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OPENING ADDRESS BY MR LIM CHEE ONN, MINISTER
 WITHOUT PORTFOLIO, AT THE 1ST SOUTH EAST ASIA/
 SINGAPORE QUALITY CONGRESS '82, ON THURSDAY,
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The word 'quality' brings out different visions and images in different people's minds. Some will perceive it to refer to established products which have become bench-marks for high quality eg Rolls Royce or Cadillac for cars or IBM for computers. Indeed these brand names have crept into the English vocabulary because of common usage. Others will associate quality with precision engineering such as the satellites and space-craft that are sent into orbit.

Whatever his pre-conceived idea about quality, the common man-in-the-street as a consumer does understand the desirability of quality, whether in the product he has purchased or service he has received. In fact, extended beyond the world of acquired goods and services, each and everyone of us possesses some notion of the level of quality we will like to have to enhance our well-being eg quality of education, health services, living environment, public transport, and other social amenities.

Thus, it may appear odd at first sight that the organisers should deem it necessary to hold a Quality Congress to get across the message that quality is important and is necessary for growth. The explanation probably lies in the fact that while we, as consumers, expect to receive quality products which we pay for, and in fact will be most upset if we did not, we are less clear on how quality is built into these products. More precisely, we, as producers, are uncertain as to what needs to be done, how, by whom, and when, to ensure that high quality goods and services are always produced.

During the early/..

During the early 1950s Western product quality was regarded as the best. The label "Made in USA" or West Germany or Switzerland or England was a distinct asset to product salability. What was even more remarkable was that these products not only served well the purpose for which they were bought but many also lasted long enough to be handed down as heirlooms. Many a young girl received her mother's Singer sewing machine and the young boy his father's Remington typewriter.

As to be expected, the quality of Western products continued to get better in subsequent decades through technological innovation. But the quality position of the West did not keep pace with the quality improvements made by the Japanese in many product fields - audio and video equipment, automobiles, shipbuilding, to name a few. As a result the market shares of Japanese products increased considerably at the expense of goods manufactured in the West. The truth soon dawned on manufacturers that in our highly competitive world it is inadequate to measure quality in absolute terms. In the final analysis it is the product that is the best value for money that gets sold.

Prior to and just after World War II, Japanese product quality was poor - it was widely regarded as amongst the worst. Such products could be sold but only at ridiculously low prices, and even then it was difficult to secure repeat sales. I recall a local description of clocks made in Japan in the early '50s - a Japanese clock is inaccurate but it ticks loud enough to let you know that it is still going.

Japanese products have come a long way since then. If I took a random survey amongst you, I would not be surprised if a good majority of you wear watches made in Japan. The Japanese clocks of old have long disappeared and have become part of their industrial history. Indeed in many other product lines, Japanese goods have attained a reputation for quality and value for money. Well-publicised examples in the West and in Third World countries are colour TV and the automobile. In all cases, Japanese quality superiority has been a major reason for the dramatic shift in market share from the West to Japan.

How did the/...

How did the Japanese manage to outpace the West in improving the quality of its products? Some have attributed this development to the ageing machinery and lack of new capital investments in the West. According to them, almost 60% of the machine tools in the US metalworking industries were less than 10 years old at the end of World War II. As a result, the industry made substantial gains in productivity in the early '50s. The average age of the machines, however, rose steadily, and, by the late '60s, had reached the point that only 36% of the machine tools in use were less than 10 years old. This compared with 37% in the Federal Republic of Germany, 42% in Italy, 47% in Canada, and 60% in Japan.

While the differences in the rates of new capital investments could partially account for the dissipation of the US lead in productivity relative to Japan, it could not be the sole reason for the decline of the US position.

Many have now come to the conclusion that the high quality of Japanese products has been achieved not by one or two well thought out processes but by an integrated approach towards product improvement. It has been achieved through innovative and cooperative approaches to design, manufacturing, and above all, management. Instead of merely looking for technological fixes the Japanese also pay close attention to human and organisational problems in their pursuit of high quality. I feel that there is a lesson in this for us.

The Japanese consider the organisation of quality control to be critical. Line managers and production employees, rather than staff specialists, are primarily responsible for quality assurance. Training in quality assurance is company-wide, including top management which is geared to actively direct quality-control activities. Middle management is largely responsible for interdepartmental planning and coordination of such activities while production workers, through "quality-control circles", are encouraged to inspect their own work and are trained to identify and solve problems at the shopfloor. Staff quality-assurance specialists have only a limited role as consultants and trainers.

This approach/...

This approach of building quality right into the design of the product and the manufacturing process, and having quality awareness integrated into the organisation itself, is a much more effective way of ensuring high product quality than a system of fixing the bad products at the end of the production line. The usual way of allowing workers to produce sub-standard parts and letting the final inspector worry about the resulting problems is in fact a more costly approach. It has been estimated that the conventional system of fault detection in some American car assembly plants required one out of ten workers to be engaged in repairing substandard items, resulting in truly staggering costs for scrap, rework, retest, downtime, yield losses and disposal of substandard components. The net result is enormous costs and reduced productivity from not doing the job right the first time.

This system of having separate quality specialists, quality-control inspectors, reliability engineers, quality assurance managers and other personnel with equally impressive sounding designations to police and monitor others' performance is costly and sometimes ineffective. For example, in quite a few US car assembly plants, they employ one full-time inspector for every twenty production workers. By comparison, Toyota and Nissan employ one full-time inspector for every thirty production workers, resulting in significant savings and increased productivity.

The crucial point however is that reliance on inspectors alone without quality awareness being built into the production process causes other employees to be less concerned about quality. This in turn leads management having to hire even more inspectors. Sometimes problems are passed on to the dealer or agent who receives large "dealer-preparation-fees" to make final adjustments and operations. The consumer often ends up with a costlier and poorer-quality product. This cycle reveals the disadvantages of separating quality assurance from the design and manufacture of the product.

The success of Japanese and some Western plants have shown that product quality is not simply the result of statistics, inspectors, careful rework and advanced technology. Product quality derives fundamentally from the application of specific management systems. In each of these successful manufacturing firms, every member of the enterprise is responsible for and cares about product quality not just the quality control manager, product inspector or the marketing manager. Doing the job right the first time is more than a slogan - it is built into the organisation structure and is part of the reflex action of every employee.

This approach requires management to invest in training for all its employees and emphasise development of a labour force skilled in a variety of jobs. All workers are assumed to be capable and desirous of contributing to the enterprise and are made to feel like fully contributing members. Moreover managers have to be prepared to provide workers with the tools - training and access to information - to participate fully in ensuring quality products.

Perhaps the most publicised Japanese innovation in quality control is the effort to involve production employees in quality assurance through the so-called "quality-control circles". Developed in the early 1960s, this practice has become standard in most large manufacturing firms. For example, at Toyota there are 4,200 quality-control circles for 47,000 employees, and at Nissan 99 percent of eligible employees participate in 4,162 quality-control circles. The circles are in principle voluntary and autonomous study groups, though in practice there may be company pressure to participate.

Circles averaging ten workers a piece, usually led by the supervisor or a senior worker, meet every week or two for an hour to analyse and solve shop problems. Participants are taught elementary techniques in problem solving, including statistical methods. In principle, workers select their own problems to work on, such as reduction of defects and scrap, cost reduction, safety, absenteeism, and energy conservation.

The circles are/...

The circles are geared to small-scale but continuous improvements and the overall results are impressive. The following comparisons show this clearly. General Motors receives an average of .84 suggestion per eligible employee each year, of which it adopts about 23 percent. Nissan Motors reported in 1979 a total of 9 suggestions per employee and an adoption rate of 85.7 percent, with most of these suggestions originating from quality-control circles. In 1980, Toyota Motors reported 17.8 suggestions per employee, of which it adopted close to 90 percent. Thus, not only are the Japanese firms getting more suggestions, they are getting better ones. For these 2 Japanese car assembly plants the adoption of quality-control circles over the last decade and the rapid rise in the number of employee suggestions are closely correlated with the rapid increase in their automotive quality and productivity.

The underpinning of their success in improving quality and productivity has been the break through in managing human resources. They have successfully integrated members of their enterprises with modern technology, innovative production processes and aggressive marketing techniques to produce goods of high quality.

To learn from the Japanese is not only logical but also necessary if we are to compete effectively in the market place. However this is not a matter of blind emulation but rather of building on our practices, discarding a few, and adapting time-proven approaches where useful to improve our performance.

There are a few pre-conditions which can help immensely in creating the setting for developing this "let's work together for better quality" philosophy in our enterprises. I shall mention briefly only 3 pre-requisites to set you thinking. You may want to pick them up during your discussion sessions.

Firstly, the decision to involve workers in decision making and problem solving processes assumes that workers can and are willing to communicate effectively. This requires production

workers to have/...

workers to have a minimal level of literacy and numeracy. The relatively high level of education of our workforce is an advantage which is not readily available in many other places. However much can be done to improve further the level of participation of quite a number of our workers particularly by raising their communicative ability. To be precise, ways and means must be found to help those in our labour force who did not complete their primary school education to attain a higher level of literacy and numeracy.

The recently introduced NTUC-BEST programme (BEST - Basic Education for Skill Training) is aimed at giving these workers the minimal levels of literacy and numeracy. They will thus be better equipped to acquire more skills, and participate more actively in QC circles and other coordinated schemes to improve performance and productivity. The response to the BEST programme launched earlier this month has been quite encouraging. To date some 1,000 workers have applied to participate in basic courses in English and Arithmetic. Plans are afoot to include courses at secondary and lower primary levels to meet the needs of more workers. But to really reach out to the bulk of the workforce, employers will have to play their part.

A better educated worker is a more productive and trainable worker. It thus pays managements to increase their expenditure on training. Such expenditures are investments of the company in human resource and should be given high priority if the management is serious about increasing productivity and improving overall performance of the enterprise.

A few companies have approached the NTUC about starting courses for their workers in their premises. This is a good start and more managements should follow suit. They can, if they wish, apply to the Skills Development Fund for financial assistance to meet the expenses of these courses. If the response is good and this is to be done on a large scale, the VITEB, the Ministry of Education, and the Ministry of Trade and Industry can assist in securing more instructors, arranging for certification, and

designing suitable/...

designing suitable courses to meet the specific requirements of enterprises. For example, concepts of QC circles, team work and productivity can be incorporated into the courses so that participants acquire skills and knowledge in addition to the ability to communicate.

In the longer run, we can expect better trained and educated cohorts of workers to join the labour force. They will have little difficulty in participating in these small group activities and being members of an efficient and productive team. But meanwhile, unions, employers and the Government, working together, must do as much as possible to equip the existing workforce to be more effective contributors towards the national productive effort.

We have seen the need to train workers and give them sufficient skills to be able to contribute more to the enterprise. The extent to which this will be done and the manner of doing it will vary from enterprise to enterprise, depending on a variety of factors not least of which is its corporate philosophy, its terms and conditions of employment, and the quality of the labour it has succeeded in attracting. This brings me to the second pre-condition for developing a highly productive workforce in every enterprise. And that is the management must have sufficient flexibility to decide on the manner of motivating and rewarding its employees. In other words, options cannot be limited by decisions made by an uninvolved body and based on some economy-wide conditions. More specifically, an enterprise must be in a position to negotiate with its own workforce and arrive at a mutually satisfactory arrangement, not constrained by conditions which may be unrepresentative of those that exist in that enterprise. This calls for a gradual change from set guidelines and a reversion to normal collective bargaining at enterprise level.

The flexibility built into the past 2 years' NWC guidelines which provided a range of wage increase has been a good start. This has enabled unions and management to give full recognition to the conditions at the enterprise level, eg company's development plans, product lines, workers' skills, productivity growth, company

performance/...

performance and other factors peculiar to that enterprise. Settlements based on actual conditions at the factory level will help to motivate the employees there even further. This gradual move towards settlement at the plant level must be sustained if we are to provide sufficient motivation to managements and workers to improve the enterprise's performance.

This change, in turn, will mean that management and workers in an enterprise will have the need to discuss, negotiate and cooperate more frequently. Here the Japanese model provides a useful example for our consideration - the enterprise union. In such a situation unions and management consult and cooperate in all matters relating to the enterprise, whether it is improving quality, training of workers, rescheduling of work, plant expansion or contraction, deploying of personnel or whatever.

This joint effort has been facilitated in Japanese companies by the existence of the house union. The feeling of togetherness by managements and workers brought about by the climate of cooperation instead of the adversary idea of 'me' against 'you' is due to the absence of third parties which are not in any way associated or familiar with the enterprise. While there may be other factors that have led to the Japanese being highly successful in attaining its productivity and performance goals, we can see that this close understanding and working relation between the union and management in the same enterprise is a strong factor. This is the third pre-condition for a faster increase in the enterprise's performance.

There will be managements and workers who are cautious about this concept of enterprise union, but there is no reason why we should not be open minded and receptive to innovative ideas. After all the objective is to improve the performance of the enterprise and the well-being of the worker, not to preserve out-moded practices just because we have been used to them or feel uncomfortable with change. If any change is a change for the better, then we should not tie ourselves down to mediocrity by adhering to tradition and past practices. Obviously we must not change for the sake of changing. It must be a change for the better.

The drive for higher quality and productivity has preoccupied the imagination and thoughts of many since time immemorial. However it has been only those with the vision, foresight and imagination who have succeeded in converting this drive into something real and tangible.

Unfortunately achieving these goals of quality and productivity is no simple matter. It is not just rewriting laws and legislation or merely exhorting workers and managers to work harder. These goals are affected by many interlocking factors, each of which is essential. And this is true not only for the national economy but also for the individual company seeking to improve the quality of its products and productivity of its workforce.

The key is that PEOPLE COUNT THE MOST. The success of improving quality and productivity requires a conscious effort by everyone, managers and production workers alike. They must be able and willing to work as a team to improve their overall level of performance. In the final analysis only those who try and dare to achieve will succeed.

I now take great pleasure in declaring this 1st South East Asia/Singapore Quality Congress open.
