Case Study – 1S, 2S, 3S System Deployment

1. Introduction of the Project.
   - Background & Context:

     1,2S,3S system form the basis of any Lean project. As per the findings from diagnostic study company is following completely Traditional Practices. To start any lean deployment 1S, 2S & 3S are of utmost importance. To train & create awareness about 5S & Lean practices among team is very necessary.

   - Reasons for the selection of project:
     1. Sorting between Wanted and unwanted material.
     2. To have a Lean Layout reducing waste.
     3. To start maintain the hygiene level as per food industry norms.

   - Project Team:
     1. Mr. Anil Vyawahere – M.D
     2. Mrs. Madhuri Vyawahare – Production Head.
     3. Mr.Aaditya Vyawahare – Director
     4. Mr. Kathale – Supervisor
     5. Mr. Somnath Chavan – Supervisor

   - Project Schedule: month wise activities in this phase

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Month</th>
<th>Activity</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16/02/2015</td>
<td>Training on:</td>
<td>A full day workshop conducted.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>During the future state layout mapping the main objective of to reduce</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>transportation and motion wastes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Space Optimization was main motive during the activity</td>
</tr>
<tr>
<td>Sr No</td>
<td>Month</td>
<td>Activity</td>
<td>Remarks</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 2     | 08/03/2015, 09/03/15, & 10/03/2015 | 5S Kaizen Blast                              | Blast of 3 days was scheduled. There was no production plan for these 3 days.  
5S and motivational training was given to all staff and workers.  
Red tagging activity was done by team. Immediate decisions were taken by management. Cleaning of the areas was done by respected teams.  
Further mechanical and electrical repairing activity work carried over the month. |
| 3     | 15th March To 30 April 2015 | Future State Layout deployment                | As per the future layout finalized on paper the deployment was started  
Related Civil and fabrication work was completed.  
Total free space available after new layout deployment: 2680 Sq.Ft. |

2. **Process description & Measurement Plan**: N.A

3. **Situational Analysis**
   - Approach used for analysis of process performance
     - Spaghetti charting – This important tool of lean was used to study the transportation and motion wastes in the current layout
   - Point wise description of observations made after analysis with the help of graphs & charts / snaps/videos:
     1. A lot of space is wasted in storage of Pickle Bins.  
     2. Unwanted Material scattered over the Layout.  
     3. No proper Utilization of Space  
     4. Fatigue caused to workers because of material Handling  
     5. Huge Transportation – huge Material Movement through stairs.  
     6. Raw Material Scattered Over the Factory – No Fixed location for Stores  
     7. No proper storage of the Finished Goods  
     8. Ingredients of the spices spread on the Floor
PHOTOGRAPHS:

Current Spaghetti Chart

Future State Spaghetti Chart

Team Mapping Spaghetti Chart

Project Team
### Improvement Plan

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Activity Description</th>
<th>Responsible</th>
<th>End Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Empty the Pickle Storage Room &amp; Shift to First Floor</td>
<td>Mr. Kathale</td>
<td>10/03/15</td>
<td>Completed</td>
</tr>
<tr>
<td>2</td>
<td>Separation of Raw Material &amp; Finished Goods Store</td>
<td>Mr. Kathale</td>
<td>18/03/15</td>
<td>Completed</td>
</tr>
<tr>
<td>3</td>
<td>Partition Racks for Raw Material – Mirchi as per grade &amp; Quality</td>
<td>Mr. Aditya</td>
<td>25/03/15</td>
<td>completed</td>
</tr>
<tr>
<td>4</td>
<td>Shifting of Kanda Masala machine to Kanda Masala Area</td>
<td>Mr. Somnath Chavan</td>
<td>10/03/15</td>
<td>Completed</td>
</tr>
<tr>
<td>5</td>
<td>Change in Packing Process – Tables to be provided for ladies &amp; packing to be done in standing position</td>
<td>Mr. Kathale</td>
<td>28/03/15</td>
<td>Completed</td>
</tr>
<tr>
<td>6</td>
<td>Parking area to Improve – Pavers to be used</td>
<td>Mr. Aditya</td>
<td>20/03/15</td>
<td>Completed</td>
</tr>
<tr>
<td>7</td>
<td>Terrace to be Covered – Shade to be Fabricated</td>
<td>Mr. Anil Vyawahare</td>
<td>20/05/15</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Pallets for easy material movement</td>
<td>Mr. Anil Vyawahare</td>
<td>22/05/15</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Racks for Finished Goods – Count free Measuring System</td>
<td>Mr. Kathale</td>
<td>31/05/15</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Trolley for Movement of Chili Powder</td>
<td>Mr. Anil Vyawahare</td>
<td>25/03/15</td>
<td>Completed</td>
</tr>
<tr>
<td>11</td>
<td>Door for Kanda Masala Area for easy movement of workers to toilet</td>
<td>Mr. Aditya</td>
<td>20/03/15</td>
<td>Completed</td>
</tr>
<tr>
<td>12</td>
<td>Shifting of Compressor Outside the Production Area</td>
<td>Mr. Kathale</td>
<td>15/05/15</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Shifting of Raw Material &amp; Packing Material to Point of Use near machines</td>
<td>Mr. Kathale</td>
<td>30/03/15</td>
<td>Completed</td>
</tr>
</tbody>
</table>
Before & After Photographs:

Project Team:

Factory Surrounding Area

Before

Open Gutter Flowing outside the Factory

After

Pavers Done Area used as parking space
Production Area:

Before

Kanda Shijavne Process done outside for KM

After

This area is Cleaned & separate cell for Kanda Masala created

Before

No proper separation of Raw Material

After

Partition Racks created as per the quality & grade – Accountability to stock created
Before

Shop No 2 – No Specific place for Material – Material Scattered Over the workplace. No Identification. Packing & Other activities carried on Floor itself.

After

Shop No 2 – Place created for specific material. No activities carried on floor as earlier. Working Tables provided for packing activity. Raw Material & FG Areas Separated.
Before

No separate space for Raw Material

After

Area Cleaned. Partitions created as per the product variety – Accountability created.

Before

Pickle Bins stored – Lot of space occupied

After

Area Cleaned & Kanda Masala Area created. Bins moved to other location. Space Utilization Improved.
Before

Packing Material & Raw Material scattered over place. No separation of material. Lot of space wasted. Kanda stored on floor.

After

Area Cleaned & Pickle area created – storage & Packing activities

Bins Created for Kanda Storage
Unused Toilet occupying place

Toilet removed & area used as Packing Material Store

Terrace place – Scrap/ wastage stored

Area utilized for empty Bins Storage
Chili Powder (Finished Product) – Stored on floor

SS Material Trolley created for storage – this reduced wastage & material handling is easy

- Conclusion:
  1. Total space saved after optimization is 2680 sq ft.
  2. Dedicated places created for everything – raw material/finished goods/packing material/machinery.
  3. Material Handling equipments like trolleys & pallets used. This reduced fatigue of workers.
  4. Transportation –Reduced as most of the storage done at point of use
  5. Separate Raw Material/Finished Goods/Packing Material stores created. This created accountability for everything which was missing initially.
  6. No activities carried on floor.

Financial Savings:

Earnings from Scrap: Rs.27950/-

5. **Standardization of the activities**

- No necessity of SOPs found for this Project.

- Remarks by LMC: