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Rationalization in the Cotton Textile Industry

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RECENT statements by Government spokesmen have tended to view rationalization in its proper perspective. Hitherto, Government attitude to this urgent problem has been timid and halting. The change has coincided with a new awareness of the problems that industry has had to face since the recession. In his reply to the Budget debate, Shri Ghintaman Deshiuukh was bold enough to state that " it would be wrong and against the general interests of the country to discourage or prohibit rationalization altogether"; he has expressed himself in favour of a graduated pace of rationalization, discriminately located. Shri Java Prakash Narayan has called upon labour to co-operate with management in the raising of productivity. Even the ex-INTUG Labour Minister of Bombay, Shri Shantilal Shah has thought fit to dilute his opposition to the idea.

Rationalization is, however, too complex and technical a matter to be discussed in vague terms. Generalisations on this subject are as dangerous as they arc easy to make. The scope and effects of rationalization embrace each one of the numerous decisions that the management of a firm has to take. In this light, Shri Deshmukh's definition of rationalization as " the replacement of obsolete and outworn machinery by improved machinery of higher productivity" is a trifle too restrictive. In fact, its purpose is essentially two-fold: to raise the output and reduce the cost (which arc not the exact inverse of each other) of labour, machine, material and management. As such it does not comprise ' lumpy ' changes only, but also includes the more continuous improvements which are the function of day to day management. Labour productivity and efficiency are generally the primary objects of rationalization, not because labour costs form the largest ingredient in total costs fin the cotton mills, they account for only about 25 per cent, as against 52 per cent represented by ' materials') but because: firstly, they have to be paid in cash and secondly, and more importantly, they have of late tended to increase in much greater proportion than other costs and this trend is likely to continue. At the same time, however, rationalization assumes as a pre-condition, progressive management, relying upon scientific assessment of work-loads and willing to effect ancillary alterations, where they are necessary, These, as the Textile Working Party (hereafter the TWP) found, are somewhat conspicuously absent in our industry. Rationalization is not mere installation of automatic looms and high-speed winding and warping machines, which have, unfortunately,, become its symbols. It is primarily a progressive attitude, dedicated as much to keeping up with technological developments, as to tightening up the management of the minutest details of production and marketing. Its inseparable ally for this purpose' is management (or cost) accounting, a field in which our industry has been notoriously remiss; an indifference, nevertheless, not more heinous than the neglect of proper lighting and ventilation in most mills (a fact attested by the Technical Sub-Gommittee of the TWP). Without cost accounting, management cannot possibly know *where, how* and *what* costs to reduce. This requires the breaking down of costs, process by process, department by department, and time and motion studies to fix standard performances for labour and machine, on the basis of which re-adjustments can be made by mutual agreement between management and workers. The latter, particularly, have to be convinced that no increase in work-loads is involved.

The present situation is, however, very much complicated by the fact that work-loads in our mills present an extremely confusing pattern. For example, " since the industry's shift towards production of higher counts of yarn mainly took place on the basis of conversion of sections of older mills and not of specialisation, the fine spinning section is staffed, more or less closely, on the older patterns of labour deployment (*ie*, ratio of labour to machines) and remuneration" when, instead, the number of men should have been reduced. As a result, " workers in the fine spinning section do not have a reasonable work-load in comparison with similar occupational designations in the coarser yarn section ". Re-deployment in this case, would certainly involve an increase in the work-load and might provoke labour opposition, unless it is successfully demonstrated by scientific work-assessment that it is equitable.

A second difficulty, which rnainl) concerns centres outside Bombay and Ahmedabad, is the " significantly lower, general level of labour deployment " in the former low wage centres. Southern mills, *eg,* employ as many as 30 men, as against 10 to 12 in Bombay and Ahmedabacl, per 1,000 spindles on counts 24 (average). This advantage has now been considerably reduced by wage awards, dearness allowances, bonuses and other imposts. With the return of the buyers' market, these mills have to raise their technical performance in order to compete effectively in the market. This calls for greater managerial efficiency and redeployment of labour. Further, the wide variation at present obtaining in the work-loads in different mills would also have to be considerably narrowed by schemes of standardisation. In these cases, it would be more difficult to get round labour opposition, though here too (purely from the viewpoint of work-loads), scientific studies would be helpful.

An urgent need of the moment is rationalization of the wage structure, which has been made highly irrational by *ad hoc* dearness allowances and bonuses. The basic minimum wages in various centres have been made practically uniform since 1948 by awards, but the basis of dearness allowance (which is almost double the wage) varies from centre to centre. More importantly, flat rates of DA and bonus have significantly lowered the differentials between occupations. In Bombay, for example, a weaver's total wage today is only 20 per cent higher than that of a coolie or a sweeper, compared to a difference of 80 to 100 per cent in 1939. Further, the earnings of a four-loom weaver in Bombay are only about 21 per cent higher than those of a two-loom weaver, but in Madras they are 10 per cent lower, and in UP they are 80 per cent higher. This puts a brake on upward occupational movement and also militates against a proper relationship between remuneration,

work-load and skill.

Madras is the only state where wages are linked to the work-load (since 1947). Wages are "divided into time rate with work-load: time rate plus production bonus linked to production; and entire piece rate. This scheme has evened out the complement of workers in the mills. (Otherwise), . . . nowhere are workers in any category doing normal work-toads . . .; *normal work-loads should be of such standard that an average worker should be able to earn his basic wage ordinarily; and one who is capable, dexterous and intelligent can without exhausting himself be able to earn* 20 *per cent more wages in the same time.* It has been the experience of eminent Time and Motion Study Experts that where workers do co-operate in fixing standards, they usually outdo such standards within a short time", (TWP Report, p 128, *italics mine.)*

PRODUCTIVITY AND EFFIGIENCY

Where rationalization involves the introduction of new labour-saving devices, the output per head, *ie,* labour productivity is, as a corollary, increased considerably. Whether it leads to reduction of costs, i*e,* greater efficiency, depends upon a number of factors, principally, the amount of labour actually saved per production-unit and machine-unit, by the given expenditure of capital, the utilisation of the new equipment, and the relationship between the book values of old and new equipment. If the old equipment has been depreciated considerably, the machine costs are low or *nil,* thus making profits but without earning replacement value. Due to the high cost of new equipment, a large reduction in total costs may not be possible. In other words, the correlation of productivity and efficiency is seldom unity at the level of the firm. The correlation also differs from process to process, being generally higher in the earlier than in the later processes, *eg,* it is usually higher in spinning than in weaving and finishing, due to the complexity and greater number of operations, together with increasing dependance on preparatory processes, in the latter. This brings us to three more facets of our problem.

Rationalization requires standardisation and 'balancing' of equipment, and simplification of products with longer ' runs .' Many of our mills are museums, with all makes of equipment junked in the same shed, creating a number of production and replacement problems. The Technical Sub-Committee of the TWP even found looms of different widths and types jumbled in a single shed! It saw " in many mills counts from 14s to 70s working in the same shed on any loom under the same atmospheric conditions. Such methods of work can be seen in India only. . . ." Pending ' revolutionary' changes, this jumble, at least, could be cleared. Further, a number of mills do not have a proper balance of equipment and preparatory processes, due to somewhat haphazard growth, changes in management and frequent changes in counts and construction. This hinders the flow of material from one process to another, besides necessitating at times a different number of shifts in different departments. The term ' simplification ' is used here for what is commonly called 'standardisation'. In cotton mills, variety and mass production are not necessarily inconsistent since the equipment is made, for a range of products, rather than a single product and the count and construction (ie, reeds and picks per inch) can he altered with the , change of the warp beam on a loom given the preparatory processes. " The economies of continuity lie much more in keeping an individual hatch of looms or frame of spindles on the. same product for a minimum period than in keeping whole mills indefinitely on a single product", which would prevent the mills from satisfying consumers' demand for variety and would also reduce the mills' adaptability to changing demand. This diversification, however, has been carried too far in a majority of mills with the result that, as Dr S D Mehta finds, " the desire for product diversification has often had an unstabilising influence in the industry as a whole." The situation is best described in his own words:

" Within a unit, this manifests itself in a rapid alteration at the loom stage (including in extreme cases the cutting of warp yarns already beamed to a loom) of production decisions. It involves continual adjustment of the equipment and strain on the worker's skill, and the loss of the economies of full runs, whether on the preparatory machinery, on the looms, or at the finishing stage. . . . The. continual existence of bottlenecks, thwarting production and making it inevitable to keep some machines idle for want of raw materials or supplies of ancillaries, that one comes across in a large section of Indian mills, issues in no small measure from their unstable production schedules. . . . The absence of detailed costing data has only served to make the production schedule a matter of necessarily arbitrary judgments of costs." *(The Indian Cotton Textile Industry,)*

The Anglo-American Productivity Council reported the intentional restriction of the range of products or varieties, produced by each US mill, so as to get longer runs. This does not reduce, consumers' choice in the USA, because other manufacturers produce different ranges. Its Report on Simplification summarised the advantages thus:—(i) longer runs with fewer changes on the production line; (ii) reduced tooling and set up time; (iii) simpler and cheaper inspection; (iv) less capital invested in idle plant, tools and space; (v) reduction of stocks of materials, components and end products:, (vi) simpler administrative work; (vii) concentration of sales and advertisement effort on a narrower range; (viii) increased productivity, reduction in costs and prices, leading to increased sales. The consumer gains from a lower price for a given quality, and reduced variety and level of stocks at all distribution points. While simplification cannot be introduced overnight, it would certainly follow if scientific costing guides production schedules, instead of mere turns of the market.

Another direction in which rationalization has an important role to play is quality control, a process which should start right from the buying of cotton and end only at the stage where the product reaches the consumer. At present, cotton is often bought on the. basis of the price factor alone, quite often without enough regard even to the existing production schedule. " The effect of cleaning and opening points is not examined. Degree of damage and cleanliness is not tested anywhere" (TWP Report, p 97). Due to defective and inadequate lighting, the quality of carding cannot be seen at the card. Largely due to defective carding, technicians in every centre complain about the inferior quality of yarn supplied to the weaving sheds. Sizing ingredients are rarely analysed before acceptance from the market and before use in size mixing. Poor lighting in drawing-in and weaving further impairs quality.

The Technical Sub-Committee did not find warp stop motions introduced on plain looms in any mill. No wonder 50 to 75 per cent of our cloth is of defective quality! This is only one more demonstration of the fact that rationalization pre-supposes scientific management at each stage.

The above are the wider aspects of rationalization. The more immediate problems are those connected with some degree or other of automatization, re-deployment of labour and the effect of these on employment. It should be noted in this connection that (1) unlike in many other countries, textile wages in India compare very favourably with the general level of industrial wages; and that (2) we have at present the perhaps unique phenomenon of a combination .of high labour costs and abundant labour. One calls for capital intensification, the other opposes it as against the national interests. The presence of a large *badli* force further complicates matter. While the need for rationalization is generally accepted, it is opposed on the ground that it would throw a large number of workers out of employment, without much reduction of cost. The latter objection, however, confuses the immediate with the long run effects-of rationalization. The immediate objective is to increase labour productivity to compensate for the increase in labour costs, and thereby to sustain high wages in the long run. In other words, the primary purpose of rationalization is to increase productivity which gives an increase in sales, enables unit costs to be reduced through a wider spreadover. If the new equipment is highly labour-saving and is worked three shifts, the direct reduction in costs may also be considerable, varying with the type of cloth produced. The British Working Party (Cotton), for instance, intimated that the introduction of automatic, looms would reduce operating costs, *ie,* all expenses other than cotton and capital charges, by 61 per cent in the case of drills and 8 per cent in weaving of cambrics.

The problem of displaced labour is a most crucial one. It has to be evaluated in locational, rather than over-all, terms. Given a steady expansion of sales, scientific management, stable production schedules and labour co-operation, the reabsorption of labour, though not likely to be frictionless, should not be an insuperable obstacle. Labour has now to recognise, Among other things, the fact of the competitive situation that the industry as a whole finds itself in the export markets, as well as the growth of competition between individual units and centres, within the country. To halt the pace of technical progress, at any cost, is therefore as inadvisable as large scale displacement of labour. Further, the process of rationalization and replacement would take a fairly long time to effect. Moreover, the initial steps would be taken mainly by large and reputable concerns which (i) have the funds to finance replacement, (ii) can extend their market with comparative ease and therefore work more shifts, (iii) would have an interest in maintaining the goodwill of their workers, and (iv) would probably absorb a number of workers for improvement of quality. Many of these concerns have a vital interest in the export trade, *eg,* Bombay Dyeing exports 40 to 50 per cent of its output, and speedy replacement is in the immediate national interest in their case.

Multiple shift-working has been advocated as a measure for reabsorption. Shri T T Krishnamachari has even gone to the length of suggesting Tour shifts of 6 hours each, without, it seems, bothering about its implications for the industry as a whole as well as for individual centres and units. While multiple shifts would certainly absorb a part of the displaced labour, it should not be forgotten that a large number of mills are already working two full shifts and a third partial shift. As the Statement for December 1951, shows: (1) actual utilisation bears a fairly satisfactory proportion to capacity in the first two shifts and (2) there is

Statement showing (i) number of shifts worked, (ii) total number of spindles and looms installed, and (iii) average number of spindles and looms worked per shift in December 1951 (round figures) in some regions.

Centre	No of Mills	(1) No of workers (2) Spindles installed (3) Looms installed		SHIFTS (1) No of Mills (2) Average No of spindles (3) Average No of looms		
				1st Shift	2nd Shift	3rd Shift
Ahmedabad	66	(1) 1,30,000	(1)	2	37	27
		(2) 19,23,000	(2)	18,70,000	18,40,000	2,79,000
		(3) 52,000	(3)	41,000	39,000	1,000
Bombay City	63	(1) 2,18,000	(1)	3	30	29
		(2) 29,73,000	(2)	26,41,000	24,82,000	8,20,000
		(3) 65,000	(3)	61,000	54,000	6,000
Bombay rest	50	(1) 79,000	(1)	3	29	15
		(2) 12,44,000	(2)	10,86,000	8,58,000	1,72,000
		(3) 24,000	(3)	21,000	15,000	1,000
Madhya Bharat	16	(1) 46,000	(1)	2	10	3
		(2) 4,15,000	(2)	3,81,000	3,60,000	87,000
		(3) 11,000	(3)	10,000	10,000	1,000
Uttar Pradesh	22	(1) 59,000	(1)	2	8	9
		(2) 7,61,000	(2)	6,59,000	6,35,000	2,97,000
		(3) 13,000	(3)	12,000	12,000	6,000
West Bengal	21	(1) 32,000	(1)	3	4	10
		(2) 4,02,000	(2)	3,13,000	2,21,000	1,72,000
		(3) 8,000	(3)	7,000	5,000	1,500
Madras	79	(1) 96,000	(1)	5	32	39
		(2) 18,70,000	(2)	18,57,000	16,38,000	5,34,000
		(3) 8,000	(3)	6,000	5,000	1,000
Madhya Pradesh	11	(1) 34,000	(1)	2	7	2
		(2) 3,67000	(2)	3,11,000	2,39,000	38,000
		(3) 7,000	(3)	6,000	3,000	—
Total	328	(1) 6,94,000	(1)	22	157	134
		(2) 99,55,000	(2)	91,18,000	82,73,000	23,99,000
		(3) 1,88,000	(3)	1,64,000	1,43,000	17,500

Source: *Report of The Working Party for the Cotton Textile Industry, pp.* 25-27.

room for improvement in the third shift, though a large number of mills arc already operating a third shift but with fewer spindles and looms. Since June 1951, the number of workers employed in the first and second shifts has remained practically constant (except in Madhya Pradesh, where it has gone down), while the number in the third shift has increased by about 40 per cent.

Employment in 3rd Shift

State	June 1951	June 1952	June 1953
Bombay	17,000	19,000	29,000
Madras	6,000	7,000	8,000
Uttar Pradesh	9,000	8,000	8,000
Madhya Bharat	2,000	2,000	3,000
Madhya Pradesh	200	1,000	1,000
West Bengal	4,000	4,000	5,000
Rest	9,000	11,000	12,000
Total	47,200	52,000	66,000

Source: S D Mehta, The Cotton Mills of India 1854 In 1954, pp 266-67.

The above statistics suggest that while there is room for re-absorption of labour by working more spindles and looms on the third shift, this is not likely to be a continuing solution of the problem. The feurs of labour are, therefore, not entirely groundless. Other avenues of re-absorption in gainful employment have thus to be found. Expansion of finishing equipment by vertically integrated concerns or independent processors is one such avenue but here, too, the scope is not very wide, as the following estimates for the entire cotton textile industry made by Dr S D Mehta show: —

Cloth bleaching capacity; 4000 to 4850 m yds a year,

Cloth dyeing capacity: 2000 to 2450 111 yds a year,

Cloth printing capacity: 700 to 800 m yds a year.

Increase in employment in these processes would come about largely through *qualilialive* improvement and greater utilisation of capacity. With the secular trend towards finer cloth, combing and higher picks could also make a small contribution. Variegation of equipment, like the installation of waste spinning spindles, garment-making plants, hosiery knitting and embroidery and lace machines, tyre cord fabric plants, machinery for manufacture of bandings, tapes and niwars, looms for manufacturing belting and hose fabrics, etc, which at present employ about 15,000 to 30,000 workers or 2 to 4 per cent of the labour force, could also contribute their 'mite. It is obvious that re-absorption might not be possible to the fullest extent in the same concern- or group. Also, the displaced persons may not always continue in an equally remunerative occupational category.

In other words, re-absorption is not a simple problem and would need all the ingenuity and resourcefulness at the command of planners and management, together with a flexible approach on the part of labour. Apart from centre-wise standardisation of work-loads and wages, policies would have to leave considerable elbow-room to suit individual cases in keeping with their specific circumstances.

A Post Script on Automatic Looms and More Looms per Weaver

The present controversy largely centres on the above, somewhat at the expense of more fundamental, wider and long-term problems. Apart from their anti-employment effect, it has been contended that experience so far shows that cloth produced on these looms is of detective quality. This, however, is due not to the larger number of looms per operative but to inferior quality of yarn supplied, absence of warp-stop motions, changes in production schedules, inadequate lighting, etc. This merely underscores the fact that replacement and automatisation require rationalization on a wider scale.

While their effect on employment is not to be denied, vehement opposition to them appears to be inconsistent with the objectives of planned development. The purpose of planning is not merely to provide security to those already in certain jobs, but also to look ahead farther than private enterprise and to provide increasing opportunities of gainful employment at higher wages earned from higher productivity, ft should not be forgotten that a large number of mills can well continue with their existing practices and equipment, their markets sheltered by misdirected policies. If they are to be shaken out of their (profitable!) lethargy, a strong leavening of competition in selling and industrial management-is necessary, as also a greater consistency in government policy which on the one hand threatens to push private enterprise to the wall if it does not improve production methods, and on the other, refuses to permit just those improvements!

Shipping Tonnage

It was disclosed in Parliament that shipping tonnage increased from 390,707 in 1951-52 to 433,524 in 1953-54. During the current year, another 72,100 tons are expected to be added and by end of the plan period, the target of 600.000 tons would be nearly reached. The order for the construction of two ships on behalf of the India Steamship Company Limited will contribute to the increase in tonnage this year. India Steamship was anxious to purchase new ships from abroad as it was not possible to get deliveries in time from the Hindustan Shipyard. As the result of the negotiations between the Government and the company, this decision has been implemented. Some of the ships which are now under construction in Vishakhapatnam will also be put in service during the year.