloom cluster is a mute spectator to such happening. Being in the small-scale sector, there is asymmetric information base on individual units to get financial support from the credit advancing institutions, on the one hand, while having inadequate capacity to individually exploiting markets for their products, on the other hand. In view of the above, the first task before them is to increase

the capacity, cut down cost and enhance the quality for a sustained supply. Above all, these produce will sale in a market, which is known and consistently extended for sustained demand. The answer has been formation of consortia, which will provide strength and ability to respond to the changing demand conditions. Two types of consortia, which have always proved extremely beneficial to a textile cluster is the consortia for raw material and marketing consortium for holding the existing market and finding market access for extended market. The consortium for raw material assures enough and timely supply of quality raw material, besides providing cost advantage over individual procurement. The marketing consortia helps to ponder for new markets, where a group can venture to trade in, being able to make sustainable supply of a required quantity of a particular quality. Textiles Committee, which has been hugely successful in enhancing the capacity building of some powerloom clusters elsewhere¹⁹, still endeavors hard to form meaningful consortia through Trust Building Exercise (TBE) in Nagari. The consortia formation, therefore, is an urgent need of the cluster, which has all historical advantage of a cluster and can benefit in the long run. This will further keep the unscrupulous middleman out from the scene that overexploit the manufacturers and corner the larger part of the benefit.

The major drawback to achieve higher productivity and quality, as discussed, is the technology obsolescence. In developed countries, small enterprises are promoted, among others, as the "Seed bed" in innovation (Balasubrahmanya et al, 2002), small enterprises have the specific advantages of flexibility, concentration and internal communications for carrying out technological innovations (Rathwell, Roy and Zegveld, 1982). It has been proved beyond doubt that technological innovations contribute to competitiveness (Tornatzky and Fleischer, 1990). Other clusters in the country manufacturing shirting cloth like Salem in Tamil Nadu have gone for auto looms and Rapier looms, which have high

productivity levels and produce qualitatively blemish free fabrics, and have been successful to produce for the domestic as well as international markets. Given the available schemes for technological upgradation, such effort needs to be taken as an immediate step to increase productivity of a desired quality level to ensure sustained supply. The major problems being faced by the manufacturers are the asymmetric information level, which partly make the units ineligible to avail credit from the financial institutions. A government's role in holding to organize information at unit level will be of great help to at least make efforts in securing credit to go for modernization. The more important role of the government agency is to inform the weavers about the modernization scheme details at the individual unit level or at the level of groups/ consortia to upgrade the technology at a higher speed. The positive effects of modernization through live demonstrations at the Powerloom Service Centers or any other agencies around will build confidence among the weavers to go for technology upgradation. Hence, a governmental role to create awareness and demonstration of the benefits will be a great step for helping the cluster to move along the desired technology lines.

The success of technology upgradation will largely depend on the after sales service of the new vintage machines, which normally develops from the private initiatives, as the changes happen; may be at the initial stage Powerloom Service Centre can play a role to some extent. Though the PSC provides some service in this line, it has been utterly inadequate to the given number of personnel available at PSC to man the services to the large number of units who require the service. Besides the above, what is more important is the training of the weavers in the new machines and helping them to produce blemish free fabrics of a required quality. The role can be played by a host of organizations, which have their presence in the cluster; the main role of training can be taken up by the Powerloom Service Centre, the Textile Commissioner's Office and

also the Textile Research Associations (TRAs). Since, Textiles Committee, a statutory organization under Government of India has adopted the cluster in their capacity building measure in the United Nations Industrial Development Organisation (UNIDO) model has a greater role to play. Committee has been instrumental in doing similar such efforts in other cluster centers. Besides, the training of the weavers in the modern loom, one more important aspect of achieving quality is the training of the weavers to produce blemishes free fabric at ease. Textiles Committee has spearheaded the checkers-training programme in India²⁰, which have been proved to be extremely useful to generate a sustained good quality of cloth.

What other than the raw material is able to bring quality and value addition? It is the dyeing of yarn. Shirting fabrics being the dominant in the total manufacturing, the dyeing of yarn plays a crucial role in bringing quality and add value. A good dyeing technology (which makes a proper solution with appropriate combination of dyes and chemicals, actual time of processing to achieve the desired dyeing quality) performs two important functions: First its proper application and second, the saving on account of reduction in dye use. The whole cluster depends on few independent processors, and the master weavers, who own process houses – all of them are hand operated primitive type dyeing units. All of them work in most unscientific methods and also with the knowledge of past experience only. Two aspects need attention. First is the acquisition of better machines such as cabinet dyeing systems for better processing quality and second to train the manpower to achieve the desired quality. Some efforts have gone in creating awareness for improving dyeing processes²¹, but intermittent awareness & training programmes will be able to impart long term impact on the dyers or the manufacturers. A government agency like Textiles Committee, TRAs or PSCs may be able to take such initiatives to develop the cluster.

Augmenting the knowledge of dyeing technology, if testing culture is improved, it will fulfill the demands of the quality conscious foreign customers. The role of governmental organizations, therefore, is to inculcate the testing culture in the cluster.

Generating of adequate demand for the products manufactured rewards all these efforts but what has been observed in the cluster is the production of the material in a closed circuit without adoption of best management practices for success of the cluster and poor exposure to the market. Exposure visits to successful clusters have been able to produce excellent results, in the important weaving technologies and diversification besides achieving coordination. Who can organize the exposure visits and who will identify newer market or tap a new customer? In the world of specialization, outsourcing of experts in the marketing field will eventually serve the purpose. But somebody should provide an initial hand holding support to act on the matter. From the fieldwork, it became apparently clear that the government agencies involved in the cluster development again could play a positive role to hit the target. Textiles Committee while doing the cluster development and marketing improvement have been able to bring some changes²².

In addition to the above, each state should develop a database of small and medium scale enterprises, which should be updated periodically- at least a period of 3 to 5 years to map the changes occurring besides taking appropriate policy measures. The state governments along with industry associations should involve the private sector in the development of infrastructure in existing industrial estates and clusters and permit infrastructural services on payment. Abid Hussain (1977) also emphasized the need for the private sector investment for the management of the existing as well as new industrial parks/clusters.

Conclusion:

The powerloom cluster of Nagari has a deeper traditional root and has been the breadwinner of a large number of weaver and non-weaver families. The industry has found itself in an intensely competitive environment since 1991, on account of the economic liberalisation and dilution of sector-specific protective measures besides the globalization. Lack of economic infrastructure, technological obsolescence and poor information systems have led to the inferior quality and low productivity of the cluster. However, the industry has been able to survive the pressures of reform process and transition of market forces both within the country and also in the international trade. However it seems, unless the industry moves forward in bringing in place the quality, productivity, competitiveness in price and above all a sustainable supply besides adopting the international conditionalities, it would be difficult for the cluster to hold the existing market for long. The role of governmental agencies, industry associations and other stakeholders have a greater role to play in building up the capacity, enhancement of quality and sustainability through a number of measures which have been hugely successful elsewhere. The concerted effort in a synergy will not only imbibe technological dynamism but also help technological up-gradation and establish inter-firm linkages to make the small firms competitive in the globalized era but also explore and exploit newer markets for them. The development and growth of cluster will certainly contribute to the powerloom growth in the country, in particular, besides supporting the growth of national economy, in general.

Notes:

1. A registration for Powerlooms existed till December 2001 and thereafter the compulsory registration scheme was repealed. Therefore, the registered number of powerlooms does not signify the actual number of units and looms.
2. There are about eleven cotton-spinning mills in and around Nagari now. The earliest spinning mill (which is operational today) is of 1964 vintage. The details are as follows:

Sr. No.	Name	Year of Establishment
1.	M/s. Shree Saraswati Spinning Mills, Tiruttani	1964
2.	M/s. Shree Saraswati Spinning Mills, Nindra	1986
3.	M/s. Chida Spinning Mills	1984
4.	M/s. Prasant Spinners (Regd)	1983 (Actual Production Started 1990)
5.	M/s. Nachi Textiles Pvt. Ltd.	1995
6.	M/s. SLV Spinning Mills	1982 (Actual Production Started Jan.2003)
7.	M/s. Vijay Sai Textiles	1985 (Regd. 1994)
8.	M/s. Ramakrishna Mills	-
9.	Parkinn Textiles Pvt. Ltd.	-
10.	Pioneer Spinning and Weaving Mills	Oct.1979
11.	Shree Ramakrishna Mills	-

3. Our field visit and discussion with elderly informed weavers strongly confirm the existence of trade and commerce with many Asian Arabian and European countries. The most important trade relations pertain to the textiles export manufactured from handlooms. See also the district gazetteers.
4. Weavers who have shifted from handloom production to powerloom learns/develops the skills on the following areas – (a) use of machine operations and electrical devices, (b) usage of dobby/jacquard attachments in power operated looms for designs and patterns formation, (c) different process in the weaving, design making etc.

5. The conversion rates (which are referred to as the labour charges) are:

a)	Scouring and Dyeing	Rs.5/- to 9/- per metre
b)	Warping	Rs.1.50 per metre
c)	Weaving	Rs.5/- to 10 depending on the count and construction
d)	Inspection, mending, washing and shrinkage	Rs.6/- per metre

6. The textile exports increased rapidly during mid 80s to mid 90s and then a recession happened all over the world. The textile export figures of India at current prices (as provided in Compendium of Textiles Statistics, Office of the Textile Commission, Mumbai) indicate a growth rate of around 12.95% in a five-year period starting from 1981-82 till 1985-86. The growth rate in the second half of 80s increased to 32.55% while it is 25.84% in the first half of 90s and since then growth rate has declined to around 10.36% from 1996-97 till 2001-02. The growth rates of the export since mid 80s are largely contributed by the export of readymade garment, more importantly the cotton RMGs. It has been established that the cotton fabrics for RMG are mainly sourced from powerlooms. In addition to the above grey powerloom fabrics produced in southern part of the country has received enormous demand overseas during the period.
7. The export figures of AEPC and TEXPROCIL are indicative of the surge in export in the first six months of 2004.
8. Some authors like T.Roy 1998 & 1999 and Bhavani, 2002 etc. are of the view that the powerloom products from India are unsustainable in quality fronts and many times marked as seconds.
9. See Roy (1999).
10. The customs duty for importing machines has been reduced. For example, the specified textile and garment making machinery has been reduced to 5% in the budget 2004-05 from the rate of 20% and similarly specified machinery for silk textile machinery has been downed to 5% from 10%. Other machinery is, of course, still in a 20% rate.
11. The government has relaxed rules for importing of second hand shuttle less and Rapier looms and bench marking is done for availing

loans from TUFs. Further a Credit Linked Capital Subsidy (CLCS) scheme at the rate of 20% under TUFs for powerloom sector has been provided.

12. The major product of Tirupur is cotton T-shirts and other cotton readymade garments. The direct exports from Tirupur have been increasing in an incredible manner. The direct export of about 75 crores during 1987 has reached more than 3000 crores during 1999. The direct export has crossed more than 5000 crores in the year 2002. The total production of Tirupur is estimated at about 10000 crores. The back end approach of demand determination, concentration on specific product development and innovation has paid rich dividends to the efforts of the manufacturers taking the cluster into greater heights not only in the domestic market but also in the international trade.
13. Textiles Committee conducted a Census of Textile Power Processing Industry in India during 1999, which held that on an average 114% of value is added during processing. The value additions in fibre, yarn, woven fabric and knitted fabric stand at 67, 92, 118 and 116 percent respectively. The estimated gross value addition during the time is around Rs.240, 000 million and a similar amount is lost due to grey fabric export.
14. The Textiles Committee Laboratory established recently at Nagari has carried out the laboratory testing of water.
15. The results have been established by the study carried out by the Textiles Committee Laboratories in Nagari and elsewhere.
16. Textiles Committee has taken a special initiative to spread quality culture at Nagari. The manufacturing units who want to test have been provided a 50% concession on the testing charges, to bring them into the fold. The second slip is the awareness creation through workshops and personal advices. The third effort has been to provide free training to the personnel of the manufacturing units in the Textiles Committee Laboratory at Nagari.
17. The main service provider in Nagari besides Textiles Committee is Powerloom Service Centre of South India Textiles Research

Association (SITRA), presently manned by the Office of Textile Commissioner. The facilities include ordinary powerloom, testing laboratory for testing CSP etc. only.

18. There have been several examples of gaining competitive advantage while the small firms unite themselves to produce in a consortium. The example of Emilia Romagna region of Italy has been the most noticeable. The consolidation of small firms in the developing economics is taking place and a lot of literature is pouring in. Some essays on the above issues have been carried out in World Development Report (1995). The cluster development approach adopted by United Nations International Development Organisation (UNIDO) has been seen as an effective approach to the development path. The Government of India has recently taken up cluster approach to develop by the new schemes such as by Apparel Parks, Textile Centre Infrastructure Development Scheme, and Hi-Tech Weaving Parks etc. Several state governments have also adopted cluster based development approach for the development of industrial clusters etc.

19. The Textiles Committee has adopted 23 identified clusters in India. Out of them, six clusters belong to Powerlooms. i.e. Bhavani/Chennimalai, Salem, Tamil Nadu; Ichalkaranji, Solapur, Maharashtra and Surat, Gujarat; besides Nagari. Some of the useful consortia have been formed for capacity building.

Name of the Consortium formed	No. of Member SMEs	Nature/ Business of Member SMEs	Society/ Pvt.Ltd. Any other	Purpose/ Nature of Consortium activity
SHOLAPUR				
Terry Towels India Consortium	09	Terry Towels and Chadder Manufacturing	Partnership	Raw material sourcing and Marketing
Euro Terry Towels Consortium Pvt. Ltd.	18	Terry Towels and Chadder Manufacturing	Pvt. Ltd.	Raw material sourcing and Marketing
White Terry Towels Consortium	07	Terry Towels Manufacturing	Partnership	Marketing
SOL-MART Terry Towels Consortium Pvt. Ltd.	13	Terry Towels and Chaddar and Surgical items Manufacturing	Pvt. Ltd.	Raw material sourcing and Marketing
ICHALKARANJI				
Days Woven Consortium	11	Manufacturing of Grey Fabrics	Partnership	Purchase of Raw material and Marketing
International Consortium	03	Manufacturing of Grey Fabrics	Partnership	Purchase of Raw material and Marketing
SALEM				
Salem Sarees Consortium	05	Manufacturing of Sarees	Partnership	Raw material sourcing
Salem Texcity Dyers' Consortium Pvt. Ltd.	05	Processing	Pvt. Ltd.	Purchase of Dyes and Chemicals
Kumaravalipala-yam Weavers Consortium	10	Manufacturing of Fabrics	Partnership	Subcontracting (job orders)
Salem Fabric Sourcing Consortium Pvt. Ltd.	05	Marketing	Pvt. Ltd.	Common Marketing
Women Exporters' Consortium	10	New entrepreneurs	Partnership	Propose to set up a new RMG Unit

20. The quality of fabrics has suffered on account of poor training of the weavers. In order to improve the quality the several workshops and symposiums have been conducted. PEDXIL has also conducted several programmes for improvement of powerloom fabrics. The Textiles Committee has spearheaded the movement by organizing quality appraisal programme to train powerloom weavers to improve

quality. During 2003-04, training more than 1000 weavers have conducted 32 programmes across the country.

21. The Textiles Committee organized a programme on quality improvement in dyeing and cost reduction in the process on 19th July 2004 at Nagari. The Officers from National Small Industries Corporation (NSIC) and Handloom Export Promotion Council (HEPC) participated in the seminar to encourage the weavers for improving the quality of dyeing for better quality of output and hence better acceptability of the product in the market. More than 75 manufacturers attended, who were demonstrated the cost benefit aspect of adopting a better technology.
22. Some marketing efforts has been carried out by Textiles Committee sensitizing SMEs on export marketing through a series of training-cum-workshops at various clusters in the country. These workshops and training programmes were followed by trade delegations to identify export markets. So far 19 Companies from 6 clusters have visited China, Sri Lanka, South Africa, Canada and UAE. These visits have generated serious trade enquiries of business worth more than 175 crores.

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