INTRODUCTION

The processing stage is the most significant process in the value chain of various textiles, i.e., fibre, yarns, fabrics, RMG and made-ups, contributing the essential use requirements of easy maintenance, colour easiness etc. and also aesthetic value addition in terms of colours, motifs and designs. In the global scenario, the value addition at this stage of production is maximum, often manifold. However, in the context of indigenous industry, processing stage is perhaps the weakest link in the entire textile production chain, which result in loss potential value addition and also valuable foreign exchange earnings. In this chapter, we are essentially talking about fabric and apparel processing, i.e., the last stages of value added textiles. The technology has led to other problems in the international textile scenario, related to environmental issues which have assumed significant importance in the recent times and have also inhibited the balanced growth of our value added textile experts to a great extent. Thus, there is an urgent need for upgradation of textile processing sector, with particular reference to upgradation of quality and compliance with international environmental parameters. For this purpose, concert and focused efforts are to be directed by industry and government to build-up a strong and vibrant processing segment capable of producing eco-friendly quality textile of world class.

CURRENT SCENARIO

As in weaving, the processing operation, particularly woven and knitted fabric processing also takes place both in the organized and the unorganized sectors. In the organized sector, in addition to the composite mills, processing is done in independent processing houses organized on a factory basis. In the decentralized sector, analogous to the distinction between the power looms and handlooms, there are small scale power processors as
well as hand-processors using traditional techniques. However, a unique feature of the processing sector is the substantial number of hand processing units which are legally permitted to use certain specified processes with the aid power (12 for cotton and 7 for man-made/blended textile). Thus, they straddle a half-way status between SSI power processors and pure hand processors, the latter being mostly in the handloom sector. The composite units have the facilities for manufacturing of yarn and fabric, as also all or major facilities for processing and finishing. The process houses attached to composite mills get the grey cloth from the loom shed of the mill and then process. Due to the optimal scale of operation and economies of scale, the composite mills also have the inherent capability for technology upgradation, including import of state-of-the art technologies for production, quality control and testing for achieving optimal conditions, apart from technically qualified personnel to handle the processing and finishing operations. The independent process houses in the organized sector mostly carry on their business with job work and generally cater to the needs of particular market segments. These process houses most often have moderate facilities to maintain controlled condition in delivering the desired quality products. However, the degree and nature of technology sophistication varies from unit to unit. Quality control and laboratory facilities are also available to a limited extent, which largely depend on the attitude of the management and type and profile of the customers. Qualified and technical people are more often than not employed to handle shop-floor activities. Technology level is generally medium or upper medium, i.e., one or two generations behind the latest available. The SSI power processing units use even more obsolete or rudimentary technologies, surviving on processing of cheaper, domestic-market-oriented textiles. The hand processors using specified power processes also are, more or less, of the same technology level except for the hand operated processes. The other extreme is the hand processing units which employ most conventional labour intensive tools and equipments and there is no automation sophisticated machinery. There are almost always no technical persons available in such units and the operators/ supervisors make do mostly with hands-on experience, adopting unscientific and unsystematic practices.
As such, there is a limit to which improvement in quality can be achieved by these units. However, the SSI power processing units and hand processing units interested in export to certain targeted markets generally improve the quality by paying more attention on quality of inputs, such as quality of grey fabrics, auxiliaries, dyes and chemicals, water and process parameters including some minimum essential quality testing facilities apart from the skill and experience of the workers.

The Working Group on Textiles for the 9th Plan has estimated the number of processing units a 12,596 out of which 133 are in the composite sector, 2066 independent process houses and 10,397 hand processing units. However, a careful perusal of the state-wise data would reveal an apparent anomaly, possibly error, in the data and hence, its reliability is rather suspect, particularly for the hand processing units. For example, 4061 units are shown as hand processing units in a low textile - concentration state like Orissa. It accounts for almost 32 percent of the total of 12,596 which seems rather too high. On the other hand, the North East known to possess an estimated 17 lakhs handlooms (almost 50 percent of national total) shows only 210 units. So is the position in textile/handloom major states like Tamilnadu, Maharashtra and Punjab. Possibly, the household processing units of Orissa have been counted while elsewhere it is not. To sum up, the data base is extremely weak, dated and prima facie unreliable. Precise data on silk and woollen textile processing units and installed capacity or production is also not available. But available technology level is not substantially different. It was learnt from the Textile Commissioner and the Textiles Committee that they are shortly undertaking a survey for the same in two phases (hand processing units to be covered in phase II) and another for the woollen industry. They should hopefully throw up a reliable up-to-date data base within a few months. The Committee appreciates this proactive effort and hopes that the survey would cover all types of processing units at the earliest and the government must provide all necessary support.

With the pre-dominance of the hand processing activity in our processing sector, the ability to produce quality processed fabrics is lacking. One of the major limitations which beset the industry for reaching optimum
output and quality is, of course, application of traditional/obsolete technology. The processing machineries generally installed in the processing sector lack proper process controls and are poor in metallurgy. To export value added goods and to cater to the requirements of the clothing sector, the process houses should be able to process wider width fabrics in open width form with defect free, uniform shade/matching and proper dimensional stability (controls on shrinkage). Quality goods have to be produced uniformly and consistently at the very first time and re-processing has to be reduced. For textiles slated for exports, it is very essential that the preparatory processes are perfect. At present, machines available in India or preparatory processes are normally of batch type and most of the bleaching plaints for processing the fabrics are meant for rope form. Such machines are not at all suitable where fabric is to be processed in open width, specially heavier fabrics such as drill, gabardine, satin etc. because only in open width processing, uniform and crease-free processing can be effected. It is also observed that dyeing is generally carried batch-wise on jigs or pad and batch system. Although continuous dyeing plants are available, considerable improvements in their performance is desirable. Jigs installed are of conventional types without any dosing system and control is of pneumatic type. Dyeing on such machines results in batch to batch variation and also variation within a batch due to tailing effect, side to centre affect etc. Another drawback connected with the dyeing process is re-predictability of shades. As regards printing activity, the processing units are gene rally using flatbed and rotary printing machines manufactured in the country, which meet certain end requirements but are not suitable for highly sophisticated and accurate printing. As regards finishing, most of the stenter used in the processing industry for drying and heat setting of the fabrics are equipped with specific energy saving devices but there is a deficiency in such stenter maintaining uniformity in temperature of the different chambers thereof. Apart from the application of traditional/obsolete technology, other major problems which adversely affect the functioning of the entire processing sector are cost prohibitiveness and non-availability of dyes free from harmful amines, lack of effluent treatment facilities, scarcity of power and water, etc.
The Committee has examined in depth the current scenario of the processing sector of the textile industry as it prevails in the country and feels that pre-dominance of cloth production in the decentralized sector and steady loss in absolute production and market share of the more quality-conscious and quality-capable organized mill sector have inhibited the modernization/technology upgradation in the processing sector. The mostly poor quality of cloth produced in the decentralized powerloom sector obviates the need and rationale for quality processing, as quality processing often further brings out and highlights the weaving defects thereby not adding commensurate value or recovering process cost. Another factor responsible for lack of modernization in the processing sectors is the central excise duty structure at fabric processing stage. Under the currently applicable excise duty structure, hand processors are exempt from duty and even, as stated earlier, certain specified processes carried out with the aid of power are exempt from duty. It was very forcefully brought to the notice of committee that this exemptions provide scope for duty evasion by some unscrupulous power processors by maintaining both types of units side by side and declaring power processed fabrics and hand processed. The committee is of the considered opinion that such disparities in tax structure lead to structural anomalies and inhabit the growth of quality process houses.

When MODVAT scheme was introduced at the fabrics stage in the year 1996-97 without uniformity in the duty structure at the yarn stage, an anomaly was created in favour of the mill sector. Under the MODVAT scheme, mill sector was eligible for MODVAT on ‘actual’ basis, even for bought out filament yarns, while independent processors were eligible for only specified deemed credit. With specified deemed credit, they were not able to claim full credit for duty paid at yarn stage, particularly in respect of polyester and nylon filament yarns as these items attract very high rate duty. Even among the independent processors, there was disparity in the sense that processors processing cotton fabrics were getting excess duty abatement under ‘deemed credit’ basis while man-made processors were getting less as the deemed credit rate was uniform for cotton fabrics and man-made/blended fabrics.
processors. This disparity was due to the wide disparity in the duty structure at cotton yarn and filament yarns stage in favour of cotton yarn.

It was also pointed out to the Committee that recently, another fresh anomaly has been created by imposition of excise duty based on the number of chambers in the stenter machine located in a process house. This scheme is strangely applicable only to independent processors. Even semi-composite units without weaving/knitting facilities and operating their processing units actually for job work only are not treated at par with independent processing units. The incidence of duty under this scheme is comparatively less than that of ad valorem rate of duty applicable on process houses of the organized sector, more particularly in case of independent processors processing high value textiles. This situation can lead to de-linking of process houses by the composite sector as an instinctive survival strategy and will most certainly inhibit the modernization process. If it happens (which does seem rather real in the present circumstances), it will be singularly unfortunate. While the scheme by itself may have the merit of transparency though without an inbuilt revenue buoyancy, it seems to be rather indulgent to large and medium independent process houses, particularly those processing high value fabrics, by giving them windfall bonanza of huge tax savings through fixed duties. Besides, any tax structure which moves away from the principles of equal and equitable treatment of all tax payers and the increasingly popular and rational VAT system, is retrograde in the long run. The committee feels that the move is rather a cover up for the failure of the revenue authorities to stop tax evasion through suppression of turnover or mis-declaration thereof. The Committee would recommend that while in the long run, an ad valorem duty structure with a minimum chamber based duty to tackle evaders would be ideal, in the short run, the stenter-chamber based duty on independent processors processing high value textiles should be levied with duties based on average value of fabrics costing above Rs. 30 per sq. mt. multiplied by the net effective tax rate ratio over that for cheaper fabrics. This would minimize the gap between such processors and composite mill sector who are obviously direct competitors. The composite mills can also be given the discretion for opting for either the advalorem or the chamber-based duty structure. As
regards the advalorem duty structure, the Committee has given its views in the “Fiscal structure and Policy” chapter.

POLICY INITIATIVES IN THE PAST

The Committee observes that the Textile Policy of 1985 has provided that “In the processing sector, the independent power processors and the processing houses in the mills would be treated at par and each would be allowed to operate on the basis of its competitive strength. The small hand processing units with limited output will receive special consideration” Accordingly, duty structure of independent power processors and mill sector have been brought at par in the year 1985. Though 1985 policy has clearly laid down that “The small hand processing units with limited output will receive special consideration”, the duty concession actually provided to this segment is without any consideration of output. No rationale or justification for the same is available on record. This anomaly together with duty exemption for specified power operated processes has played havoc with the modernization process of this sector. Again the stenter/chamber based duty structure has gone against the basic tenets of the Textile policy of 1985 which had unambiguously laid down independent power processors and process houses of mill sector would be treated at par. The Committee has observed that the database with regard to the processing segment is very weak. Therefore, it is difficult to assess the impact of the 1985 policy on the growth of this segment. One of the parameters which are indicative of quality of processing in the country is the share of export of processed fabrics vis-à-vis grey fabrics. It is seen that in 1985-86 about 40 percent of fabrics were exported in processed form as against about 46 percent now. This shows that there has been only a limited growth in the export of processed fabrics. Nevertheless, it is evident from the less than 50 percent share of processed fabrics in our total fabric exports that the textile industry in India resorts to large scale export of grey fabrics resulting in a huge loss of potential value addition and incremental export earnings for the country. The poor unit value realization from processed fabric exports, more particularly from the powerloom sector, also indicates the poor quality and technology of our textile processing industry. In
the context of the restrictive import quota regime, higher export earnings can only come from higher value addition hence, critical importance of processing and finishing in the textile industry. Given the right policy thrust and adequate investment in technology in existing as well as Greenfield projects, the processing sector can certainly provide for the perfect platform for not only large increment in value addition in the manufacturing but also a great deal of foreign exchange earning to the nation. Given the size of the untapped potential and steadily increasing yarn and fabric production base in the country, this sector has immense potential for new employment generation too.

The recently launched TUFS which has targeted processing sector as a thrust area for technology upgradation, it is hoped, will lead to a substantial improvement in the technology level of the processing segment as well as installed capacity thereof. This Committee has also recommended uniform duty structure for all the segments and withdrawal of duty exemption for specified power operated processes to remove the structural anomalies created due to differential and discriminatory excise duty structure.

**POLICY RECOMMENDATIONS**

The processing facilities available in the country are reasonably good for man-made and blended sector. Therefore, focus should be improvement of facilities for cotton sector, primarily with a view to improving the export of value-added cotton based textile items. At present, only 46 percent of the cotton fabrics exported is in processed form while remaining 54 percent is exported in grey form. Our target in this context should be 90 percent processed fabrics and only 10 percent grey fabrics.

Technology Upgradation and modernization will help in quality production reduced re-processing, better utilization of utilities (power, water, steam) without adversely affecting the labour complement. The Committee has noted that the recently launched Technology Upgradation Fund Scheme has targeted processing sector for focused technology upgradation which should result in improvement in the technological level of the processing sector. The Committee feels that since processing activity is the weakest link
in the production value chain of textile items, apart from coverage under TUFS, additional policy initiatives may be needed to accelerate technology upgradation in this segment. The facility of investment allowance or accelerated depreciation may also be made applicable to installation of the processing and finishing machines. At present, the process houses are allowed 10 percent and 15 percent annual depreciation on machinery and plant respectively except for high energy saving machines where 100 percent depreciation is allowed in the first year itself. In order to ensure high quality standards in the processing sector and also to extend other incentives to them, it is recommended that 33.33 percent to 50 percent annual depreciation be allowed for first three years on purchase of various machines which improve the quality of the processed fabric or eco-friendliness of the process.

The basic thrust of the textile policy is to acquire and maintain global leadership in manufacturing and export of textiles and clothing by gaining a position among the top 5 competitive nations. To achieve this goal, the processing sector has to gear up because at this production stage, maximum value addition is possible. The Committee recommends setting up of about 400 new processing units- 200 high-tech units and 200 medium-tech units. Total investment requirement for setting up these units may be about Rs. 8000 crore. This apart, in situ upgradation of existing processing facilities will require additional funds of about Rs. 8000 crore. The Committee recommends that the Govt. may encourage setting up of processing units, particularly of small and medium capacity. The processing units could be set up either by professional associations/co-operative societies or group of fabric manufacturers can join together to set up such facilities for captive consumption. Individual entrepreneurs can also be motivated to set up processing units, particularly in the clusters of decentralized weaving/knitting segments. It is noted that processing units are covered under TUFS, but there may be need for further incentives to facilitate setting up of such units which are highly capital intensive. Therefore, the Committee recommends that for processing units, financing norms under TUFS may be further reduced appropriately. The Committee has also recommended for setting up of yarn dyeing facilities may also be subject to such dispensation.
Investment in new processing units is, to some extent, discouraged by the possibility of subsequent public interest litigation in Courts on grounds of pollution. If State Governments identify areas where processing units can be permitted to be set up after assessing area-wise pollution loads and develop parks for such processing units providing good quality infrastructure (uninterrupted power, soft water etc.), it will go a long way in encouraging the setting up of world-class processing units. The Ministry of Textiles Government of India, can consider introducing a scheme to provide infrastructure grants to State Governments for setting up such Processing Parks. Ministry of Commerce is providing such assistance to Export Oriented Parks under the Critical Infrastructure Balancing Fund and the Ministry of Industry provides funds under the Integrated Industrial Area Development Programme. The introduction of a similar scheme by the Ministry of Textiles will give a special focus to the Textile Parks including Processing Parks. The processing machinery available indigenously mostly does not have proper process controls and are poor in metallurgy. Wider open width machines are not available. High tech open-width bleaching plants are also not available indigenously. Such plants manufactured by reputed companies abroad are well-equipped with micro process based dosing system for chemicals and effective control of temperature, duration of treatment and machine speed. However, cost of such machinery is prohibitive and together with customs duties, they cannot sustain the profitability of processors in the low priced, low return domestic economy while export volumes may not be as large as can sustain such high investment. Hence, there is a very strong case to make the landed cost of such machinery affordable and production therefore cost competitive. It is, therefore, strongly recommended that high-tech processing machines with minimal or no indigenous angle should be permitted to be imported with 'zero' duty, while such medium-tech processing machines may be permitted to be imported with concessional duty.

Indian machinery manufacturers are reluctant to go in for manufacture of machinery needed by our textile processing units as they lack sufficient incentives by way of economic and sustainable demand size and general preference of the few quality processing units for foreign machinery. This
being the case, a one time (substantial) grant for technology upgradation in the textile machinery industry is necessary to modernize this sector. The Committee has recommended in the chapter on 'Textile machinery' for setting up venture capital fund and also a technology upgradation fund for textile machinery industry to promote indigenous production of high-tech machinery needed by the different segments of the textile industry. For the processing sector, the thrust should be on manufacturers of small and medium capacity high-tech processing machinery.

For reproducibility of shades, colour matching techniques which predict accurate recipes are important. Hence, there is an urgent need to have colour matching centres close to the clusters of small process houses, which can assist the processing units in producing in the first attempt the exact required shade needed for export products and clothing units. Similarly, design preparation for printing is a time consuming process. For this, computer aided designing is now available. The government has already established eight CSD/CAM Centres in the PSCs and 12 in the WSCs. The Committee recommends that more such centres may be liberally established, particularly in the clusters of decentralized textile centre with substantial processing activities.

Due to lack of proper technical and testing facilities, the quality of the processing suffers. The Government has facilitated installation of 20 eco-laboratories all over the country with the latest equipments imported mostly from Europe and USA for testing of various eco-parameters in the interest of human environment and health. Besides, another about 50 textile testing laboratories have been upgraded/established to provide the latest physical and chemical testing facilities to ensure that the textile production and exports conform to the stringent quality standards. Still, there is an urgent need for strengthening of testing laboratory network through the establishment of more and more testing laboratories and service centre, particularly in the clusters of small processing units.

The committee was informed that textile processing activity has been notified as a 'hazardous activity' with stringent regulations. The view of the cross section of the industry was that textile processing cannot be considered
as a hazardous activity. The Committee, therefore, recommends that Government may constitute a committee comprising of representatives from the industry, pollution control experts and concerned govt. officials to examine the issue in depth and recommend appropriate uniform desirable and pragmatic norms and guidelines to encourage pollution control. Currently, different parameters of pollution control are prevailing in different stats. In view of the globalization of trade and integration of world market, there should be common national standards for pollution control for textile industry as a whole instead of different parameters prevailing in different states as is the situation now in view of the preponderance of the decentralized sectors in the textile processing activity, there is a need for encouraging the setting up of common effluent treatment plants in the areas of concentration of small textile processing units.

During its inter-active sessions with the representatives of the industry associations, the Committee was informed that different High Courts have been adopting different norms/standards to evaluate the functioning of various processing units. In the absence of a well-informed and coordinated defence, the Courts apparently have not been able to get a proper feedback of relevant information. This has resulted in orders being passed for immediate closure of processing unit sat different places. The madras High Court is reported to have given a decision to the effect that no processing unit/dye house shall be located within a 5 kilometre radius of a drinking water source (a well, pond, or rivulet/river). At this rate, there may be no processing unit operating anywhere at all. The situation is serious enough to require immediate governmental intervention. Otherwise, the textile sector, which is already in a distress situation, is likely to face more desperate circumstances. The Committee recommends the following action points to tackle the situation:-

1. Urgent compilation of information about all such cases in which there have been (restrictive) orders f different High Courts.
2. Urgent compilation of information about all such cases pending in different High Courts.
3. An approach to the Supreme Court with a request for 'hunching' of all the cases and their transfer to the Supreme Court for co-coordinated and in depth consideration.

4. Authentic presentation of common norms/standards so as to facilitate a co-ordinate devaluation of all the pending cases/complaints.

5. The High Courts appear to have based their orders on the classification of the textile processing by the Central Pollution Control Board as a 'hazardous process'. If this is indeed so, the basis of classification will have to be ascertained. It appears to be reasonable to contend that there can be no such general classification. If necessary, therefore, the CPCB classification will have to be countered with appropriate expert opinions duly backed up by adequate/data so as to facilitate modification replacement of such classification/norms.

6. In any case, units that been operating for long years without causing any apparent, major immediate health hazard, cannot be, in all fairness, asked to close down abruptly on environmental considerations. Courts do allow for reasonable lead-times in such case for transition before closure. There is, therefore, no reason why it should be different in these cases. Accordingly, the Supreme Court can be requested to permit suitable and reasonable interim arrangements.

The Committee also feels that investment in environment protection. Pollution control measures and for acquiring ISO 14000 norms must be encouraged by providing interest/capital subsidies or income tax deduction on investments on such plant and machinery and standard installation costs and permitting high rate of depreciation for such plant machinery, particularly since unlike ISO 9000, adherence to these norms do not provide any financial returns to the implementing firm. It is noted that expenses incurred for acquiring ISO 14000 norms have been covered under TUFS. The Committee feels that apart from concessional rate of interest, capital subsidy may also be provided by the Government for such investments to encourage the processing houses in the decentralized sector to acquire such norms. An annual 'national award' may also be considered to be instituted for "environment friendly companies".

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The environment issues which are linked to the processing activity have social connotations. Social organizations and central and state government in India have become aware of the harm done to the environment and human health by various industries and have taken the required measures to rectify the situation. Germany provided the catalyst by way of banning the import of specified textiles dyed/printed with certain azo dyes which release carcinogenic amines in the course of use. The different agencies diverted their attention to ecology, which is the study of interaction between living organisms and their environment, which includes the atmosphere, water as well as pollutants either present in them, or introduced by man through industrial gases and effluents. With respect to ecology and textiles, three aspects, i.e., production ecology, use ecology and disposal ecology should be considered. Hence, the Committee recommends that in addition to modernization / upgradation of chemical processing of textiles, the ecological aspects also deserve attention both from the point of view of domestic market as well as international market for the sake of social accountability.

The Committee feels that acid, direct and disperses azo dyes, banned in Germany and in India, may not be allowed for dyeing / printing in textile processing units and lists of safe substitutes may be made available to dyeing/printing units. Reactive dyes are very popular for dyeing cotton and other cellulose textiles. Their application involves the use of glaubers salt or common salt, which find their way in textile effluent, increasing their total solids content. Use of reactive dyes of low salt or no salt requirements in dyeing may be encouraged. High reactivity dyes may be encouraged since they reduce pollution of effluents.

Use of enzymes (with standing bath used after replenishing to soften many batches) in finishing cellulosic fibre fabrics may be preferred to chemical softeners may be encouraged, since the latter pollute the effluents less than the former. Safer substitutes for non-eco-friendly textile chemicals may be produced and made available to the textile processing sector (sizing, de-sizing, bleaching, dyeing, printing and finishing) and production of such chemical may be encouraged and R and D efforts are directed to develop safer textile chemicals, substituting the current non-eco friendly toxic/
carcinogenic / sensitizing dyes and chemicals. This assumes great significance in the context of reported continued use of banned dyes by some textile processors for the advantages in terms of price and brightness. In tested samples, an average of 4 to 5 percent samples exhibit the presence of banned dyes/chemicals. It means that even though the Ministry of Environment and Forests has banned 112 dyes, there are manufacturers who evidently do not comply with the same. It is a pretty disturbing situation. The committee would urge urgent and stringent action by the concerned authorities to enforce the ban on production and use of such dyes and chemicals. The fact that over 90 percent of all dyes and chemicals are consumed in textile processing makes this task all the more significant and urgent.

(Report of the Export Committee on Textile Policy, Government of India, Ministry of Textiles, Udyog Bhavan, New Delhi, August (1999, pp. 89-95)