

## Theme : Waste to Wealth



### Overview of Waste to Wealth

In the entire life cycle of manufacturing, there are various types of wastes generated during different process stages. These wastes are categorized into two types : Hazardous & nonhazardous. Some of these wastes are reusable/recyclable & balance are a big worry for the society & environment. Many a times, the waste of one industry can be a starting input for other industry.

Various types of wastes are a big concern to the entire industry, society & the environment in total. Hence Reduce/Reuse & Recycle of waste has attained the highest significance in life today. We are making all over attempts to convert our wastes into wealth opportunities which is Nowadays called as Circular economy.

At MSSSPL under the mentorship of Mr. Vijay Prabhune a 15 member cross functional team is working on waste to wealth (W2W). The leader of the team is Mr. Manoj Hatankar & co leader is Mr. Pravin Rajkor.

Our biggest process waste is the internal scrap & rejections which is almost 20% of our production tonnage (melting). This scrap is 100% reused/recycled by sending it back for re - melting.

The next biggest waste is slag & FES dust. Unfortunately because it is not reusable/recyclable, we are required to spend money for its landfill disposal. W2W team has made a significant progress in reducing the slag generation content by altering the input charge mix.

Since our slag has a higher content of Fe, the cement & road build-

ing companies are unable to make use of this slag. To take care of this difficulty it is decided to put up a slag crusher unit by which the Fe will be separated & will be used for re - melting. The Fe free slag in turn will be sold to cement manufactures.

The scale generated during rolling & forging operations (mill scale) is accumulated & sold outside or sent back for re-melting.

It is very heartening to mention that we have started to send the broken refractories back to refractory manufacturer for recycling.

The other type of wastes are Waste of time in hand & hazardous waste (asbestos hand gloves) which are sent to government authorized disposers.

Under the guidance of our MD & coordination of Mr. Sonavane Chandrashekhar, a mega 1 S & 2 S drive was conducted during F16. Through this drive a lot of old waste was picked up from various shop floors, disposed which resulted into significant financial savings.

All above mentioned are physical / material wastes. One should consider other types of wastes like Waste of overproduction, Waste of time in hand inventory, Waste in transportation, Waste of movement, Waste of stock-on-hand etc.. for improvement.

**- Mr. R.S. Rane**  
**(Head Business Excellence Cell)**

### TMW Audit

We have successfully completed our annual TMW Cycle 8 assessment on 16<sup>th</sup> June.

The day started with presentations on improvements and Achievements of F16 followed by shop floor visits. Assessors suggested various improvements on Presentation skills & appreciated the work done in DWM and various projects undertaken in Cost reduction.

They also appreciated the shop floor housekeeping & they did suggested us to Improve the No. of improvement Projects like Kaizen & QC stories.

- \* Kaizens: 4/5 kaizens per person per year.
- \* QC stories: 30 to 50 QC Stories (chronic problem solving)
- \* Implement TPM
- \* Complete 3 S, 4 S and develop such a system that it is a part of day to day work

All these activities require immense participation from all the employees including Contract Labor. Now that we have started believing that TMW can bring positive change in the company lets further strengthen this belief.

TMW catalyst can play major role in this journey.

Result of the assessment will be declared till September 2016.

Congratulations and thanks to all the employees who have helped us in bringing the change in TMW Journey.

**- Mr. Chandrashekhar Sonavane**  
**( Business Excellence Cell)**

## MSSSPL Journey on Waste 2 Wealth

**W**hat is sustainability or Sustainable development? This question was commonly asked in 2012/13. Those were the days when sustainability started emerging in our company. Accordingly 12 teams were formed to take care of various aspects of sustainability. One of the major aspect was "Waste Management". We as a Team started our journey from that point of time. It was a great start with many learning and successes in our way.

We started W2W programme by engaging all the employees asking for suggestions resulting a saving of 23lacs. in F14. Now a culture has built up to take more and more initiatives in this direction to reach to the goal. A road map for next five years has been made precisely for achieving the goal.

We have targeted now to cut down industrial waste by about 50% as compared to baseline scenario of 2013-14. This is possible through reuse and recycling of waste in the production system by modifying manufacturing processes. We aim at zero hazardous waste generation and safe disposal of e-wastes. We also intend reducing progressively dumping of wastes into landfill.

**Mr. Vijay Prabhune**  
Mentor Waste to Wealth

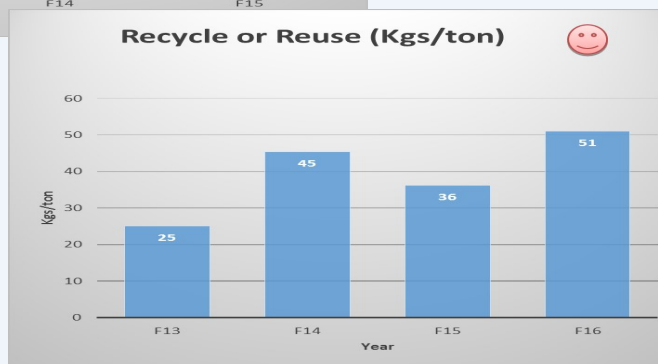
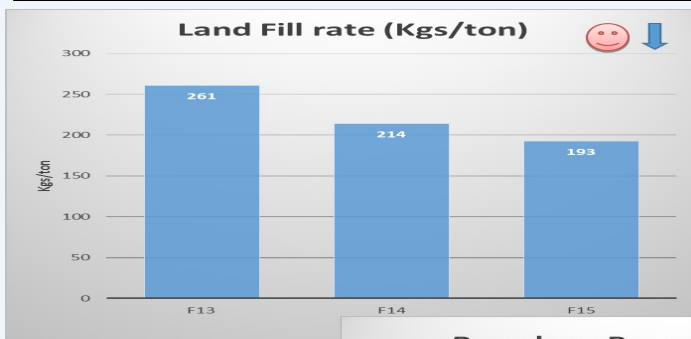
### Team Members W2W

1. Mr. V. Prabhune : Mentor
2. Mr. M. Hatankar : Leader
3. Mr. P. Rajkor : Co - Leader
4. Mr. R. Kamat : Member
5. Mr. S. Jadhav : Member
6. Mr. S. Lavate : Member
7. Mr. A. Khengat : Member
8. Mr. D. Jadhav : Member
9. Mr. N. Hardikar : Member
10. Mr. B. Patil : Member
11. Mr. Basa Prabhu : Member
12. Mr. M. Jagtap : Member
13. Mr. T. Thandar : Member
14. Mr. V. Nikam : Member
15. Mr. V. Jadhav : Member

Major Activities : F17	Sr. No	Activities planned : W2W : Major Activities : F17
	1	Reduction in the generation of commercial waste (e.g. stationary, paper, packaging)
	2	Shopwise Plastic buckets for waste collection
	3	Central Waste storage yard.
	4	Feasibility of pellet project from Garden waste
	5	Re-using of used lubricating oil after filtration – in-house activity
	6	Audit of Stores regarding compliance with respect to legal requirements related to waste.
	7	Alternative for Hazardous waste



Aspect Team Members Waste to wealth



### Major Projects : W2W

- ⇒ Reduce the landfill rate by 90% in the company by 2022 over 192 kg/ton in F15 by 2022.
- ⇒ Increase in the recycle or reuse of waste to 60Kg/ton by 2022. (SMS Production)

Activities undertaken to achieve the above goals

- ◆ Incoming scrap inspection.
- ◆ Maintaining scrap quality index.
- ◆ Increase in recycling of Ladle refractory, Black refractory, Ladle plate & nozzle

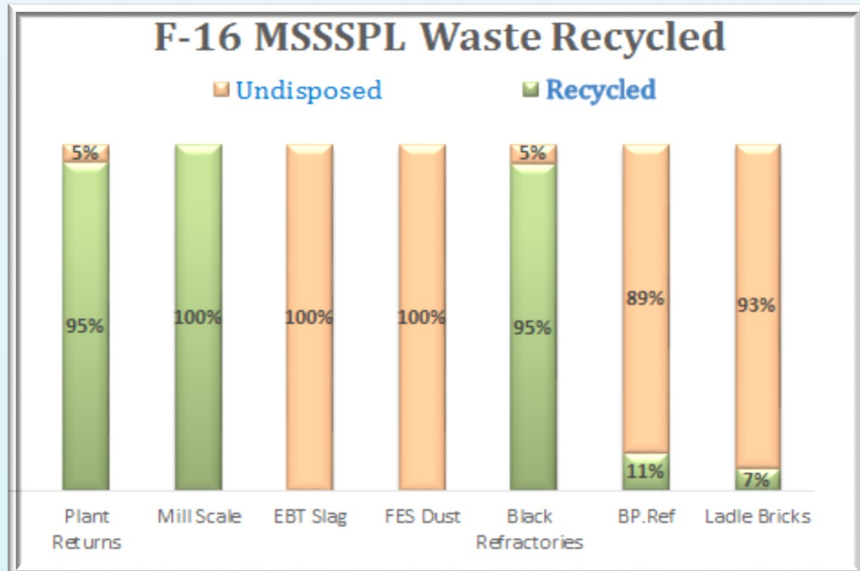
**Waste Recycled In-house**

**Waste Recycled In-house**

A project was done by summer intern Ms. Supriha.A from Symbiosis Institute of International Business on In-house Waste Inventory.

Information on various types of waste generated were collected , data sorting was done based on department/Shop floor level.

Data of fiscal year 2015-16 was taken for analysis.



**Positive Impact : W2W : F16**

- ◇ By recycling black refractory in F16 revenue generated was 3.15 lakh.
- ◇ By recycling mill scale revenue generated was 89 lakh rupees in F16.
- ◇ Revenue generated by scrap recovery from periphery is 311 lakh rupees. (1322 tons)

**Highlights of the June Month 2016**



Mr. Uday Gupta : Chief Guest at supply chain meet @MCIE - Pune



TMW Audit



Mr. R.S.Rane : Sharing Sustainability Journey @ Rail Wheel Factory during World Environment Day



Ms. Ambalika Gupta : presentation at Harvard Business School USA through video conference

**Quiz Time**

*In a landfill, how long does it take for an aluminum can to break down?*

- a. 10-30 years b. 75-100 years c. 200-500 years d. 1000-1500 years

**(Be the first one to SMS the answer @ 7720091891 & get a prize for the same.)**

**Mr. Padhee On Waste to Wealth**

MSSSPL as a steel industry is both capital and energy intensive and its production volumes are very high. Process chains within the industry are long. Many different technology are applied and the industry has a significant impact on environment. Disposal of solid wastes generated from steel industry processes is the major concern. Waste management of solid wastes consists of generation, prevention, characterisation, monitoring, treatment, handling reuse and residual disposition. It requires a new attitude of the employees and management.

To cope up with this challenging task we have taken a target to reduce industrial waste by 50% and to increase the reuse and recycle of waste by 4kgs/ton by 2022.

Until last decade the slag, dust and sludge generated by steel industry were called solid wastes but now this term has been replaced by by-product for these waste materials. Due to intensive re-utilisation of the wastes some of the solid wastes are now increasingly being referred as by-products. Use of co-products sup-

ports the sustainability of the steel industry. It prevents landfill waste, reduce co2 emission and helps preserve natural resources. The main co-products from iron and crude steel products are slags, dusts, scrap, refractory and sludge's.

As a conscious management MSSSPL is committed for a successful management program. We have demonstrated our commitment by training the employees in waste management techniques, encouraging employee's suggestions, provide resources for 3R's activities and measuring and monitoring the waste generation and waste recycling. The ultimate goal is zero solid waste from plant, for this follow up and continuous improvement are crucial. Measurement and reporting of waste reduction and achievement of cost saving goals also helpful in improving the working results and sustained development of the steel plant.

**- Mr. Umakant Padhee  
Leader Resource Intensity**

**WASTE TO WEALTH PROGRAM IN JCMM SCHOOL**

JCMM SCHOOL is having an Eco Club and the Eco clubs play an important role in creating environmental awareness amongst the future generation. Eco club in JCMM School is the means by which students can be empowered to participate and take up meaningful environmental activities and projects. Many programs and projects are formed and combined together to make a frame work of Eco club. **Preparation of Eco-friendly product out of waste material forms an important part of Eco club.** As it enables us to make the useless things more useful.

Major Activities under W2W driven in School

- Create awareness among students to use the waste products in best possible means.
- Controlling the amount of waste send into landfills.
- Enables the students to give this creativity & innovation a shape.
- Reduces the destruction of forest & other eco - system.



**JCMM : Waste to Wealth Exhibition** was inaugurated by Mr. & Mrs. Nath & TV actor : Satish Shah

*"... for Mahindra, 'Sustainable Development' is a newly articulated ancient wisdom..." - Keshub Mahindra, Chairman Emeritus*



**Disciple:** "Oh my teacher! While you are so much concerned about the world and others; why don't you look into the welfare and needs of your own disciples too?"

**Buddha:** OK... Tell me, How can I help you?"

**Disciple:** "My attire is worn and is beyond the decency to wear the same. Can I get a new one, please?"

*Buddha found the robe indeed was in a bad condition which needed replacement. He asked the store keeper to give a new robe to wear on. The disciple thanked Buddha and retired to his room.*

*Though he met his disciples requirement, Buddha was not all that contented on his decision. A while after he went to his disciple's place and asked him...*

**Buddha:** "Is your new **attire** comfortable? Do you need anything more?"

**Disciple:** "Thank you master. The attire is comfortable. I need nothing more."

**Buddha:** "Having got the new one, what will you do with your old attire?"

**Disciple:** "I am using it as my **bed spread**."

**Buddha:** "Then... hope you have disposed off your old bed spread."

**Disciple:** "No... No... master. I am using it as my **window curtain**."

**Buddha:** "What about your old window Curtain?"

**Disciple:** "Being used **to handle hot utensils** in the kitchen."

**Buddha:** "Oh...I see... Can you tell me what did they do with the old cloth they used in Kitchen"

**Disciple:** "They are being used to **wash the floor**."

**Buddha:** "Then, the old rug being used to wash the floor...???"

**Disciple:** "Master since they were torn off so much, we could not find any better use but to use as a **twig in the oil lamp**, which is right now lit in your study room..."  
*Buddha smiled in contentment and left for his room.*

**If not to this degree of utilisation, can we at least attempt to find the best use of all our resources - at home and at office...???**

*It becomes imperative in the critical time of Recession...*



**- By Naresh Patil (During W2W Month Celebration)  
Corporate Sustainability**

\* For feedback & comment write to Editor : Ms. Shradha Shetty - shetty.shradha@mahindra.com (7720091891). All the rights are reserved with the further distribution of copy.