# POVERTY REDUCTION MEASUREMENT: A COMMUNITY BASED RECYCLING PROGRAM TO REDUCE WASTE AND PROMOTE SUSTAINABLE LIVING.

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**Abstract**

Poverty remains a persistent global challenge, affecting millions of people around the world. Addressing poverty requires innovative and sustainable approaches that not only provide immediate relief but also empower communities for long-term resilience. This background study focuses on the potential of a community-based recycling program as a means to reduce waste, promote sustainable living, and contribute to poverty reduction measurement. The descriptive survey research design was used. The population of this study comprised educational community dwellers in Ekiti state university, Ado. Random sampling techniques was used to drawn one hundred and fifty (150) sample size of this study which consists of all Educational community dwellers of Ekiti state university, Ado. Convenient sample technique was use to select 25 respondents from six (6) faculties in Ekiti state university.The Research instrument used for this study is a self-developed questionnaire named "developing a community based recycling program to reduce waste and promote sustainable living measurement questionnaire (DCBRPWPSLM). All data gathered were analyzed using descriptive statistics and t-test method of data analysis. The findings of this study revealed that there is significant impact of challenges faced in the implementation of community-based recycling program by students in promoting sustainable living community. It was concluded from the findings that Public education and properly planned waste management programs need to be introduced into the current waste management system, hence poverty reduction measurement.

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## Introduction

Poverty reduction measurement, poverty relief, or poverty alleviation is a set of measures, both economic and humanitarian that is intended to permanently lift people out of poverty. Measures, like those promoted by Henry George in his economics classic progress and poverty are those that rise, or are intended to raise, ways of enabling the poor to create wealth for themselves as a conduit of ending poverty forever. Poverty occurs in both developing and developed countries .While poverty is much more widespread in developing countries, both types of countries undertake poverty reduction measurement. Poverty has been historically accepted in some parts of the world as inevitable as non-industrialized economies produced very little, while populations grew almost as fast, making wealth scarce.

Poverty remains a persistent global challenge, affecting millions of people around the world. Addressing poverty requires innovative and sustainable approaches that not only provide immediate relief but also empower communities for long-term resilience. This background study focuses on the potential of a community-based recycling program as a means to reduce waste, promote sustainable living, and contribute to poverty reduction measurement.

There is a strong connection between poverty and environmental degradation, as impoverished communities often lack access to resources, education, and employment opportunities. Additionally, inadequate waste management practices contribute to pollution and further exacerbate the challenges faced by marginalized populations. A community-based recycling program offers a multifaceted approach to addressing poverty and environmental concerns. By engaging communities in recycling initiatives, waste can be transformed into valuable resources, generating income and employment opportunities. Moreover, recycling helps mitigate the environmental impact of waste disposal, contributing to the overall sustainability of the community.

Solid waste has become a global issue which must be managed in a comprehensive and integrated way from upstream to downstream in order to provide economic benefits, community's health, safe for the environment, and change people behaviour. Many factors that accelerate the municipal solid waste generation are increasing of population growth, economic development, and rapid urbanization (Minghua et al., 2009). Recent years every country make an effort to reorient sustainable Solid Waste Management (SWM) systems. To achieve this goal, it requires integrated approach so that solid waste management can be proportionate, effective, and efficient.

A lot of measures were taken to reduce the number of waste generation at local, national and international level. But the increasing of solid waste generation is not balanced with the improvement of infrastructure of solid waste management and also limitations of land for the final disposal sites especially in big cities. It is very difficult to find sufficient land for final disposal sites near the city and moreover cost of transportation and environmental impacts became challenges to construct landfills at a distant location (Memon MA, 2010). So that needs efforts for waste reduction from the source to reduce the burden of final disposal sites.

Why has the waste situation reached such an unsustainable point resulting in this enormous challenge in the developing countries? According to Adewale (2011) and Nguyen et al (2011) it is mainly due to poverty, population explosion leading to rapid and uncontrolled urbanization. Adewale (2011) also point out the factors of in-effective management and the governments'

under-funding. The magnitude of this problem is well reflected in the level of attention it has received in the United Nations Millennium Declaration (2000). Out of the seventeen Social Development Goals (SDGs) four goals have been assessed with waste or resource efficiency implications (UNO 2015); (1) "No Poverty: Human well-being is linked to each other. Growing inequality can cause political and economic tension, instability, and conflict. It's harmful to economic and social growth", (2) "Good health: Healthy lives and well-being are essential to building and maintaining a thriving society" (3) "Quality Education: When people have a quality education, they can break from the cycle of poverty and become empowered to live more sustainable lives" and (4) "sustainable cities and communities: 3.5 billion people live in cities, which is only expected to grow. This means the future is 'urban.' Thus, sustainable healthcare, reduced poverty, and a healthy environment need to be found in city life".

Benefits of Community-Based Recycling Programs:

a. Economic Empowerment: Recycling creates income-generating opportunities, particularly for individuals in marginalized communities. By collecting, sorting, and processing recyclable materials, community members can establish small businesses or cooperatives.

b. Environmental Stewardship: A recycling program instills a sense of environmental responsibility within the community. Reduced waste and proper disposal methods contribute to a cleaner environment and the preservation of natural resources.

c. Skill Development: Implementation of recycling initiatives involves training and capacity-building for community members. This not only equips them with valuable skills but also enhances their employability in related sectors.

d. Social Cohesion: Collaborative efforts in recycling programs foster a sense of community and shared responsibility. This can lead to improved social cohesion, as community members work together towards common goals.

Measurement Impact on Poverty Reduction:

Effective measurement tools are essential to evaluate the impact of a community-based recycling program on poverty reduction. Key indicators may include:

a. Income Generation: Assessing the increase in income for participating individuals or households involved in recycling activities.

b. Employment Opportunities: Tracking the number of jobs created within the community as a result of the recycling program.

c. Environmental Impact: Monitoring the reduction in waste and improvements in waste management practices.

d. Social Well-being: Evaluating the overall well-being and empowerment of community members through qualitative assessments and feedback.

## Statement of Problems

Aside from the financial gains that schools can make from cutting expenditure on waste disposal, the bigger picture is that recycling is a moral, ethical, and survival issue for the human race. Waste management and recycling are important measurement topics relating to poverty to reduced poverty that need to be discussed within classrooms, helping children and as well adult to think about their personal actions and how they affect the world around them. Schools can make recycling initiatives fun and engaging as not all students are motivated by the idea of dealing with rubbish. Recycling can also be a creative haven for students, helping them to breathe new life into materials such as paper, and plastic water bottles. Learning about recycling in schools means that students are more likely to put this knowledge into practice when it comes to their everyday life, helping to combat the waste they produce at home and even influence those around them to do the same are germane measurement of poverty reduction in our community hence, this study.

## Research Objectives

The general objective of this research is to explore and understand the situation of developing a community based recycling program to reduce waste and promote sustainable living; Poverty reduction measurement
Specifically;
1. Find out the challenges faced in the implementation of community-based recycling program in promoting sustainable living
2. Find out which stakeholders influence the community-based recycling program and what are their roles in promoting sustainable living
3. Determine strategies local government and community-based recycling program use to support the performance of the community-based solid waste management in promoting sustainable living

## Research questions

The following research questions were raised to guide this study

1. What are the challenges faced in the implementation of community-based recycling program in promoting sustainable living?
2. Which stakeholders influence the community-based recycling program and what are their roles in promoting sustainable living?

## Research hypotheses

In this research, the following hypotheses were postulated.
1. There is no significant impact of challenges faced in the implementation of community-based recycling program and promoting sustainable living
2. There is no significant impact of stakeholders influence the community-based recycling program and what are their roles in promoting sustainable living
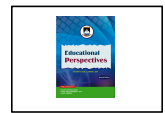
## Methodology

The population of this study comprised educational community dwellers in Ekiti State University, Ado-Ekiti. Random sampling techniques was used to drawn one hundred and fifty (150) sample size of this study which consists of all students of Ekiti State University, Ado-Ekiti

In view of the above, convenient sample technique was use to select 25 students which were the respondents from six (6) Faculties in Ekiti state university. Questionnaires used were the research instruments to gather data while the validation of the instruments was done. All data gathered were analyzed using descriptive statistics and Pearson Moment correlation coefficient method of data analysis.

## Analysis of Research Questions

**Research question 1:** What are the challenges faced in the implementation of community-based recycling program by students in promoting sustainable living?

**Table 1: Mean and Standard Deviation on challenges faced in the implementation of community-based recycling program by students in promoting sustainable living**

|  | Mean | SD | Decision |
|---|---|---|---|
| Educational Community recycling program promotes sustainable living | 3.1300 | .98119 | Has effect |
| Recycling program gives the educational community healthy environment | 2.9600 | .75103 | Has effect |
| Educational Community face no challenge in implementation of recycling program | 3.4100 | .68306 | Has effect |
| Adequacy of available waste management services should be provided in educational communities | 2.7200 | 1.19832 | Has effect |
| Willingness to work with others to manage waste in the educational community promotes sustainable living | 2.4500 | 1.12254 | Has effect |

Table 1 represents the mean and standard deviation of respondents on what are the challenges faced in the implementation of community-based recycling program by students in promoting sustainable living in community. It reveals that 4 items have means of 2.5 and which is the bench mark mean and as such they are judged as challenges have effect in the implementation of community-based recycling program by students in promoting sustainable living in community.

**Research question 2:** Which stakeholders influence the community-based recycling program and what are the roles of students in promoting sustainable living community?
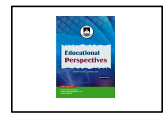
**Table 2: Mean and Standard Deviation on stakeholders influence the community-based recycling program and what are the roles of students in promoting sustainable living community.**

|  | Mean | SD | Decision |
|---|---|---|---|
| Stakeholders participation is not needed in Educational community-based recycling program | 3.1800 | .79620 | Has effect |
| Roles of the stakeholders is to create sustainable living in its community | 3.0200 | .60269 | Has effect |
| Stakeholders should maintain status quo (waste contractors or self-disposal) always | 2.9700 | .54039 | Has effect |
| Stakeholders is not responsible for waste management services | 3.3500 | .47937 | Has effect |
| Community based recycling program should be engaged by all stakeholders of the community | 3.2200 | .66027 | Has effect |

Table 2 shows that the items above have means of 2.5 and which is the bench mark mean and as such they are judged stakeholder having effect on community-based recycling program and what are the roles of students in promoting sustainable living community.

**Test of Hypotheses**
**Hypothesis One**
There is no significant impact of challenges faced in the implementation of community-based recycling program by students and promoting sustainable living community.
**Table 3**

**Summary of Pearson Correlation on the significant impact of challenges faced in the implementation of community-based recycling program by students and promoting sustainable living community.**

|  |  | Community based recycling | Promoting sustainable living community |
|---|---|---|---|
| Community based recycling | Pearson Correlation | 1 | .042 |
|  | Sig. (2-tailed) |  | .552 |
|  | N | 150 | 150 |
| Promoting sustainable living community | Pearson Correlation | .042 | 1 |
|  | Sig. (2-tailed) | .552 |  |
|  | N | 150 | 150 |

*** Correlation is significant at the 0.01 level (2-tailed).

The Pearson's correlation study shows the significant impact of challenges faced in the implementation of community-based recycling program by students and promoting sustainable living community which demonstrates a positive and significant link between the variables at (r= .042, n =150, $p$ = .005). As a result, the hypothesis which states that there is no impact of challenges faced in the implementation of community-based recycling program by students and promoting sustainable living community is hereby rejected. Hence, there is significant impact of challenges faced in the implementation of community-based recycling program by students and promoting sustainable living community.

### Hypothesis Two

There is no significant impact of stakeholders influence the community-based recycling program and the roles of students in promoting sustainable living community.

**Summary of Pearson correlation on the significant impact of stakeholders influence the community-based recycling program and the roles of students in promoting sustainable living community.**

|  |  | Stakeholders influence | Promoting sustainable living community |
|---|---|---|---|
| Stakeholders influence | Pearson Correlation | 1 | .111 |
|  | Sig. (2-tailed) |  | .117 |
|  | N | 150 | 150 |
| **Promoting sustainableliving community** | Pearson Correlation | .111 | 1 |
|  | Sig. (2-tailed) | .117 |  |
|  | N | 150 | 150 |

***. Correlation is significant at the 0.01 level (2-tailed).

The Pearson's correlation study shows the significant impact of stakeholders influence the community-based recycling program and the roles of students in promoting sustainable living community which demonstrates a positive and significant link between the variables at (r = .111, n = 150, $p$ = .005). the suggestion that claim that there is no significant impact of stakeholders influence the community-based recycling program and the roles of students in promoting sustainable living community is hereby rejected. Thus the stakeholders significantly influenced the roles of students in promoting sustainable living community.

### Discussions of Findings

The challenges faced in the implementation of community-based recycling program by students in promoting sustainable living community. It revealed that there is significant impact of challenges faced in the implementation of community-based recycling program by students in promoting sustainable living community. The findings were in consonant with Rahmah Elfithri (2016) on recycling practice to promote sustainable behavior at university campus revealed that a sustainable program involving the majority of its highly educated community, its image would be tarnished if this simple practice was not carried out. University Kebangsaan Malaysia (UKM), through its zero waste campus initiative and in collaboration with the research group of Alam

Flora SdnBhd, has deployed recycling activities effectively since 2010 using an improved a management recycling system, improving existing facilities and intensifying awareness campaigns. However, the response from the UKM community is low, with an average recycling rate of 1.75% (April 2010 to July 2012) and an average of eight persons/week who sent recyclable items to the UKM Recycling Center (April 2011 to July 2012). Surveys taken regarding the involvement of the UKM community in recycling activity are discussed to obtain an overview of the facilities and the changes required to improve the recycling management system.

Here, research question two seeks to find out which stakeholders influence the community-based recycling program and what are the roles of students in promoting sustainable living. The findings revealed that there is significant impact of stakeholders influence the community-based recycling program and the roles of students in promoting sustainable living community. The findings were in agreement with Selim (2013) who investigates the possibilities and solutions for a sustainable municipal solid waste management in the community of Mutomo, situated in Kitui County, Kenya. The aim was to formulate an action plan to start reaching for a sustainable development in the waste sector, with citizen participation.

## Conclusion

Like in most other developing countries and major cities, sustainable solid waste management in Educational communities in Ekiti, Nigeria remains a herculean task, especially with its ever increasing population. While it may be said that government have been making efforts to improve waste management in the state, there are still a lot of untapped opportunities for sustainable waste management which can be one of the measurement for poverty reduction.
From this study, it is believed that no single waste management option can be employed in isolation for community based recycling. Disposal on waste sites is the dominant means of managing waste in the state but this is clearly not sustainable. Considering the nature and components of waste generated by educational communities, a blend of certain management options in the waste management hierarchy (reduction, reuse, recycling and composting) would be more suitable in tacking the challenge of waste management.

The backbone of most options in the waste management hierarchy is waste segregation at source. Other key aspects are proper storage, more efficient waste collection systems, sustainable recovery and disposal. Public education and properly planned waste management programs need to be introduced into the current waste management system. These are relevant because educational communities and households should know and understand the importance of waste segregation and proper storage, as well as those of recycling and compost production. Integration of scavengers into the SWM sector is also necessary for recycling to become more efficient in the state. Friendly climes for waste reduction, recycling, compost production have to be created by the authorities through introduction of complimentary programs and policy development. The idea of incentivized waste segregation is popular among all the households -whether low income, middle income or high income. Therefore, to encourage and enhance cooperation of households; inclusion of incentives should not be overlooked when designing programs for waste management.
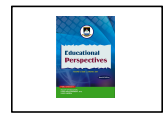
## Recommendations

Based on the findings; the following recommendations were made:

1. Educational community participation is important in management of waste and recycling which is a measurement of poverty reduction.

2. Stakeholders influence the community-based recycling program and should ensure active participation in promoting sustainable living community.

3. Waste should be disposed of in a safe way which takes into cognizance the health of environment and that of the public, while ensuring non detrimental effects on generations to come.

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