Waste Audit Report 2020-21

2020-21

WASTE AUDIT REPORT

February, 2021

PRINCIPAL
Kandivli Education Society's
B. K. Shroff College of Arts &
M. H. Shroff College of Commerce
Bhulabhai Desai Road,
Kandivli (We... Mumbai-67

HEAD
CRITERIA – VII
Institutional Values
and Best Practices

Prepared For:	**Prepared By:**
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KES's SHROFF COLLEGE OF ARTS & COMMERCE
KANDIVALI (W),
MUMBAI-67.

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Kandivli Education Society's
B. K. Shroff College of Arts &
M. H. Shroff College of Commerce
Bhulabhai Desai Road,
Kandivli (West), Mumbai-67

K.E.S.'s SHROFF COLLEGE OF ARTS & COMMERCE
KANDIVALI (W), MUMBAI-67.

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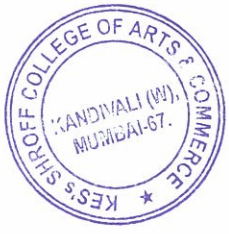
1. EXECUTIVE SUMMARY:

Waste audits are an analysis of a facility's waste stream that can classify what types of waste are produced, how much of each category is recovered through reuse or recycling, and can assist in identifying potential cost savings associated with waste disposal.

Kandivali Education Society's BK Shroff College of Arts and MH Shroff College of Commerce retained Sanjeevani S3 to conduct a Waste audit for the college located in Kandivali, Maharashtra. A point of generation waste audit was performed for the college campus on February 2021.

The purpose of the waste audit was to identify, quantify and analyze the composition of the waste stream generated from separate designated buildings and areas around the college campus, and to ensure compliance with the requirements outlined in The National Assessment and Accreditation Council of University Grants Commission of Government under Criteria 7 of NAAC. The institute has made many changes over the last few years, with the intention of increasing its diversion rate and reducing the amount of waste produced.



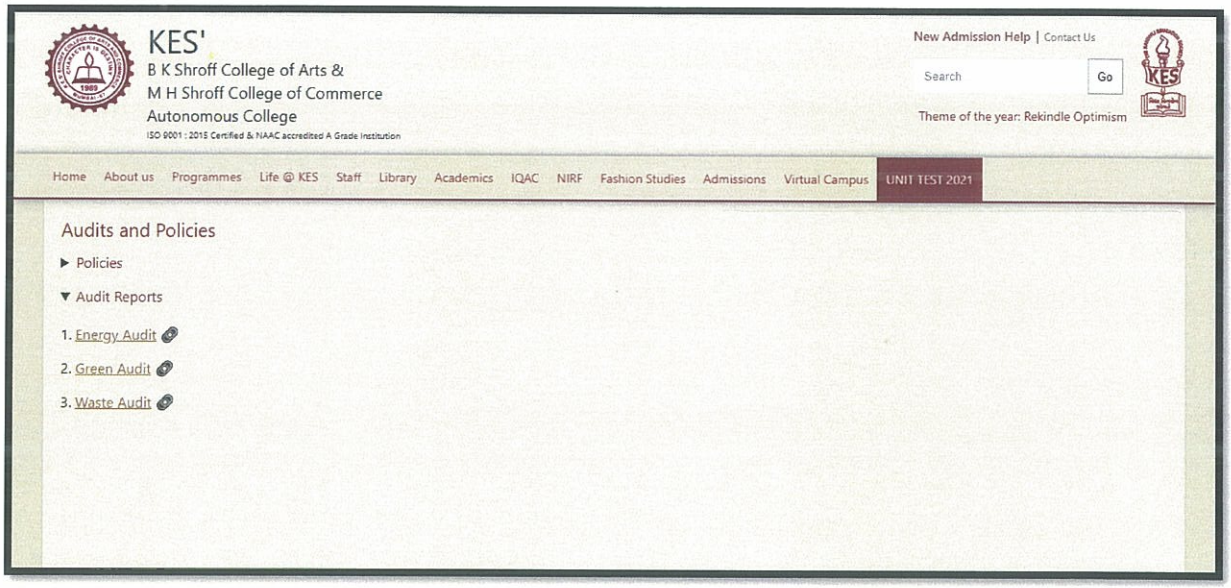
2. INTRODUCTION:

Kandivali Education Society's BK Shroff College Of Arts and MH Shroff College Of Commerce.is a pioneer Educational Trust registered under society's registration Act 1860, and public Trust Act 1950 (Mumbai). College was founded in the year 1936. It is an organization well known for its various educational services for more than 7 decades and student strength of more than 9000 students. It started the technical section in 1962 and in 1970 it started the Night High School. Also as an addition to its activities, Kandivali Education Society's Junior college in June 1976 and upgraded it into a Degree college of Arts & Commerce in 1989 also S.V.P. Jr. College Science renamed as T.P. Bhatia Jr. College of Science in 2005

Kandivali Education Society's BK Shroff College Of Arts and MH Shroff College Of Commerce is committed to sustainability through education. The College's sustainability practices are guided by the values and principles of compliance, ethical behavior, stakeholder interest, transparency, and accountability. As part of its commitment to sustainability, college conducts an annual waste audit. Waste audits are an analysis of a facility's waste stream that can identify what types of waste are produced and how much of each category is recovered through reuse, composting or recycling. The data collected can be used to implement and improve upon existing waste diversion measures and to find potential for cost savings.

Waste audit and waste reduction work plans must describe opportunities for waste reduction and diversion at the institution and the extent to which materials or products sold consist of recycled or reused materials. Finally, the audit report is posted on website so everyone can have an access to it.

https://kesshroffcollege.com/audits-and-policies/



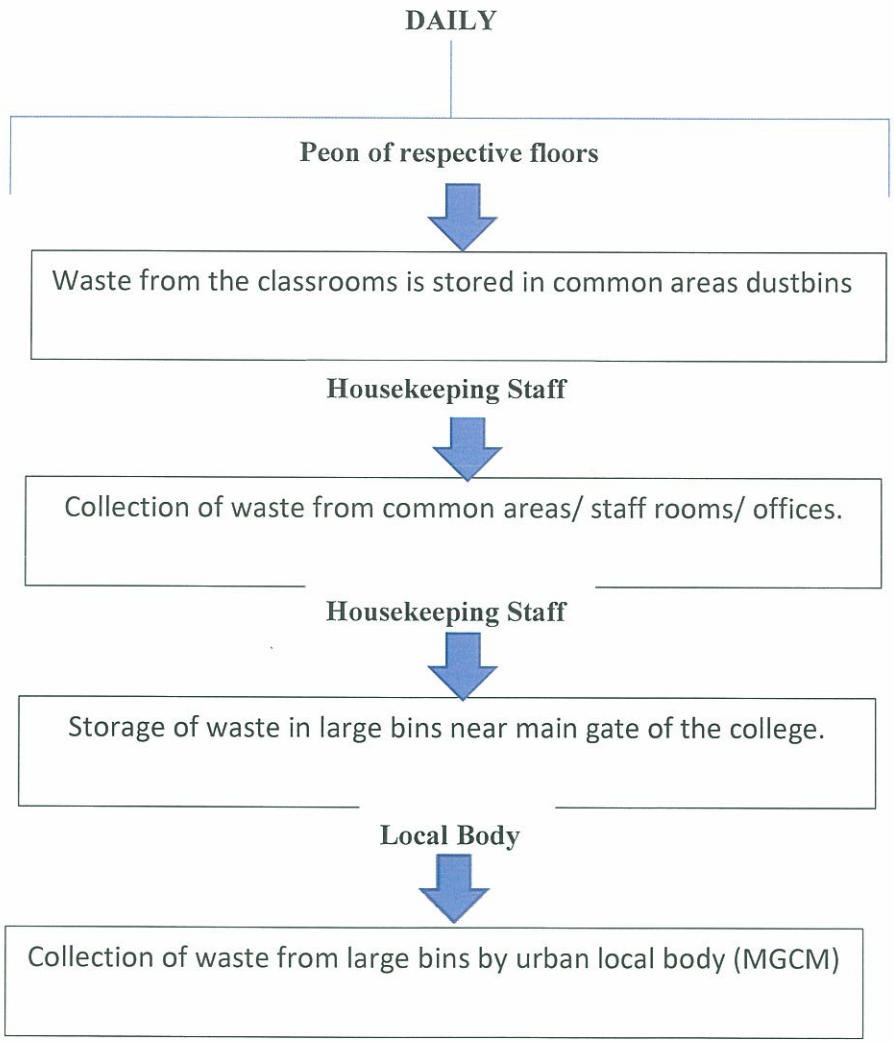
3. WASTE MANAGEMENT SYSTEM

Following are waste streams generated in college premises mentioned below are standard operating procedure followed for disposal of respective waste streams:

a. Solid Waste Disposal
b. Liquid Waste Disposal
c. E-Waste Disposal

a. SOLID WASTE DISPOSAL- **Dry Waste**

Standard Operating Procedure for Solid Waste Disposal



a. SOLID WASTE DISPOSAL- **Wet Waste**

Composting of wet waste is practiced in the college premises. Both the buildings follow different technology/method of composting. Old building uses Organic waste composting machine (Semi-Automatic flat-bed continual stir tank reactor.) and New building uses Organic Waste Convertor to utilize all the food waste generated in the premises through canteens. The composting process in turn helps in converting food waste into compost.

Location: Old Building

Name: Organic waste composting machine (Semi- Automatic flat-bed continual stir tank reactor.)

Processing Capacity: 50kg per day

Dimensions: 6L x 4 x 2H

Shaft: Single shaft impeller

Fig 1: Composting Machine at Old Building

Name: Organic Waste Convertor

Location: New Building

Processing Capacity: 50kg per day

Dimensions: 5.7L x 3.5 x 4.3H

Fig 2: Composting Machine at New Building

b. LIQUID WASTE DISPOSAL:

The Black-water generated from all washrooms and grey-water generated from canteen/staff rooms and common area is channelized towards common sewage line. No wastewater treatment facility is available in college premises at present.

c. E-WASTE DISPOSAL:

Eco-bin has been installed on ground floor at Old Building. E-waste gathered in Eco-bin to be sent to Eco-Reco Recycling facility owned by Eco-Reco Recycling Limited for scientific disposal.

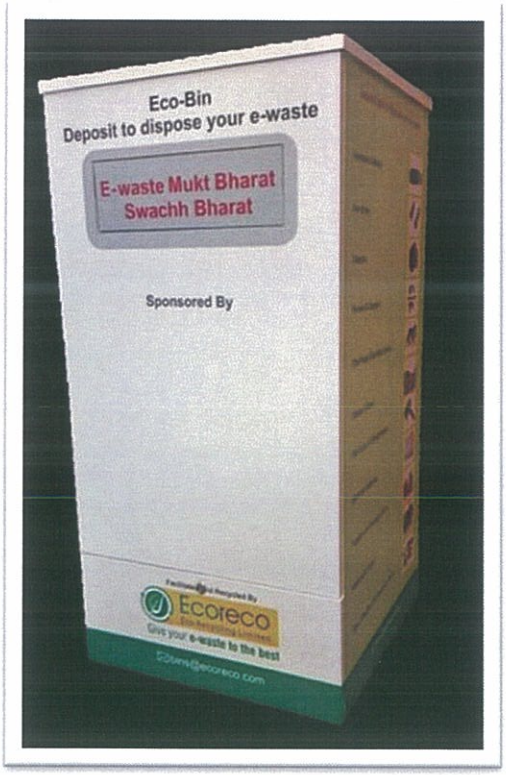


Fig 3: Image of E-Waste Bin in Old Building

Following are list of E-waste items that can be deposited in e-waste bin: Computer, Printer and Scanner, Monitor/ LCD / Plasma/ LED, Televisions (TV), Refrigerator, Washing Machine, Microwave Oven, Air Conditioner, DVD Player, Mixer Grinder and any other e-waste.

4. METHODOLOGY/ AUDIT PROCESS AND PROCEDURE:

Stages of the Waste Audit:

Stage 1: Waste Collection.

Stage 2: Waste Sorting.

Stage 3: Weighing of the waste.

Stage 4: Report Composition.

A sample of waste was collected from every floor to represent the waste floor wise.
Bags from each floor were collected and brought to the audit area by college housekeeping staff. In February, 2021 Sanjeevani S3 conducted the waste audit with the college allotted housekeeping staff/ representative.

Audit was conducted on following days:

Day 1- Thursday 11th February 2021 starting at 10:00 am until 12:00 pm.

Day 2- Tuesday 16th February 2021 starting at 10:00 am until 12:00 pm.

Day 3- Thursday 18th February 2021 starting at 10:00 am until 3:00 pm.

The purpose of the waste audit was to:

- Quantify the amount of garbage produced in one day
- Identify the types of waste entering the garbage bins
- Identify the effectiveness of current waste reduction efforts
- Create a list of recommendations to improve waste reduction efforts in the college premises.

College housekeeping staff helped to set up the waste audit area in the campus. After explaining the audit process, Sanjeevani S3 representative put on protective clothing (mask and gloves) and move to the storage location outside where waste sample was brought.
The waste was collected from all areas of the college, including garden/ ground. Weight of all bags was recorded on spreadsheet as a total amount for each waste bags/ waste bins.

5. AUDIT RESULTS:

DATA COLLECTION AND ANALYSIS:

Table No 1: Waste Analysis of New Building:

Sr. No	Location	Day 1	Day 2	Day 3	Average (In Kg)
1	Ground Floor (Common Area)	2.5	0.92	2.9	2.11
2	Ground Floor (Office Area)	0.46	1.93	0.75	1.05
3	1st Floor (Washroom)	2.6	0.27	2.35	1.74
4	1st Floor (Common Area)	1.5	1.9	1.33	1.58
TOTAL		7.06	5.02	7.33	6.48

Table No: 2: Categorization of waste in New Building

Commodity /Category	Waste in Kg	Waste in Percentage %
Organics	-	0%
Paper	3.37	52%
Plastics	2.92	45%
Other	0.19	3%
Metals	-	0%
Glass	-	0%
E-waste	-	0%
Total	**6.48 Kg**	**100**

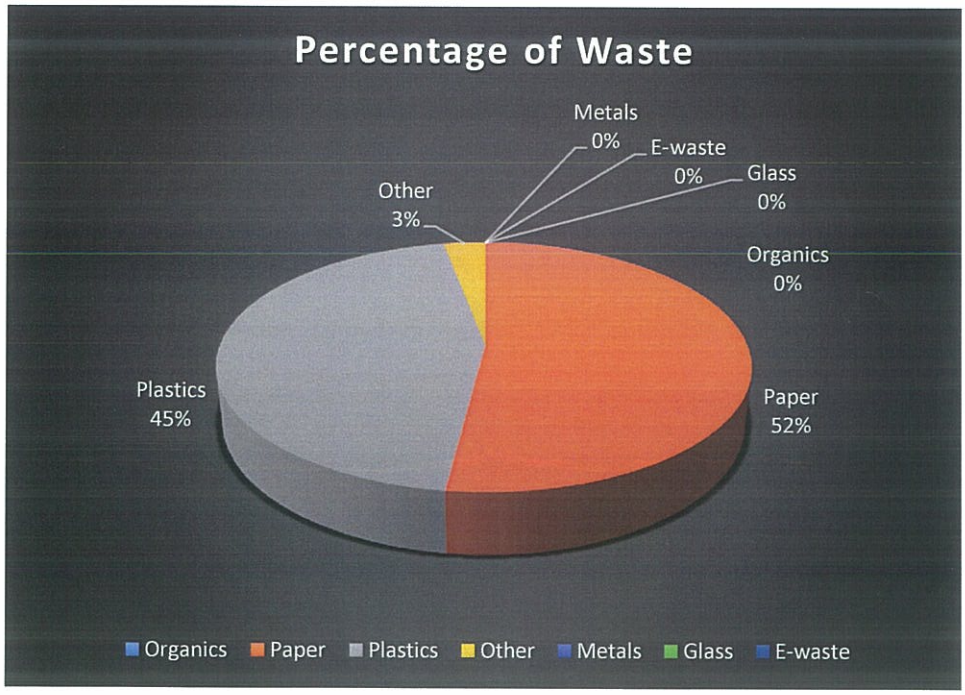


Fig No 4: Waste Material Breakdown of New Building

Table No 3: Monthly Waste Generation of New Building

NEW BUILDING:			WASTE AUDIT DATA (In KGS)		
			Daily	Weekly	Monthly
Sr.No	Category	%			
1.	ORGANICS	0%	-	-	-
2.	PAPER	52%	3.37	23.59	101.11
3.	PLASTIC	45%	2.92	20.44	87.6
4.	OTHERS	3%	0.19	1.33	5.7
5.	METALS	0%	-	-	-
6.	GLASS	0%	-	-	-
7.	E-WASTE	0%	-		
TOTAL		**100**	**6.48**	**45.36**	**194.41**

Table No 4: Waste Analysis of Old Building:

Sr. No	Location	Day 1	Day 2	Day 3	Average (In Kg)
1	Garden / Playground	6.1	7.7	5.9	6.57
2	Ground Floor (Common Area)	0.60	0.97	0.78	0.78
3	1st Floor (Common Area)	1.57	0.28	1	0.95
4	1st Floor (Office Area)	0.86	0.53	1.3	0.90
5	1st Floor (Store Room)	4.47	-	3.17	2.54
6	2nd Floor (Common Area)	-	1.46	1.24	0.9
TOTAL		13.6	10.94	7.49	12.64

Table 5: Categorization of waste in Old Building

Commodity Category	Waste in Kg	Waste in Percentage %
Organics	1.7	14%
Paper	5.6	45
Plastics	4.6	37%
Other	0.25	2%
Metals	0.12	1%
Glass	0.12	1%
E-waste	0.25	2%
TOTAL	**12.64 Kg**	**100%**

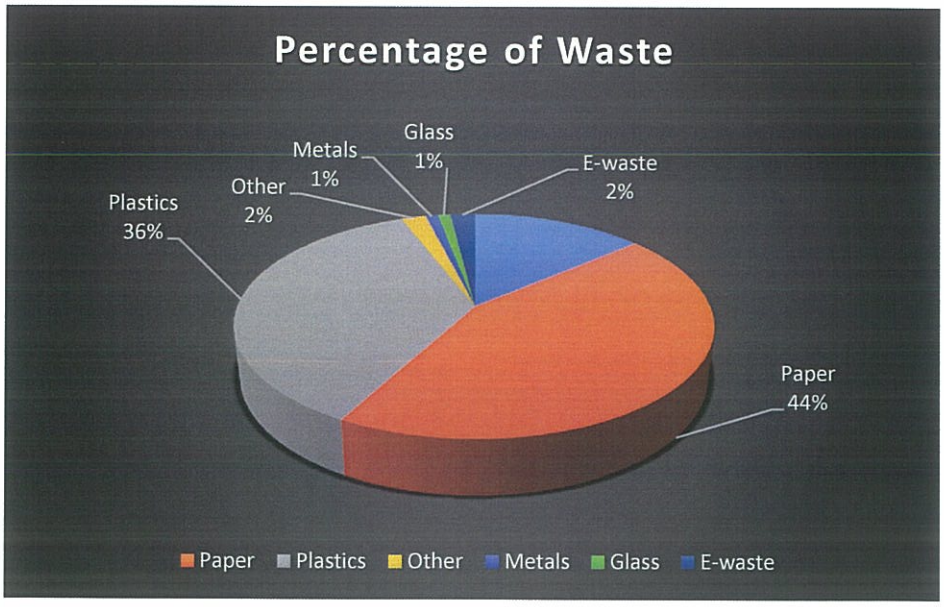


Fig No 5: Waste Material Breakdown of Old Building

Table No 6: Monthly Waste Generation of Old Building

OLD BUILDING:			WASTE AUDIT DATA (In KGS)		
			Daily	Weekly	Monthly
Sr.No	Category	%			
1.	ORGANICS	14	1.7	11.9	51
2.	PAPER	45	5.6	39.2	168
3.	PLASTIC	37	4.6	32.2	138
4.	OTHERS	2	0.25	1.75	7.5
5.	METALS	1	0.12	0.84	3.6
6.	GLASS	1	0.12	0.84	3.6
7.	E-WASTE	2	0.25	1.75	7.5
TOTAL		**100**	**12.64**	**88.48**	**379**