

# 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.



## 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.

Existing Setup - 3000 Per Month Production						Proposed Setup - 4500 Per Month Production			
Existing Information		Proposed workout with reduction in NVA's & Improvement				Proposed workout for 4500 / Month Capacity			
Existing Manpower Deployment/Shift	Manhar's /Unit	Proposed Manpower Deployment/Shift	Manhar's /Unit	Manpower Reduction	Productivity Improvement	Proposed Manpower Deployment/Shift	Manhar's /Unit	Manpower Reduction	Productivity Improvement
254	48.0	173	32.1	33.2%	49.7%	221	28.7	40.2%	67.3%

  

Existing Manpower Deployment (3K/Month)

Proposed Manpower Deployment (3K/Month)

Proposed Manpower Deployment (4.5K/Month)

### 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

## Contact Details

<b>Name of Organisation</b>	Production Modeling India, Nagpur
<b>Contact Name</b>	Pavan Nikhare
<b>Email Address</b>	pnikhare@pmcorp.com
<b>Website</b>	<a href="http://www.pmicorp.in">www.pmicorp.in</a>