Agricultural Equipment Manufacturing Industry: A Case Study

About the Client

- Client is a manufacturer & supplier of Agricultural Equipment.
- Client's vision is to be the global leader in providing innovative agriculture products.

Aims/Objectives

- · Work content measurement using PMTS techniques.
- Line balancing.
- Work Distribution for manpower utilization.
- Machine Utilization Calculations.
- Resource calculations i.e., manpower as well as machines.
- VA/NVA Analysis.

Key Points

- For Existing Production capacity of 3000 units per month
 - a. Productivity improvement by 49.7%.
 - b. Manpower reduction by 33.2%.
- For Proposed Production capacity of 4500 units per month
 - a. Productivity improvement by 67.3%.
 - b. Manpower reduction by 40.2%

Client's Challenge

- Reduction in manpower fatigue.
- Dashboards for production planning as per demand.
- VA/NVA analysis for further improvement.
- Identify true potential capacity of plant.
- Low manpower utilization.
- Layout Modification
- Low-Cost Automation

PMI's Approach

The study was organized in a 3-stage process:

- 1. Data Collection Video shooting of all activities on the line.
- 2. Estimation & Data Analysis Basic MOST estimation, work distribution, dashboard preparation, VA/NVA analysis.
- 3. Results and Conclusion Dashboards for future planning, fatigue reduction, improved productivity, improved manpower utilization, identification of NVA work content.

Involvement of Associates -

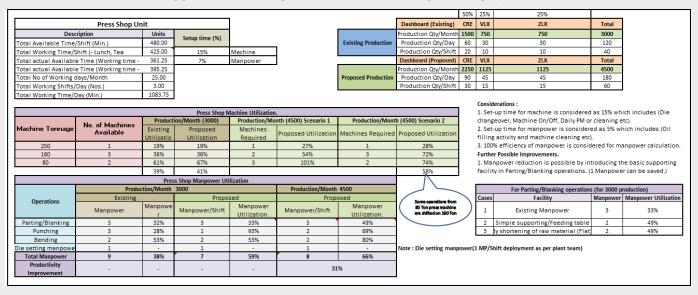
- PMI 1 Project Manager, 2 Engineers.
- Client 2 Project Co-ordinators.

Data Collection-

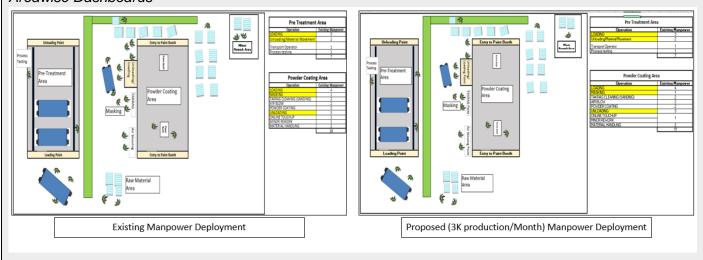
- Recording videos by PMI Engineers.
- · Interaction with client to understand process.
- Production Data for last 6 month.

Data Analysis -

- Preparation of elemental details using PMTS technique & validation by client.
- Analysis (Work distribution/VA-NVA identification) for manpower calculation, optimum manpower utilization & identifying capacity.
- Dashboard preparation for production planning as per demand.
- Improvement & suggestions for fatigue reduction & making existing system better.



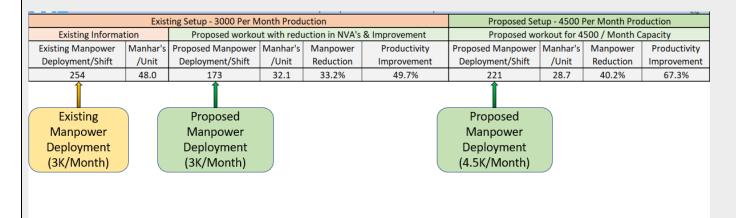
Areawise Dashboards



Results & Conclusion

After doing analysis and evaluation following results were obtained -

- 1. Improved productivity by 67.3%.
- 2. Fatigue reduction by rotation of operators in between lines & by introducing low-cost automation.
- 3. Dashboards for future planning as per demand & as per working lines.



Overall Summary Dashboard

- 4. Improvement and Suggestions
 - a. Special fixtures suggested wherever necessary to reduce the dependency of extra manpower to hold the work piece.
 - b. General improvements such as special markings for inventory level to be incorporated, oil dispensers to be available at required locations, etc

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