CHAPTER - VII
RESULTS & DISCUSSIONS

7.1 Results

1. 80% the total workers saying their department is sweeped thrice in a shift, 15% workers said that the department is sweeped twice in a shift and only 5% workers said department is sweeped only once in a shift. (Refer: Table no. 6.2)

   It means that department is sweeped trice in a shift which is satisfactory with respect to waste collection.

2. 66% of the total workers agreed that modernization of the mill has improved work culture among the worker and only 34% said there is no change in the work culture among the workers after modernization. (Refer: Table no. 6.3)

   It means that 66% of workers agreed that modernization has improved work culture among the workers.

3. 45% worker said their jobbers keep bins around every machine to collect wastes, another 45% workers said their jobbers advice each worker to tie waist bags around their waist and only 10% workers said their jobbers advise to sweep frequently during the shift to keep department clean. (Refer: Table no. 6.4)

   This shows that 45% of workers saying, they keep bins around every machine, and 45% workers tie waist bags to collect process waste. This clearly indicates that waste collection in the department has disciplined.

4. 80% workers accepted that the working conditions and machine performance have improved after the modernization, but only 20% workers said there is no change in the performance and working conditions after the modernization. (Refer: Table no. 6.5)

   It means 80% workers accepted that the working conditions and machine performance have improved after the modernization. It clearly shows waste quality has improved.
5 55% workers accepted that there is awareness among the workers of their department regarding the importance of process waste but 45% workers said they do not know about the importance of process waste. (Refer: Table no. 6.6)

It means maximum number of workers accepted that there is awareness among the workers of their department regarding the importance of process waste.

6 When the hypothesis was tested for the process waste as an marketable product from the samples applicable to workers and jobbers, it was found that the null hypothesis stating that the cotton process waste after modernization had improved its quality and there by becoming a highly marketable product by the spinners in the market. (Refer: Hypothesis test - I)

7 70% jobbers commented that the quality of waste is very good as compared to before modernization. 20% jobbers accepted that the quality of waste is good after modernization, 8% jobbers said quality of waste is average after modernization also and only 2% workers said the quality of waste is poor after modernization.

(Refer: Table no. 6.7)

It means that 70% jobbers said as the quality of waste is very good as compared to before modernization. It meant that the waste is worth marketable product.

8 34% of the total jobbers accepted that there is awareness among the workers of their department regarding the importance of process waste but 66% jobbers said there is no awareness among the workers of their department regarding the importance of process waste. (Refer: Table no. 6.8)

It means maximum number of jobbers accepted that there is no awareness among the workers of their department regarding the importance of process waste.

9 46% of total jobbers opine that their department’s sweeping waste is useful for sale but 54% jobbers said they do not find that their department waste is useful to sale. (Refer: Table no. 6.9)
It means that more number of jobbers do not find that their department waste is useful for sale.

10 80% of total production managers said their mill’s production is in between 1500 kgs to 2000 kgs per shift and 20% production managers said their mill’s production is above 2000 kgs per shift. (Refer : Table no. 6.10)

It means that 80% of total production managers said their mill’s production is in between 1500 kgs to 2000 kgs per shift. This shows that the production has improved after modernization.

11 60% of total production managers said their mill produces below $20^5$ counts, 10% production managers said their mill produces $28^5 - 36^5$ counts. 20% of the mills produce $38^5 - 42^5$ counts and 10% mills produce above $42^5$ counts. (Refer : Table no. 6.11)

It means that 60% of total production managers said their mill produces below $20^5$ counts. This shows the mills have concentrated on coarser counts of production to improve the number of kgs.

12 17% of the total production managers said the average waste percentage of their organization is 18%, 8% of the total production managers said the average waste percentage of their mill is 15%, while 70% production managers accepted that their mill’s waste production is 20% and 5% of the production managers said their mill’s waste production is 16%. (Refer : Table no. 6.12)

It means that maximum number of production managers accepted their mills produce 20% of process waste.

13 74% production managers agreed that the culture of workers at work place is very good after modernization, 20% managers said work culture of workers is good after modernization, 5% managers said work culture of workers is average and 1% said work culture is poor even after the modernization. (Refer : Table no. 6.13)

It means that the culture of workers at work place is very good after modernization.
14 78% of production managers said the quality of process waste is very good after modernization, 18% managers said after modernization the quality of process waste is good, 3% managers said quality is average and only 1% managers said the quality of process waste is poor after modernization. (Refer : Table no. 6.14)

It means that the quality of process waste is very good after modernization.

15 85% of production managers believe the process waste collection method has changed after modernization and only 15% managers said the process waste collection method has not changed after modernization. (Refer : Table no. 6.15)

It means that the process waste collection method has changed after modernization.

16 60% production managers are happy because after modernization waste collection methods are automatic, 70% of managers said the quality of waste has improved, 55% said manual wastages of process waste reduced, 70% managers said bifurcation of process waste made easy after modernization and 90% of the production managers said their unit has gained all these advantages. (Refer : Table no. 6.16)

It means that maximum number of production managers are happy because, after modernization waste collection methods are automatic, the quality of waste has improved, manual wastages of process waste reduced and bifurcation of process waste made easy.

17 76% production managers agreed that jobbers of their shift follow their instructions carefully and give them proper feedback but 24% production managers said jobbers of their shift do not follow their instructions and they do not give them any feedback during the shift. (Refer : Table no. 6.17)

It means that maximum number of production managers accepted that jobbers of their shift follow their instructions carefully and give them proper feedback regularly.

18 66% of the production managers agreed that the percentage of process waste has increased after modernization and 34% production managers said the
percentage of process waste has not increased after modernization. (Refer: Table no. 6.18)

It shows that more number of production managers agreed that the process waste percentage has increased after modernization of the mill.

19 66% of production managers said that the process waste percentage of their organization was in accordance to the norms of research association and 33% managers said no. (Refer: Table no. 6.19)

It means that more number of production managers accepted the process waste percentage of their organization is in accordance to the norms of research association.

20 70% of the production managers said their management is serious about marketing process wastes and 30% managers said their management is not serious in marketing process wastes. (Refer: Table no. 6.20)

It means that maximum number of production managers said their management is serious about marketing of process wastes.

21 80% of the production managers are willing to utilize process wastes for better returns and 20% said process waste cannot be utilized for better returns. (Refer: Table no. 6.21)

It means that maximum number of production managers accepted that they are willing to utilize process wastes for better returns.

22 45% managers said they sell wastes every month, 35% said they sell waste after every fort night, 15% managers said they sell waste quarterly and 5% managers said they sell their mill’s waste half yearly once. (Refer: Table no. 6.22)

From the above findings we can sum up that waste should sold after every 15 days so that, accumulation of waste is avoided and capital is utilized.

23 72% managers said they maintain records of all the process wastes that generates in all the departments and 28% said they do not maintain any records regarding process wastes of the departments. (Refer: Table no. 6.23)
It means that maximum number of production managers accepted that they maintain records of all the process wastes that generates in every department.

24 30% production managers opine 1% - 3% of the total produced cotton process waste of their mill is re-usable, 45% managers said 3% - 5% of the total produced cotton process waste of their mill is re-usable, 15% managers said less than 1% of the waste is re-usable and 10% of the managers said more than 5% of the total produced cotton process waste of their mill is re-usable. (Refer: Table no. 6.24)

From the above findings we can say that around 3% - 4% of departmental waste is re-usable in the mixing.

25 The production managers said that 40% of the waste is sold to bed and mattress makers. 30% of waste is sold to coarse count spinners, 25% of waste is purchased by garage and work shop and another 5% of waste is purchased by pharmaceutical companies. (Refer: Table no. 6.25)

From the above findings all the process waste that is sold is useful and sold to different type of vendors like bed and mattress makers, garages, pharmaceutical laboratories and farmers also.

26 95% of M.Ds showing an opinion that there is no restriction in the co-operatives acts which prohibits open marketing system to sell the product. 5% exhibited doubts about the co-operative society act. (Refer: Table no. 6.26)  

From the above findings we see that there is no restriction of any kind for open tender for selling the wastes, which means that marketing of process waste is a possibility.

27 85% of M.Ds expressed an opinion that a spinning mill should appoint a marketing personnel for selling its products, while a 15% of M.Ds do not find necessity of marketing personnel. (Refer: Table no. 6.27)  

It means that maximum number of Managing Directors feel that it is necessary a spinning mill to appoint a marketing personnel for selling its products.
The co-operative spinning mills do not realize recognizable amount from sale of waste when compared to total sale turnover. The average sale recovery percentage to overall sale turnover is around 0.75% to 1% (Refer: Table no. 6.28)

The private spinning mills are able to realize significant amount from sale of wastes when compared to total sale turnover. The average sale recovery percentage to overall sale turnover is around 3.5% to 4% (Refer: Table no. 6.29)

We observe that the co-operative mills are selling the wastes at comparatively lower prices than the competitive prices that were existent during that period. This may be due to non-existence of open tender system of auctions for the wastes. Another reason may be the selling of wastes was controlled by particular personality only which is lead to lower price for the waste. (Refer: Table no. 6.30)

It is seen that the prices of wastes over ten years was more than 15% to 20% when compared to the prices of wastes sold by the co-operative spinning mills. These higher prices commanded by the private mills may be due to hectic marketing and open tender auctions for the wastes under taken by the private mills. Secondly, the selling of wastes was very frequent mostly every week by the mills. The private mills took full advantage of modernization which gave clean and quality wastes from the departments. The collection methods, packaging and labeling were adapted to help better marketing techniques it is seen that the prices of wastes over ten years was more than 15% to 20% when compared to the prices of wastes sold by the co-operative spinning mills. These higher prices commanded by the private mills may be due to hectic marketing and open tender auctions for the wastes under taken by the private mills. Secondly, the selling of wastes was very frequent mostly every week by the mills. The private mills took full advantage of modernization which gave clean and quality wastes from the departments. The collection methods, packaging and labeling were adapted to help better marketing techniques. (Refer: Table no. 6.31)
7.2 Discussions

1. After the Technical Up-gradation Fund (TUF) was declared as a fund for helping the textile industry to come out of sickness by the Commerce and Industry Ministry in 2001-02, many of co-operative spinning mills in Maharashtra started modernization programs of their organizations.

2. The period from 1990-91 to 2000-01 was very slack and bad phase for the spinning industry all over the country. During this phase as many as 40% of co-operative spinning mills were closed down mainly due to conventional machinery set up, highly fluctuating raw (cotton) market and volatile yarn market.

3. Most of the co-operative spinning mills did not have reserve fund for purchasing raw material from Maharashtra State Cotton Federation Mumbai. So, the mills found difficulty in purchasing fresh cottons from cotton traders at very high prices and keep stock of the yarn for a longer period.

4. The non-feasibility financially forced most of the co-operative spinning mills to go for lock out or to run the mills on lease basis to maintain the work force in the mill without any profits.

5. The most interesting point of this phase was neither the management nor the co-operative societies federation thought of resources such as process wastes as an important marketable product to reduce the over heads or bring about financial help to the organization.

6. The co-operative spinning mills in this phase of 1990-91 to 2000-01 did not treat the process wastes of different departments as a resource in the market and neglected the process of marketing such as cleaning, packing, labeling, storage, open tender marketing and so on which led to the process waste being thrown as a gutter waste without any returns.
7. After modernization especially after 2003-04 and 2005-06 the waste collection methods became automatic which led to highly clean and purposeful product in the market.

8. Many process waste purchasers (Vendors) started rushing to the modernized mills for purchase of required wastes with help of top executives of the organization.

9. Even now also the co-operative spinning mill management has failed to understand the importance of open tender selling and the techniques of marketing the process wastes even after knowing that there is high demand from vendors in the market.

10. The most successful mills of Khandesh namely M/S Jawahar Sahakar Sooth Girmi, Dhule, M/S LJPNSSG, Shahada and M/S Priyadarshini Co-operative Spinning Mills, Shirpur, which produce more than five tons of wastes per day do not take interest to develop a marketing department for the product.

11. The above said successful mills also practice the closed tender or selective traders for selling their wastes at a favourable price for the traders by a bargain system.

12. As we have studied over the last 15 years the prices of cotton that is being processed by most of the mills in Marathwada, Vidarbha and North-Maharashtra co-operative spinning mills have been sky rocketing at a rate of more than 250% to 300% increase in prices from year to year.

13. So, logically the prices of process waste and the by-products produced from these process wastes have also increased in the market.

14. Unfortunately it is observed that the top executives of co-operative spinning mills and the mill management have failed to understand this important point and capitalize the process wastes by marketing into a feasible product for the organization.
7.3 **Recommendations:**

1. The quality of cotton procured by the spinning mills is very important to produce the desired count of yarn with quality consciousness. The spinning mills should take into consideration certain parameters of cotton such as staple length, evenness, Thrash percentage, moisture and luster. Spinning mills should follow the guideline of SITRA, ATIRA and BTRA recommendations for suitable cotton for a desired count of yarn.

2. Good quality of cotton not only produces quality yarns but also the quality of process wastes. The amount of waste can be reduced by processing standard cottons as per the recommendations.

3. The waste collection methods and their segregation should be considered by Co-operative Spinning Mills in order to generate high returns.

4. The Co-operative Spinning Mills must think seriously the marketing of wastes. They only concentrate on marketing of yarns and neglect the wastes. If they can adopt marketing technology for selling their wastes they can definitely get higher returns from the wastes.

5. The Co-operative Spinning Mills should sell the wastes in a frequency which matches the demand from the waste purchasing customers. This would enable the customers a timely required product for their requirement.

6. The Co-operative Spinning Mills which are adopting tenders and appointed agents are likely to lose a desired rate for their wastes. So, very good marketing policies are needed by these mills to fetch higher returns from wastes.

7. Most of the Co-operative Spinning Mills have a select band of agents who participate in the tenders. This system should be avoided and open tenders should be called using various media for advertisement so that all the waste...
required purchasing customers can participate in the tenders and develop healthy competition and indirectly increase the prices of wastes.

8. The co-operative spinning mills should adopt Maharashtra state co-operative spinning mill federation acts to sell their products and widen up their customer base to promote the wastes to fetch reasonable returns.

9. As per the standards of SITRA for a quality yarn, a minimum of 15% to 18% of waste is necessarily be extracted from the process. So the spinning mills should concentrate on waste marketing process so as to make financial feasibility.

10. It is necessary for the spinning mills to establish a separate marketing department for marketing their products.

11. The frequency of selling of wastes should be based on the demand created by the end users especially the vendors who use these wastes for making useful end products like, beds, pillows, rajais and so on.

12. As the cotton prices are spiraling the process wastes also should command similar prices for the produce. This means that the process wastes naturally give sufficient feasibility to solve major overheads of the spinning mills.

13. The private spinning mills are utilizing the process wastes to recover most of their overheads but unfortunately the co-operative spinning mills are neglecting in this area. So, the researcher would like to recommend that the co-operative spinning mills should take advantage of process wastes through marketing techniques.

14. Most of the co-operative spinning mills in Khandesh are already modernized or under the process of modernization under the TUF scheme, the waste collection process has been very technical and very systematic so as to get the desired value for the process waste. So, the researcher would
like to recommend that the process waste should not be neglected for marketing process.

15. For a co-operative spinning mill, a return of 10 to 15 lac rupees per month would be a great beneficial to either pay their energy bills or labor payments or inventory requirements.