Waste Management Practices at Texas Instruments

Texas Instruments (India) Pvt Ltd

Bagmane Tech Park, C.V.Raman Nagar

Bangalore – 560 093

TEXAS INSTRUMENTS

Business Overview – TI India

Texas Instruments (TI) started in Bangalore on August 1985 and it is a R&D facility and became the first global technology company to establish its presence in India.

TI India provides software research and development services for application in the latter's semiconductor products

TI India also provides sales and marketing support services

The software research and development services include creation, validation and verification of semiconductor designs and the development of related software.

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Introduction – Texas Instruments India

- *TI's goal of zero wasted resources supports the sustainable use of natural resources and the efficient use of energy and raw materials.*

  Until zero waste is achieved, all waste is handled, transported and disposed of in a safe and responsible manner. Efficient energy use throughout our businesses includes harnessing cost-effective sustainable energy resources.

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TI India Environmental Concept

KEY GOALS

- ✓ **Total Waste Management**

- ✓ **100% Recycle**

- ✓ **Resource conservation Opportunities**
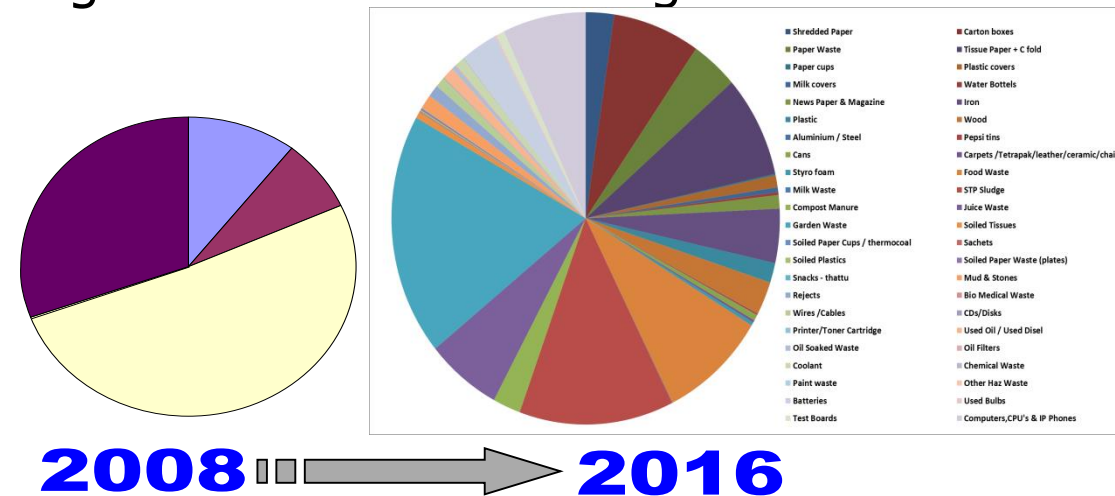
- ✓ **Minimize the impact on Environment**

REDUCE

"Reduce" has been major component in TII's vision on Environment. We look at waste from the Reduce angle before going towards Reuse and Recycle.

"Segregation is the Key"

• Started with Segregation, the list starts with 4 waste Items increases to 45 items by 2016

• Adopted Segregation at Source

• Created Storing locations for each type of segregated waste

• Created awareness among employees with bins with signage, road shows, Environment day program etc

• Continuous review of process area to reduce the waste generation and looking for alternate solution

2008 → **2016**

Legend for 2016 pie chart:
- Shredded Paper — Carton boxes
- Paper Waste — Tissue Paper + C fold
- Paper cups — Plastic covers
- Milk covers — Water Bottels
- News Paper & Magazine — Iron
- Plastic — Wood
- Aluminium / Steel — Pepsi tins
- Cans — Carpets /Tetrapak/leather/ceramic/chair
- Styro foam — Food Waste
- Milk Waste — STP Sludge
- Compost Manure — Juice Waste
- Garden Waste — Soiled Tissues
- Soiled Paper Cups / thermocoal — Sachets
- Soiled Plastics — Soiled Paper Waste (plates)
- Snacks - thattu — Mud & Stones
- Rejects — Bio Medical Waste
- Wires /Cables — CDs/Disks
- Printer/Toner Cartridge — Used Oil / Used Disel
- Oil Soaked Waste — Oil Filters
- Coolant — Chemical Waste
- Paint waste — Other Haz Waste
- Batteries — Used Bulbs
- Test Boards — Computers,CPU's & IP Phones

Storing Location for each type of Waste with list & Signage

Segregation of waste items list grown **4 items** to **45 items** by **2016**
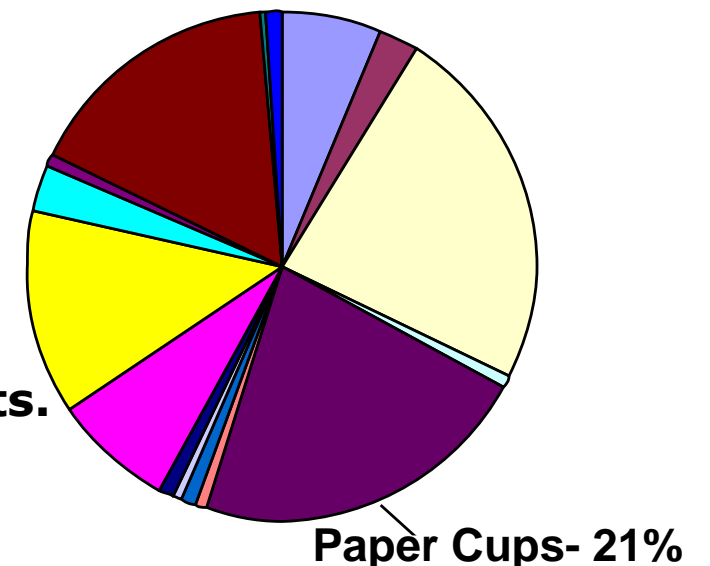
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REDUCE

"Paper Cup Waste Constitutes 21% of Waste"

The segregation has yielded data-"Usage of Paper cups for Beverages generates 21% of Waste" . This has become focus area and decision is taken to eliminate completely

- **Create Database on Paper Cup usage**

- **Provided alternate**

- **Improve the awareness through posters & e-mails.**

- **TI India Movie Making club created Movie on paper cups Do's & Don'ts.**

- **ESH team and Green Earth Team at TI works together to implement.**

Non Hazardous Ready Recyclable Waste (Average Data) – Before 2010

Paper Cups- 21%

Eliminating Paper Cups reduced *21% of Recyclable Waste* generated, *10% Non Recyclable Waste* generated and *Rs 2000* per month on Cost front

EARLIER PAPER CUPS CONSUMPTION TREND	
Total Paper Cups	150000 Nos per Month
Paper cups / Day	4700 Nos
Each Person Uses	3.14 Cup/day

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REDUCE

"Encourage Waste Reduction"

- No Paper/Plastic Cups/plates allowed in TII Café

- Encourage Waste reduction/ Provide information waste generated in Café

- Celebrate Environment Day and Earth Day regularly to

Environmental Day Celebration – Plants Exhibition

Environmental Day Celebration – Compost Bin Awareness

Earth Day Celebration –Awareness Areas

Environmental Day Celebration –Plant Exhibition

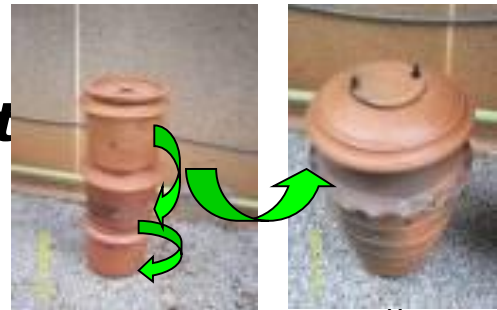| WASTE CATEGORIES	DESCRIPTION OF MATERIALS
Non Hazardous Ready Recyclable Waste	Shredded Paper
	Carton boxes
	Paper Waste
	Tissue Paper + C fold
	Paper cups
	Plastic covers
	Milk covers
	Water Bottels
	News Paper & Magazine
Non Hazardous Solid Waste	Iron
	Plastic
	Wood
	Aluminium / Steel
	Pepsi tins
	Cans
	Carpets /Tetra Pak/leather/ceramic/chair
	Styro foam
Non Hazardous Organic Waste	Food Waste
	Milk Waste
	STP Sludge
	Compost Manure
	Juice Waste
	Garden Waste
	Soiled Tissues
	Soiled Paper Cups / thermo-coal
	Sachets
	Soiled Plastics
	Soiled Paper Waste (plates)
	Snacks - thattu
	Mud & Stones
	Rejects / False ceiling
Hazardous Waste E-Waste	Bio Medical Waste
	Wires /Cables
	CDs/Disks
	Printer/Toner Cartridge
	Used Oil / Used Diesel
	Oil Soaked Waste
	Oil Filters
	Coolant
	Chemical Waste
	Paint waste
	Other Haz Waste
	Batteries
	Used Bulbs
	Test Boards
	Computers, CPU's & IP Phones

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REUSE

"WATER - Reuse"

- ✓ **Treated Sewage Water is being used for Cooling purpose using Ultra Filtration Technique**
- ✓ **Part of Treated water is reused for Landscaping**

"PAPER - Reuse"

- ✓ **Default setting of both the side printing options for paper**
- ✓ **Book binders from the used/under paper / one sided papers**
- ✓ **News papers are donated to NGO for making paper products like paper bags etc**

"WASTE - Reuse"
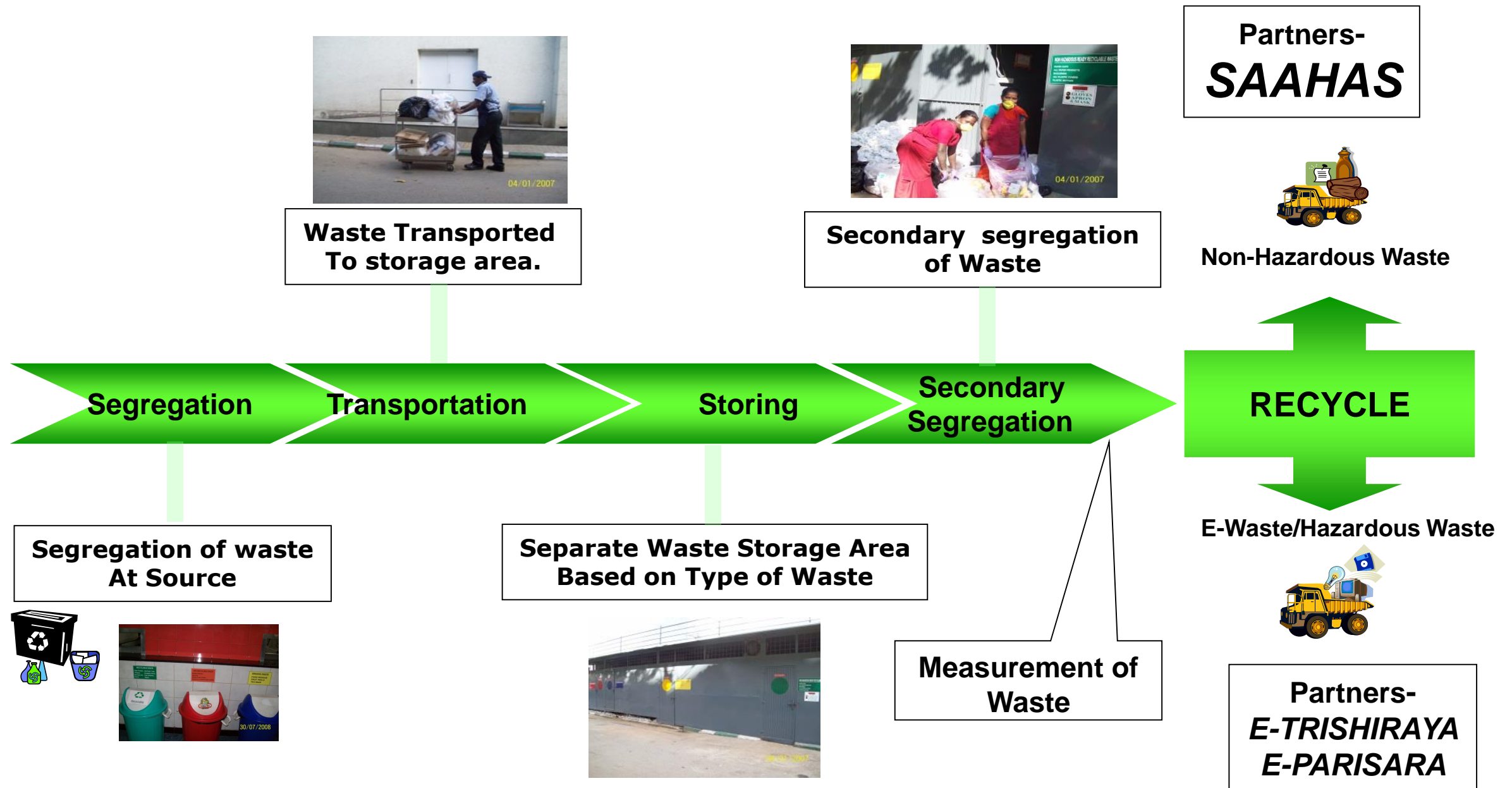
- ✓ **Composting at site – Initially we started with composting tea powder & tea bags, Juice waste and used as a manure for landscaping.**
- ✓ **Plastic covers are reused as recyclable waste collection bins.**
- ✓ **Refilling and reuse of markers to reduce waste generation & cost**
- ✓ **Card boards are used fore internal office movement**

RECYCLE

WASTE MANAGEMENT-PROCESS

Waste Transported To storage area.

Secondary segregation of Waste

Partners- *SAAHAS*

Non-Hazardous Waste

Segregation	Transportation	Storing	Secondary Segregation

RECYCLE

Segregation of waste At Source

Separate Waste Storage Area Based on Type of Waste

Measurement of Waste

E-Waste/Hazardous Waste

Partners- *E-TRISHIRAYA E-PARISARA*

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Employees Awareness

Environmental Day Celebration – Plants Exhibition

Earth Day awareness
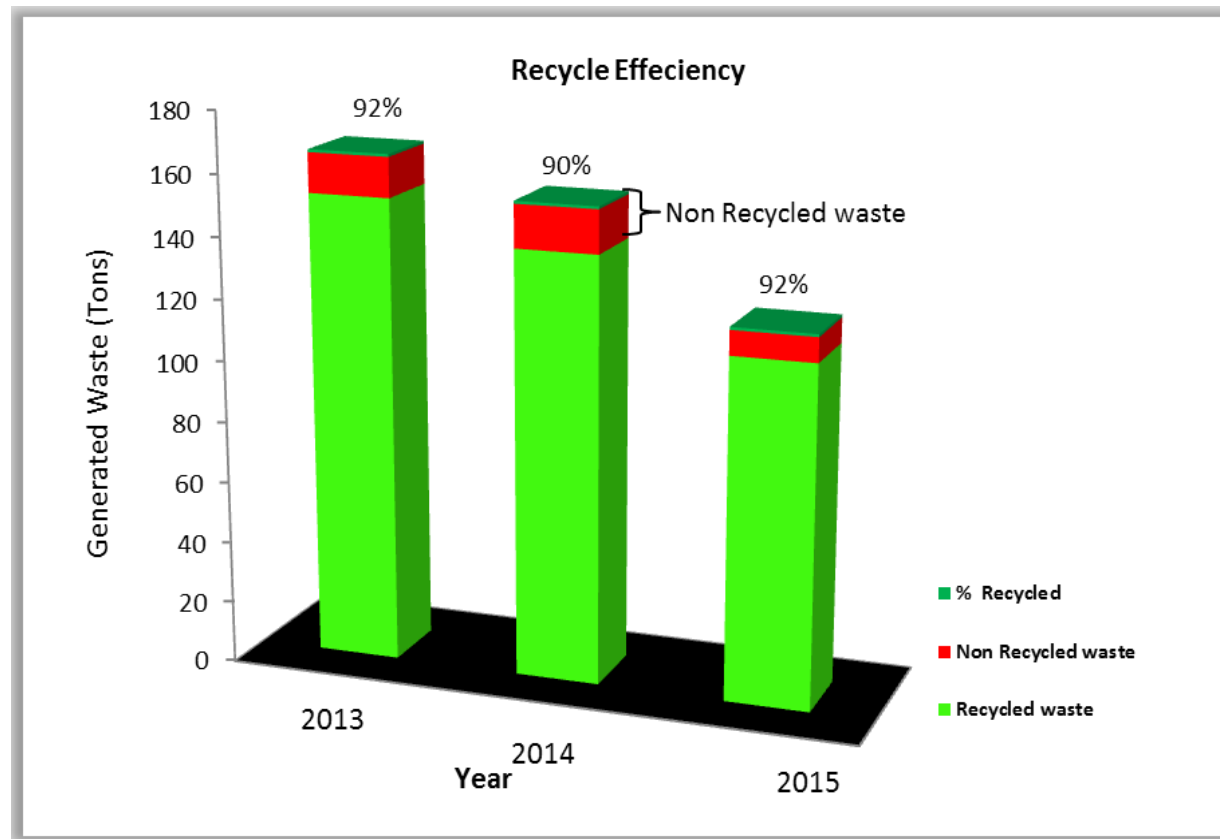

Environmental Awareness session

Reusable bags options

Compost Bin Awareness

Employees can bring the waste from home

E-WASTE and bulb collection receptacle at site

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Results

✓ Year on year reduction in total waste generation

✓ Waste Recycling efficiency is reached to 92% from 65%.

✓ TI India Generates Ave 9 Tons Waste every month and it gets recycle

✓ E-waste & Hazardous waste constitutes 14.5% of total waste

✓ Each Gram of waste generated at TI India is accountable.

✓ All e-waste and hazardous waste suppliers are audited for TI ESH compliance before start the process

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- Cafeteria juice paper cups are changed with reusable cups from July 2015 (reduction of 1.5tons of waste)
- Introduced water dispensers in bigger conference room and serving the drinking water in glasses for the internal meetings (avoidance of 0.7 tons of waste)
- Encouraging to use the reusable steel plates/ cups for all café suppliers including guest counters by restricting the use of paper plates / aluminum foiled plates (Reduction of 1.05 ton of waste)
- Total E-Waste disposed from site has been reduced in the year 2015 compared to 2014 (6 tons lesser)
- Food waste generation also reduced – regular monitoring and informing the supplier to get the required quantity of food every day (5 tons)
- One time disposal of old Batteries happened at 2014 (25 tons)
- Other small initiatives like – garden plants grafting using milk covers to avoid other new plastics/ buy new pots, process change in plastic covers - change in cubicle and restroom, increased in house composting of organic waste, further sorting of waste to improve the segregation
- The data below for 2015 is for 11 months till Nov need to add Dec month data