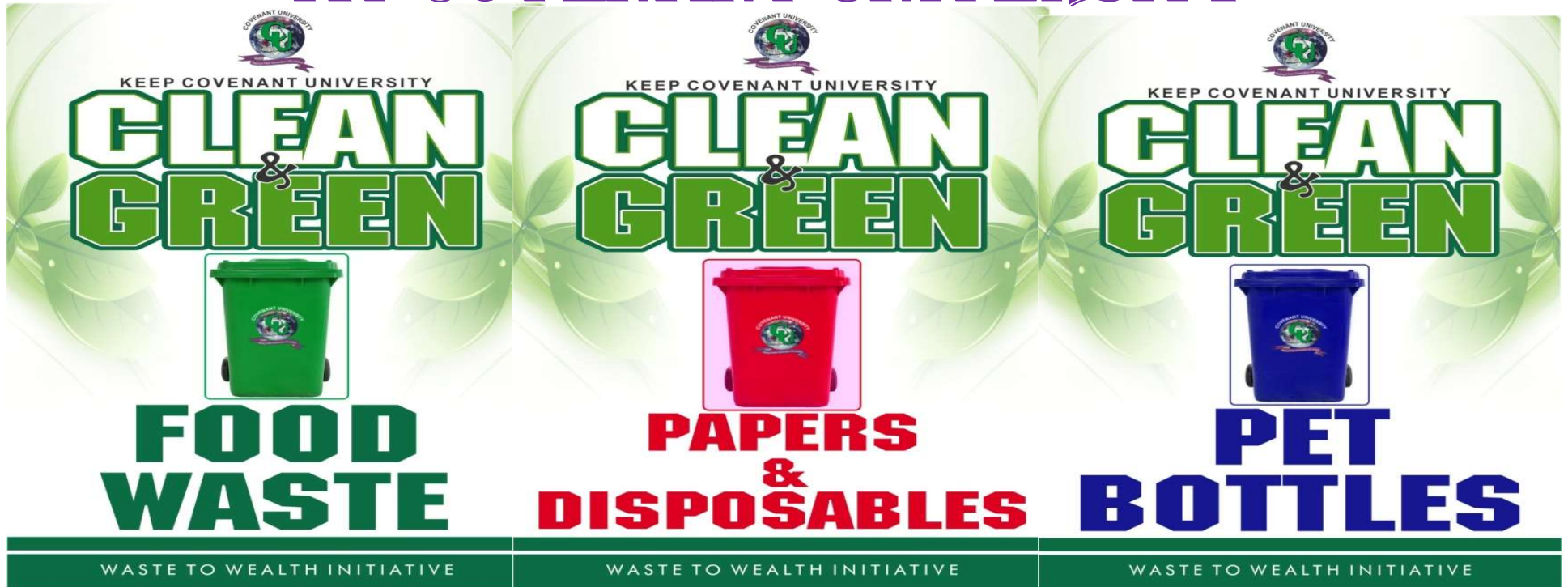


# WASTE TO WEALTH INITIATIVE AT COVENANT UNIVERSITY

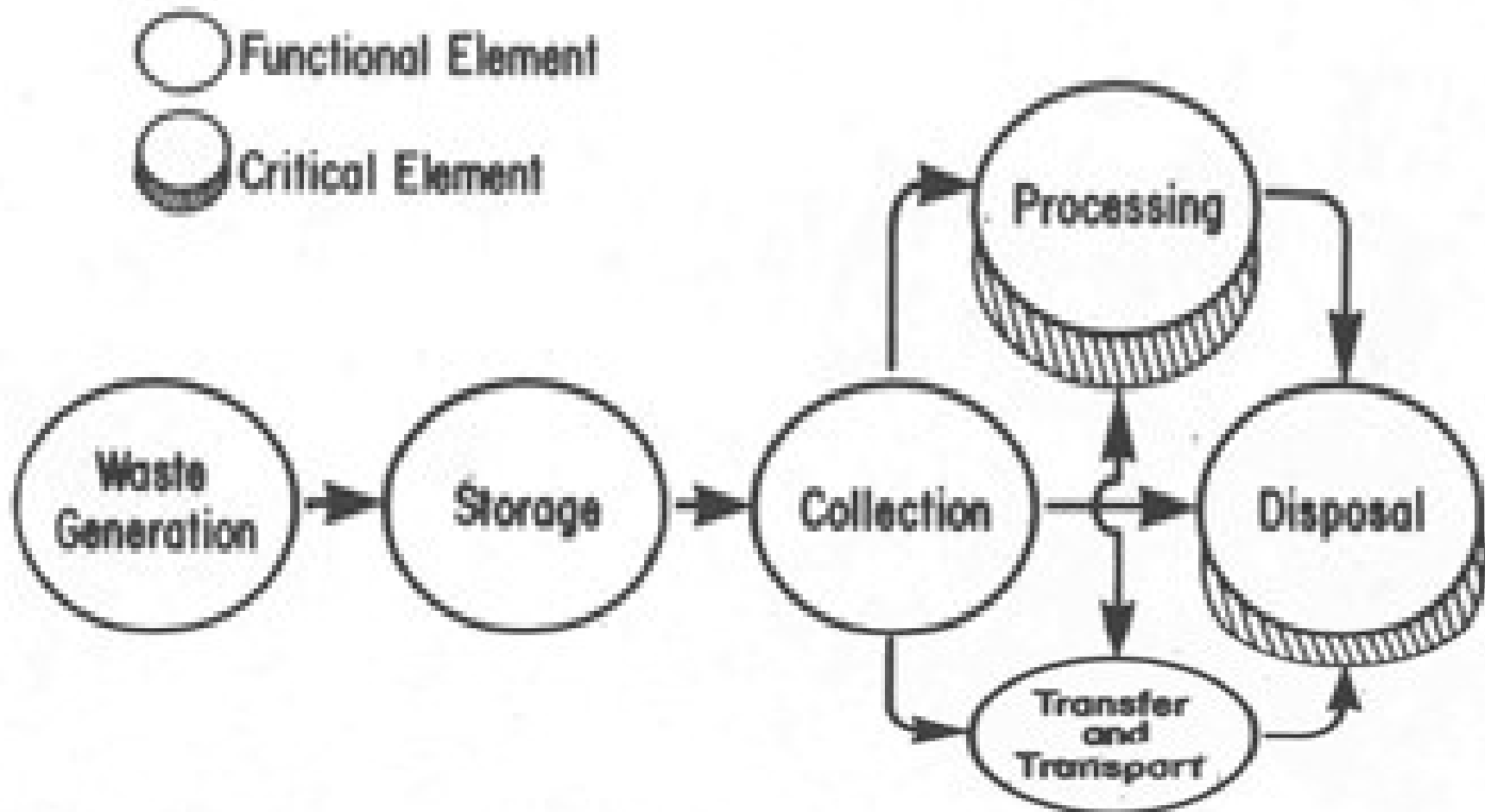


PRESENTED BY DR. DAVID O. OLUKANNI  
*DIRECTOR, QUALITY ASSURANCE AND ACADEMIC STANDARDS  
COVENANT UNIVERSITY*

2017 OU INTERNATIONAL CONFERENCE

# Introduction

- Over the years, it is known that most waste that are disposed have a second hand value. They can be recycled and reused, hence reducing the pressure and consumption of fresh virgin materials.
- As a Community, we generate a lot of waste. Population of about 17, 000 people and over 100, 000 worshippers in Church on Sunday Services.
- Established 21st October, 2002; Chancellor Dr. David Oyedepo
- Therefore, peculiar aspects of Waste Management and Sanitation to Covenant University including refuse generation, source reduction, collection, transportation, recycling and resource recovery, composting and combustion will be covered.



## Functional Elements of a Solid Waste Management Systems

Source: Barlaz, 2010

What has the Developed Nations done to  
Turn Waste to Wealth?

**They have simply invested in effective waste  
management and Sanitation operations**

# MISSION

- The target is to reduce environmental pollution through a sustainable green practice in waste management of all waste generated in offices, homes, public and open spaces within Covenant University.
- To turn our Waste into Wealth
- Internally Generated Revenue (IGR)

# Objectives

1. Promote excellence in Waste Management by enhancing environmental sustainability and sustainable strategies to the CU community
2. Provide excellence in waste reduction, recycling services and other sustainable campus practices
3. To provide students with direct experience in environmental management through environmental stewardship, academic internship, paid positions and volunteer opportunities.

# Why is this important to CU

- Environmental Sustainability and Operation Education
- Serve as Income Generation for the University
- It is Effective Way of Engaging our Students in Paid Employment
- Good Social Profit to the University because it will earn her a global recognition in the light of vision 10:2022.

# Some of the Universities involved in Waste Recycle Program

- **Harvard University**
- **Colby University**
- **University of Oregon**
- **University of Nebraska-Lincoln**
- **University of Colorado at Boulder**
- **University of Massachusetts**

✓ **COVENANT UNIVERSITY**

12/13/2019





12/13/2019



## Covenant University Campus Senate Building and Administrative Complex

12/13/2019

10



12/13/2019

## Covenant University Halls of Residence

11



12/13/2019 **Covenant University Postgraduate Hall of Residence** 12



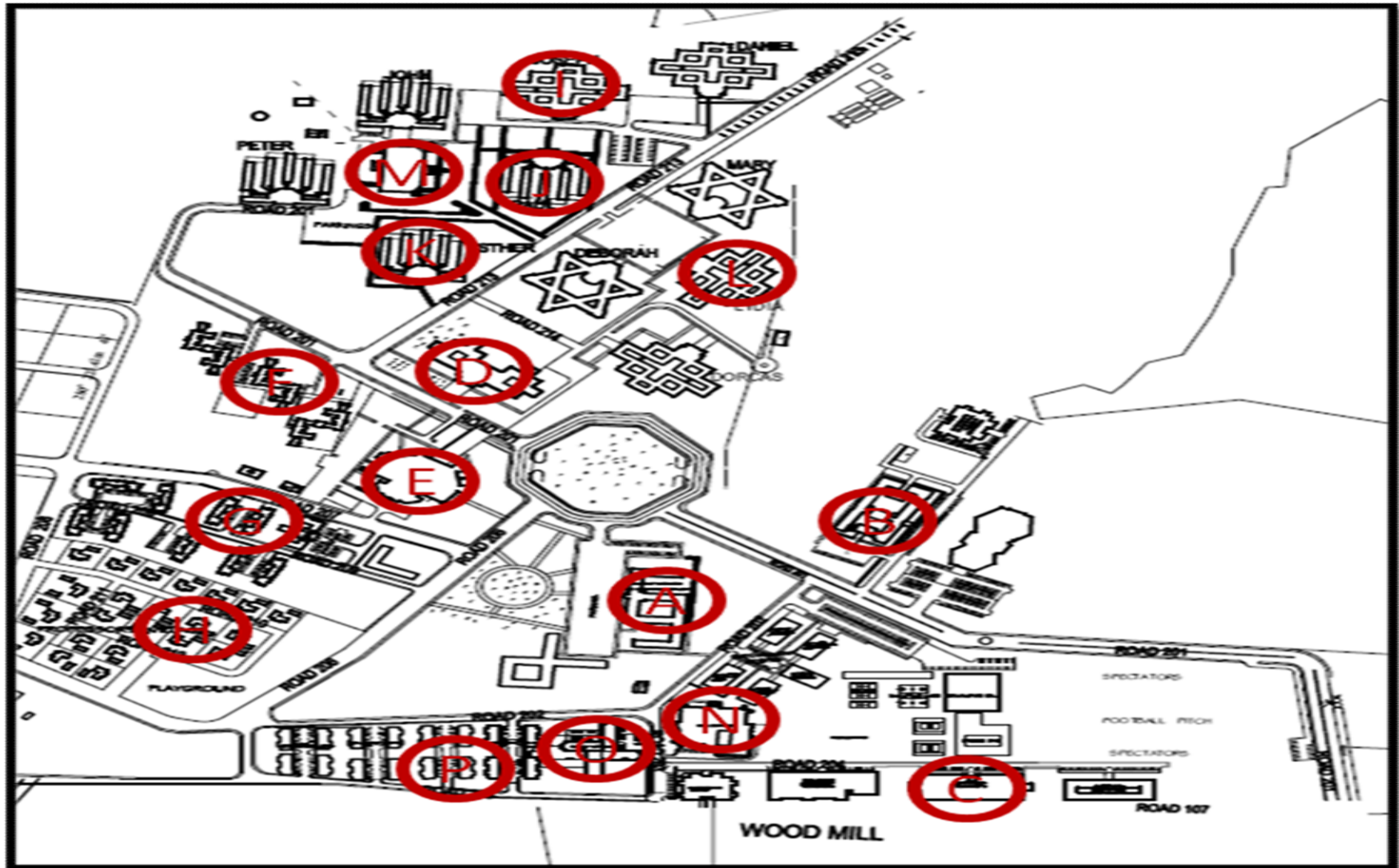
12/13/2019 **Covenant University Male Hall of Residence** 13



12/13/2019

## Covenant University CLR

# Map of CU Showing selected sampling points



For video of the university campus:  
<https://www.facebook.com/CovenantUniversity/>

## ❖ RECYCLING COMPONENTS OF THE CU WASTE STREAM

➤ Paper

➤ Plastics

➤ Food Waste

➤ Nylon

➤ Glass

➤ Aluminum

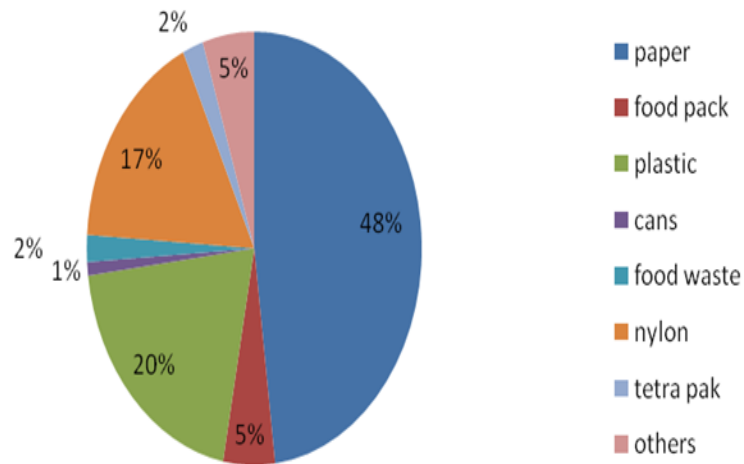
➤ Wood

These are first set of materials  
that we have been working on

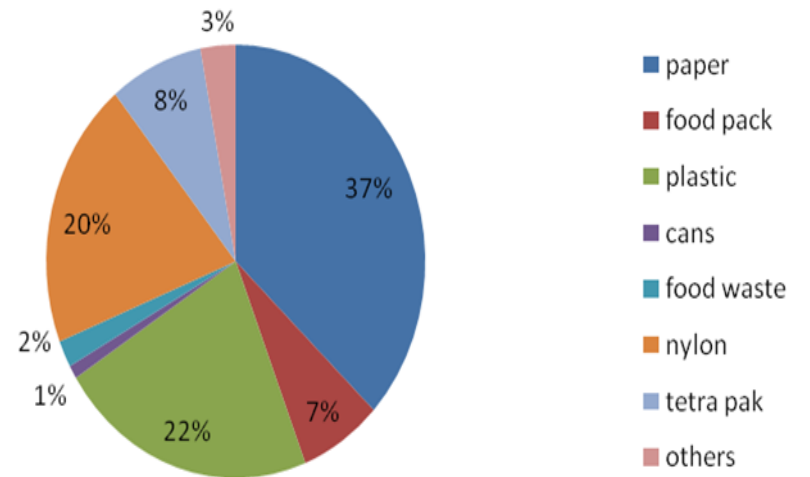
The next phase of recycling



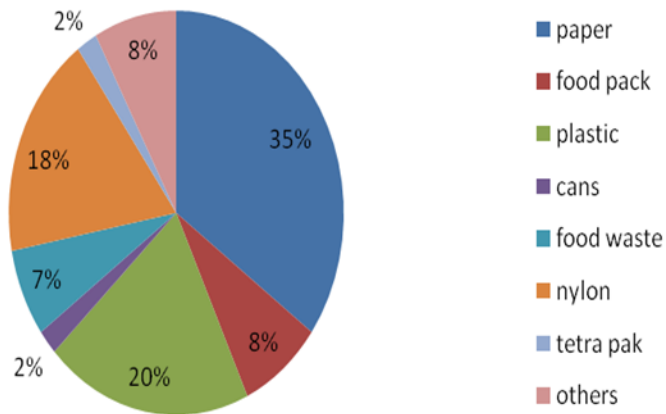
### CBS



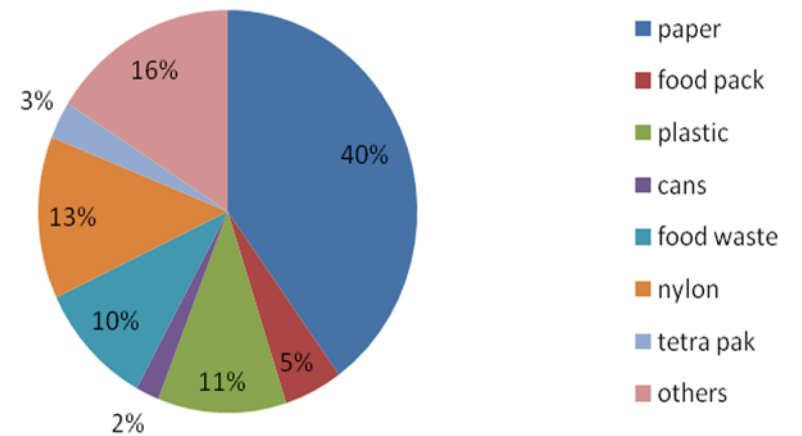
### CST



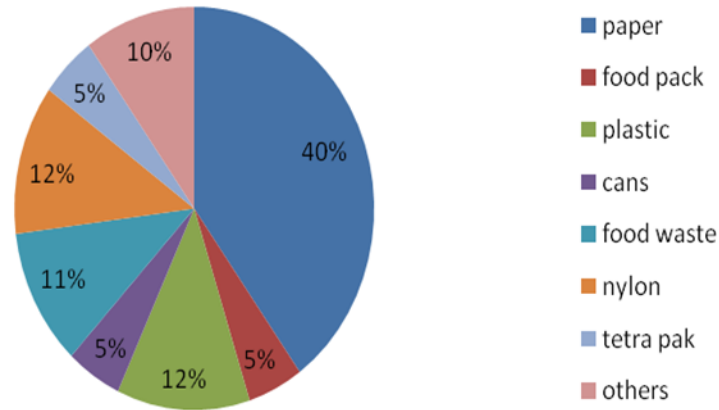
### Civil Eng. Department



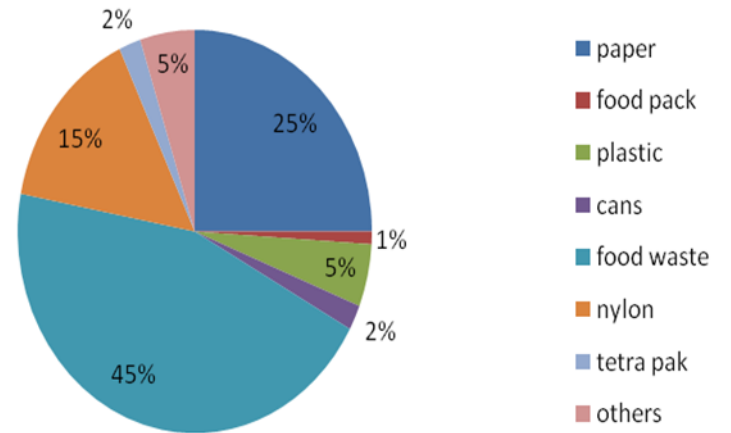
### Library



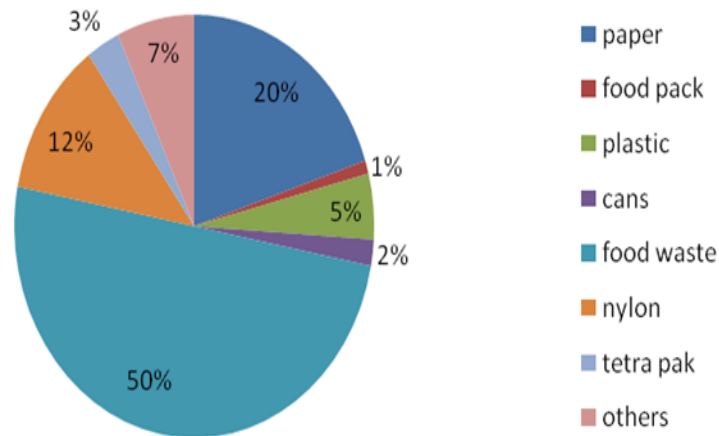
### Chapel



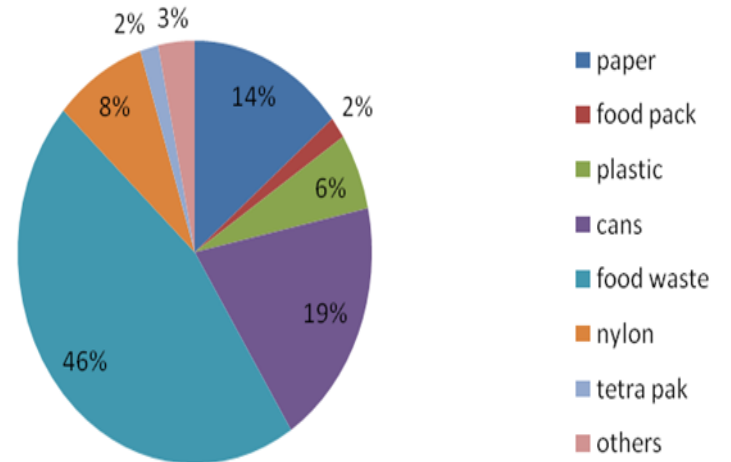
### Post graduate quarters



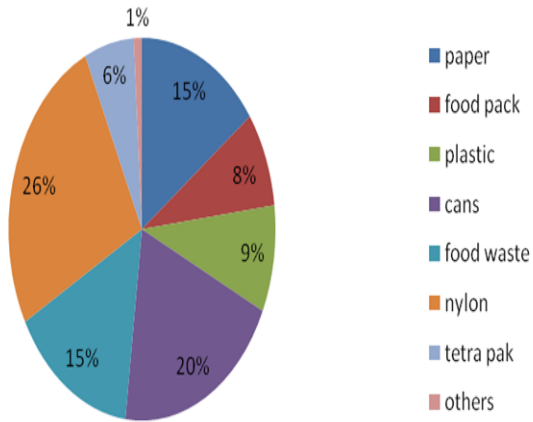
### Senior Lecturer's quarters



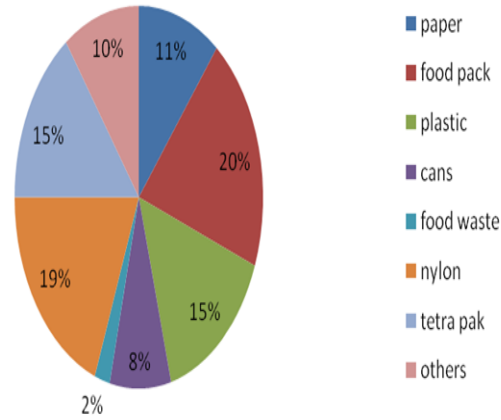
### Professor's quarters



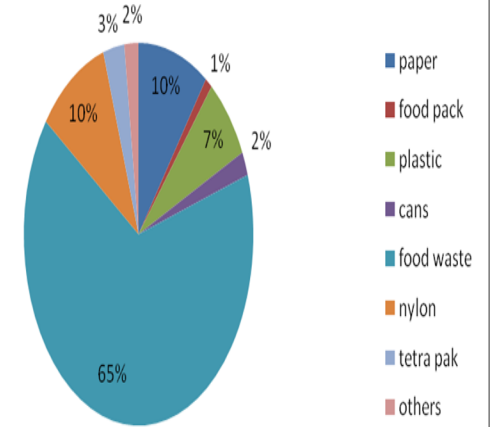
**Joseph Hall**



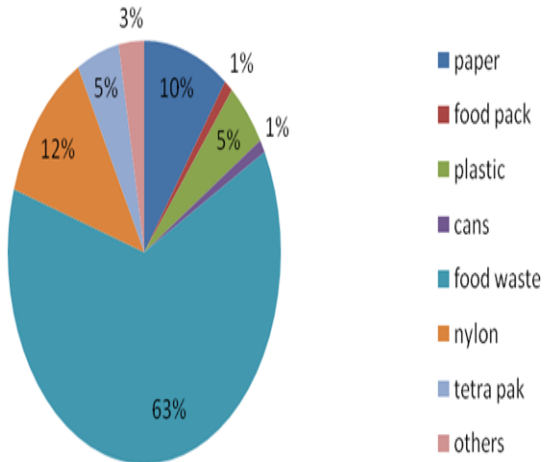
**Esther Hall**



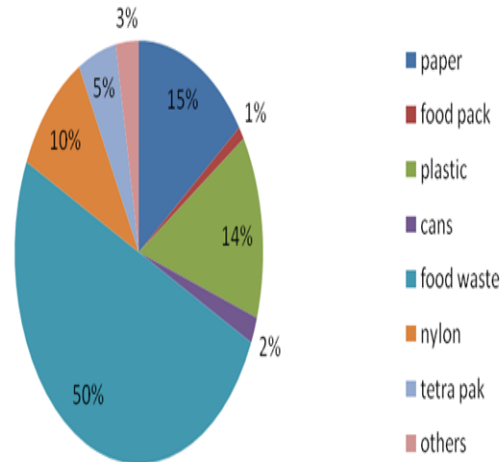
**Cafeteria 1**



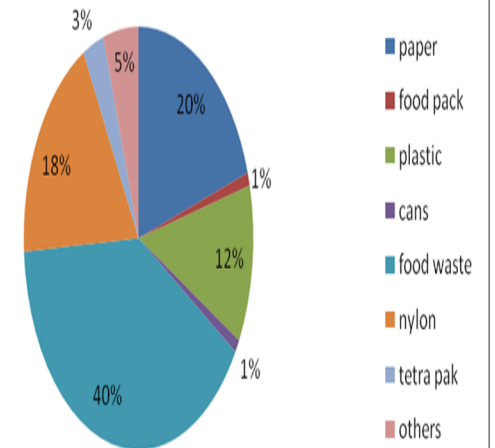
**Cafeteria 2**



**University Guest House**



**University Suites**



# Prospects

- **Paper**-All our waste paper are turned into Tissue products which the University is currently using
- **Pet Bottles** — To enhance the value of the product, the pet bottles are crushed into flakes which gives the university IGR
- **Organic Waste**- The University farm uses this component as compost manure in order to enrich the Soil Nutrients which ultimately increase farm produce yield.



KEEP COVENANT UNIVERSITY

**CLEAN  
&  
GREEN**



**FOOD  
WASTE**

WASTE TO WEALTH INITIATIVE



KEEP COVENANT UNIVERSITY

**CLEAN  
&  
GREEN**



**PAPERS  
&  
DISPOSABLES**

WASTE TO WEALTH INITIATIVE



KEEP COVENANT UNIVERSITY

**CLEAN  
&  
GREEN**



**PET  
BOTTLES**

WASTE TO WEALTH INITIATIVE







**Baling machine used at WTW site**

**Baled PET bottles at the WTW site**



12/13/2019



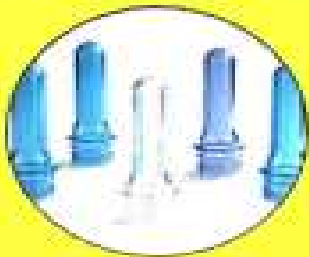
## Typical sample of Pet waste collected from January to April 2017

<b>Month</b>	<b>Café 1,2 &amp; 3</b>	<b>College buildings</b>	<b>Hall of residence</b>	<b>Shopping mall</b>	<b>Total</b>
January	77272	32190	68875	11314	189651
February	92720	55360	87344	14223	249647
March	90362	54953	96577	15547	257439
April	104078	36006	114792	18767	273643
<b>Total</b>	<b>364432</b>	<b>178509</b>	<b>367588</b>	<b>59851</b>	<b>970380</b>

# Market Analysis

- The current market size is the population targeted to purchase finished products from the recycling facility.
- Covenant University recycle program penetrates the market with prevailing recycled products of cheaper price because of the increase in demand for all products.

PET preforms are supplied to Hebron water



Stacked PET preform at Hebron water



Molding of PET preforms



A total number of 10 packs of preform is supplied daily to the Hebron water

Hebron water produces products such as Hebron water, yoghurt and drinks

# LIFE CYCLE OF PET BOTTLES IN COVENANT UNIVERSITY

Beverage introduction and packaging

Transportation



Supply of PET products to stores and eateries



The depot supplies the institution with other PET products such as coke, Pepsi, mirinda, 7up etc.

Sale of baled PET waste to recycling company

The completely baled blue bottles weigh approximately 110kg (4889 bottles) while the white ranges from 95-100kg.



Baling of PET bottles for sales

An average of 6577 PET bottles are sorted every day.



# Conclusion

- There has been no health and sanitation issue in CU because we have a clean environment
- No doubt the idea of the project conceived and implemented by Covenant University is a brilliant one with a mile stone achievement in environmental health, sanitation and safety.
- Another deduction worth of note is that the University is the first and pioneer institution in Nigeria and also in the continent of Africa as a whole to embark on such a sustainable green project, all in the pursuit towards the fulfillment of the vision 1 of 10 in 10- prophetic verdict.

# Appreciation

- The Chancellor of Covenant University, Dr. David O. Oyedepo for his support for this project.
- The Management, Faculty, Staff and Students of Covenant University for making this project a reality.
- Prof. Peter Kilpatrick, Dean of Global Engineering Deans Council and Dean College of Engineering University of Notre dam, USA for the Conference Support
- Wilson Lemonade Company in Nigeria. Company that we consult for on waste management and sanitation
- My Wife and Children for their support to attend this conference

**W2W IS WORKING IN CU.**

***YES! IT IS!***

**Thank you for listening**