

Continuing education in pulp and paper technology

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ABSTRACT

The development of technology depends upon the pace of utilization of existing technology. This also depends upon an awareness for the same, its availability for commercial implementation and using it for formulating time oriented developmental programmes. Creating an awareness in the concerned persons for achieving the desired objectives, thus becomes very important. Special courses should thus be planned for different level of persons, and of different durations and course contents, suiting to specific needs. The courses can be suitably planned with proper theoretical and practical inputs. They can provide opportunities for broad-based discussions by the participants for the possible implementation of the existing technologies, and possibilities for future development within the constraints faced by their industries. Such courses can help the top management to take suitable decisions, middle-level management to evolve new strategies, and Engineers/Supervisors to implement the suitable programmes effectively. This shall also help the participants in implementing modifications/alterations in the existing processes and analyse suitable in house measures for operating the systems most effectively.

Dr. Atma Ram, when delivering a H.L. Ray memorial lecture on a 'Few Thoughts on Education in India' indicated that the growth of knowledge is exponential and it is doubling every fifteen years. If we take the working life of a scientist as 45 years, this means that by the time one retires from active life, the knowledge would have expanded by eight times. This shall include the time one has spent in attaining the knowledge in colleges/ universities. If we analyse this statement then we shall see that if any gap is existing in acquiring the knowledge at any state, it may only widen the gap with time. This obviously emphasizes the need for updating of information, by the organisations, as well as by the individuals.

It has been noticed with satisfaction that the paper industry in India has made spectacular growth in the last 35 years. The growth in small scale sector is phenomenal and now in India we have mills from nearly 2 TPD to 300 TPD capacity, which give a strange mix in products, raw materials utilization and operational efficiency. This has also significantly led to the growth of indigenous paper mill machinery manufacturing capabilities, but still a wide gap exists in the design and fabrication of hi tech plants.

Each industry is run with the major objective of producing goods which can give maximum profits. Paper industry thus is not an exception and it shall also depend upon efficient utilization of man, material machinery and money. If we closely look into the 4 ms we see that the efficient utilization of money, machinery and material basically depends upon the available manpower in the industry. With the properly trained, fully conscious and efficient man power we can expect to get the best results. This shall be true with all the sizes of mills and no mill really can be considered as an exception. What it amounts to in concrete terms is that, productivity and satisfaction of the workforce at different levels has to be improved and maintained by in sightful utilization of the available human resource pool in terms of planning, placement, training and development opportunities.

In view of above it can be stated that the efficient running of any organization or industry shall thus depend upon the suitable development and management

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of manpower. This needs proper education and training of the manpower, in the organization or outside the organization.

(A) **At organisational level**—Suitable opportunities have to be given in the industry to the personnel for—

- efficient utilization of machinery, material and manpower under them;
- looking for alternative processes and new technologies, and creating an awareness amongst them for accepting some new concepts and challenges. This shall help in formulating the future developmental programmes of that company,
- participation in group discussions and giving suggestions for improving productivity,
- participation in short term courses arranged in the industry for the industry personnel,
- creating an environment which can give maximum returns under most satisfactory working conditions.

In any organization the personnel working are at different level, with different training and back ground. The industry thus can have two types of training programmes, one organised by the industry before absorbing them in their regular cadre, and the other for enhancing the knowledge of their staff by exposing them to some courses by specialists in the industry itself. The infrastructure needed for both are different and we are mainly concerned here with the second type of training programme. To call the experts from outside, who can conduct the special tailor made short term courses in the industry, causes minimum disturbance to the working staff, and may be available at a reasonable cost. This concept is now gaining momentum and many organizations have already taken advantage of the same. Such training programmes can be arranged on special topics too, such as—

- 1 Energy Conservation
- 2 Technology awareness and upgradation
- 3 Personnel management
- 4 Financial management
- 5 Quality control
- 6 Speciality papers
- 7 Productivity
- 8 Effluent treatment and control.

Obviously this shall depend upon the specific needs and the availability of experts to run such special short term courses. Another concept which is possible is to get such courses conducted in a city, where a group of mills located in that city can take advantage of the same. Such courses are more beneficial if they can be planned for different level of persons separately, and in the language which could be understood by the participants.

(B) SPECIAL COURSES CONDUCTED OUTSIDE :

Here we shall be interested in those special tailor made courses, which are conducted on requests by some agencies on topics of interest to the sponsors. Institute of Paper Technology has already conducted many such courses where the participants from many Governmental organisations have attended tailor made short term courses for them only. Even now the second batch of Tanzanian Engineers is undergoing training in a six weeks tailor made course for them, in which the theoretical and practical inputs are being given according to their specific need.

Another type of courses are floated by the expert agencies, and participants from different organisations are expected to enrol and attend the same. National Productivity Council, Department of Continuing Education (UOR), Institute of Paper Technology (UOR), Indian Society for Technical Education (GOI) and many other such agencies float different courses time to time for different level of persons and specializations.

With the help of such training programmes the top management shall be able to—

- plan for future growth,
- operate the systems well for maximum productivity
- implement suitable technological upgradation programmes,
- use the available man power more optimally,
- take suitable decisions to produce products with better marketability and profitability,
- have better financial management, and
- implement such schemes of effluent treatment which may fulfil the obligatory requirements of law.

The middle level management can take advantage of such training programmes for—

- suggesting the top management such schemes which may help in better productivity and growth,
- using the available man, material, and machinery more effectively.
- producing products with better profitability and demand.

The engineers/supervisors can take advantage of such training programmes for—

- implementing the schemes envisaged by the management more effectively,
- producing products of desired quality and quantity. This poses more challenge when one has to deal with diverse raw materials, and is expected to produce various different products in the desired quality range,
- using the available work force effectively. In the

present context this requires a greater skill to deal with the labour force, which requires sometimes more knowledge of human behaviour than technology,

- optimum operation and upkeep of systems under their control.

Thus we see that the training programmes can be suitably selected for each cadre for best operating results.

CONCLUSIONS

Based on the above discussions it can be concluded that such training programmes shall be of a great use to the participants. This shall also help the industry to develop some resource persons with better up-to-date knowledge. The courses shall have to be suitably planned considering the need and level of participants. This shall also help in development of indigenous technology too, with proper emphasis on design, fabrication, installation, operation and maintenance of plants.