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## Solid Waste Management Projects in Nairobi County, Kenya: Analytical Review of Project Management Technical Skills and Performance of Youth Environmental Projects

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### **Abstract:**

*This study aimed to investigate on solid waste collection within Nairobi County residential areas managed by youth groups dealing with environmental projects. The purpose of the study was to examine the influence of technical skills on performance of youth environmental projects in Nairobi County. The study's unit of analysis was 70 youth environmental groups projects comprised of 700 youth group members engaged on solid waste management projects in Nairobi County. The study used a sample size of 248 group members, based on Krejcie and Morgan's sample table. Proportionate method was applied to calculate the sample strata, where simple random sampling was used on the sampled strata. Key informants from 4 departments of Directorate of Youth affairs were purposely selected. The study adopted descriptive survey and correlational research designs using Participatory Action Research approach. Research instruments entailed questionnaires, observation checklists, an interview guide, a focus group discussion guide and structure forms for content analysis. Qualitative data was analyzed and presented in themes while quantitative data was analyzed descriptively using percentage frequencies, mean, and standard deviation. Inferentially, Pearson correlation coefficient and multiple regression analysis including hypotheses t-test were used as tools of analysis to test for significance on the study null hypothesis which stated that:  $H_0$ : Technical skills do not significantly influence performance of youth environmental projects in Nairobi County. From the findings of regression and correlation analysis, the correlation output showed that technical skills characteristics were statistically significant ( $P$ -values under significant 2-tailed were all less than  $\alpha=0.05$ ) towards performance of youth environmental projects. The correlation index between technical skills and performance was positive and significant,  $r(247) = .715$ ;  $p \leq .05$ . This inferred that as the level of technical skills increases, the performance levels also increases. This implied that the null hypothesis was rejected and the conclusion made that:  $H_1$ : There is a significant influence of technical skills on performance of youth environmental projects in Nairobi County, which was the alternative hypothesis.*

**Keyword:** Project Management, Technical skills, performance of youth environmental projects

### **1. Introduction**

The 2030 Agenda for Sustainable Development Goals (SDGs) provides a unique opportunity to incorporate youth policies into comprehensive sustainable development strategies, since young people bring along talents, positive energy, and innovative creativity to economies contributing as entrepreneurs, consumers, and as agents of change (Kajamaa, 2011;) since Youth are the backbone of any nation. Unfortunately, youth unemployment is termed to be one of the biggest development challenges in the Third World today. The global youth unemployment rate rose to 13.1 per cent in 2016 from 12.9 in 2015 and was projected to be at 13.2 per cent in 2017 (ILO 2017). In many parts of the world, youth face poverty, hunger, barriers to education, multiple and intersecting forms of discrimination, and limited opportunities for growth and employment prospects. Youth project management skills supports a young person in developing the ability to analyze his or her own faults and strengths and, set personal and vocational goals, and have confidence, self-esteem, abilities and motivation to carry them out, including the ability to establish support networks in order to fully participate in community life and effect positive social change (Wehmeyer, Agran, and Hughes, 1998). Research shows that compared with other developed countries, disposal problems and solid waste management are more obvious in developing countries since they face more institutional, technological and financial challenges in addressing solid waste problems (Ivo Slaus and Garry Jacobs, 2011). In today's world, waste has become a source of income generation as an activity for urban youth as

well as a platform for engaging with the broader politics of basic services, which also has interfaces with “sustainability” initiatives that invite alternative market-based approaches to address the challenges of poverty. These studies point out to a vibrant waste enterprise, devoid of policy or legislative, which is often unrecognized unhygienic, tedious, and potentially hazardous interventions whose contributions are rarely documented or quantified. These activities rank lowest in the waste recycling rung where participants are largely the urban poor, especially urban youth (Ahmed and Ali 2006). On a broader scale, waste segregation reduces the burden of waste collection and disposal that minimizes loads of waste that need to be transported to dump sites especially at household level. These include recycling and re-using products where ‘re-use’ involves using the product more than once for the same or a different purpose. Composting is also termed a good way of disposing biodegradable waste materials, especially in residential areas. It can provide compost for urban agriculture and create more local jobs. The innovative waste management schemes undertaken by youth in urban Kenyan shanty towns are deemed to be increasingly rendering waste material a valuable commodity. Waste has become a source of income generation and a way to provide service to communities where public service provision is otherwise absent. Youth groups collect solid wastes from residents’ homes and businesses and dispose them properly. Other youth workers collect, buy, and resell recycling materials to bigger companies that turn the recyclables into various products that get back to the market (Kajamaa, 2011). Access to finance services and markets is one area for action with technical skill building for youth project performance in particular, support for social enterprises including public-private employment opportunities. Low-income youth are less likely to have access to financial project management skills including financial opportunities, which is a contributing factor in growing income and asset inequality (Frumkin, 2002). Project management technical skills on environmental issues teaches youths how to gainfully reinhabit their total environment instead of merely residing; like cyclones in Madagascar and typhoons in the Philippines through participation in “youth-led virtual projects (Frumkin, 2002).

### *1.1. Statement of the Problem*

Environment offers context for alienated youth, towards re-engaging in gainful environmental projects that improves their livelihoods (Achankeng, 2003). Waste dumped in open areas attracts pests, the dumps occasionally catch fire and are public health and environmental hazard. Waste collection rates in urban areas are higher than ideal and Municipalities in charge of collection are not able to generate a good fee collection rate, since residents do not get good services; thus, always reluctant to pay; exacerbating the vicious cycle of poor waste management save; residential areas (Frediani, Walker, and Butcher, 2013). However, systematic research reviewed on this study shows increasing number of studies have started to pay attention to solid waste disposal and management, using sustainable and suitable methods to deal with urban solid waste challenges. This is to gainfully benefit the bulging number of jobless youths, particularly low-income urban youth; to enable them find positive and meaningful ways to engage in environmental projects by reducing the amount of solid waste that has been dumped or burnt while creating meaningful jobs that can improve their livelihoods (ILO, 2017). Kenya’s population is reported to comprise of 75 percent youth with overall youth unemployment rate reported at 55.3 percent by the end of the year 2016 (Bureau of Labor Statistics, U.S. Department of Labor 2016). This has been described as a ticking bomb, with idle frustrated young men and women susceptible to drugs, prostitution, or even being lured into terrorism (Afon, 2012). In lieu of this, 70 youth environmental group projects out of 400 registered youth groups in Nairobi County pose as “waste pickers” in solid waste management projects for their livelihood. However, there is scanty youth’s business progress or discontinuance rates reported in these environmental projects, with scanty indicators on performance (YEDF, 2016). Studies that are carried out in Kenya shows that quite a number of youth projects have been successful, especially various environmental projects in previous years that addressed the challenge of youth employment through adopting an Entrepreneurship Training Manual to facilitate youths environmental projects through Youth Enterprise Development Fund loans (YEDF). The objective of these serial projects is to increase economic opportunities for the youth as a way of enabling them to participate in nation building. The environmental youth projects are hence expected to meet economic needs, fit within government-funded programme objectives, and add value to the beneficiaries’ whilst providing employment, or self-employment opportunities by opening up business ventures for the bulging youth population as exit opportunities from the programme (UNEP, 2006).

The paradox in this research is that despite all these government funded youth initiatives, Performance of many of the youth environmental projects in all the 47 counties in Kenya remains thin, irrespective of government funding, save Nairobi County which has more youths accessing government projects funding and training aggravated by proximity (Afon, 2012). Literature reviews show that youth lack project management technical skills and self-confidence which may impact on their creativity and innovative ability to enable them take calculated risks and to use available opportunities as well as available business government support for gainful projects startups and growth (Kenya economic survey 2015). They lack patience to manage prolonged projects and will always opt for what seems to be scarce quick and profitable fixes. Some of the urban youth today choose to waste their days doing drugs and playing video games or sitting home in front of their televisions playing games all day and spend their nights partying or on criminal activities; instead of bettering themselves in the world of work; hence remain vulnerable to crime and social unrest (Kimando, Njogu and Kihoro, 2012). Literature reviewed has not answered this menace, “ennui” state on youths; why they are not enthusiastic on environmental projects uptake despite the many initiatives and loans availed by the government. This study therefore alludes to the impetus of technical skills as a component of project management skills on performance of environmental projects (Monroe, Cheng, 2010). The study therefore seeks to investigate the missing links leading to poor performance of youth groups’ solid waste management projects; by investigating how project management technical skills influence performance of youth environmental projects.

### 1.1.1. Objective of the Study

The study was guided by the following objective:

To examine the influence of technical skills on performance of youth environmental projects in Nairobi County.

### 1.1.2. Research Hypothesis

The research hypothesis guiding this study included the following:

- H0: Technical skills do not significantly influence performance of youth environmental projects in Nairobi County.

## **2. Literature Review**

Kenyan youths face challenges today that include high unemployment rate, marginalization, harassment by the police, and impediments in accessing essential facilities and services which include education and healthcare (Shaury, 2017). Literature reviewed in this study recommends youths to develop strategies for responsible citizenship through the application of project management skills, to work cooperatively towards gainful resolutions of environmental problem (Kenya youth survey report 2013). This promotes the need for technical operational skills on solid waste management projects requirements especially in residential areas, like a waste diversion, anti-littering, open burning ban and debris management requirements as proper waste management to promote waste reduction and separation, and influence waste disposal practices (Boateng, and Bampoe, 2014). Technical skill is a fundamental insight that ventures into how a project operates and how it makes money and sustains profitable growth, now and in the future. It entails a wide complex of competencies, knowledge, and awareness of multiple aspects of a business. Today's projects business requires teams that can directly contribute to the achievement of their projects goals and objectives by making the right business. This statement is supported by a study by Gakungu, Gitau, Njoroge Kimani (2012) on solid waste management in Kenya. The study was based on objective assessment of the state of practice towards Solid Waste Management using a descriptive survey with a target population of Nairobi residents. The study concluded that Solid Waste collection rate being about 33% of the waste generated, with recycling rate being about 3.7% hence leaving about 63% uncollected waste and unrecycled. The study findings implied that technical skills towards improvements of technical solid waste collection systems are required at the levels of collection for waste container and vehicle specification, vehicle routing and vehicle maintenance in addition to final disposal transfer. This entails selection of technical facilities and equipment's in regard to their operating characteristics that they are designed for; to enhance the rate of waste collection projects growth and to supervise the transportation of solid waste to ensure that it takes place efficiently without contaminating air, roads, land or water sources.

Provision of more firms' value to customers builds a competitive edge or advantage. In the dynamic world with escalating youth population, approaches projected towards technical training, coaching and mentoring youth projects today are formulated against the current context of youth in the country's economy and society (Davis and Kate, 2014). Research reviewed by (Mumbi, Okori, Jada, Koushik, and Wilson, 2017) used theoretical exploratory approach to examine theories appropriate for a conceptual framework for community environmental education (CEE). The study findings concluded that transformative learning, and empowerment was lacking which inferred that the knowledge required for project technical skills on diverse projects is not necessarily related to professional practice in running a business project, but it is also related to skills and attitudes, and to meta qualities and ability to run a business effectively. This include consultation with residents, community groups, administrative key informants, residential housing associations and traders' associations on waste management issues, identifying their requirements and providing appropriate solutions. Technical skill includes drawing up contingency plans as well that emerges from a thorough analysis of the unpredicted risks that a project faces through project cycle predictions; articulated by considering alternative strategies while identifying all critical business functions to outline ways to minimize losses (Davis and Kate, 2014). Compliance with current legislation in the transportation of waste, handling and disposal of solid waste to counter all forms of water or air pollution during the transportation, monitoring the quality and performance of waste services, including contract management of external providers and governments that formulate the budget for waste disposal and the ability to collate statistics and compile reports on strict deadlines are essential technical skills towards solid waste management projects (Agwu, 2014).

Nairobi high income zones presents 38 percent of recyclable waste (plastic, paper, glass and metal) according to a Study conducted by Kimani, Njoroge, Ndunge (2014) on Municipal solid management through mixed method. However, it is estimated only about 20 percent of these recyclables are recovered. Approximately another 20 percent recyclable end up in the dumpsite, while the remainder is either uncollected or disposed of through open burning. However, the study established inadequate technical skills on SWM by private enterprises, with in efficient return on investment due to the complexity of their operations outlay especially due to proper coordination on lacking SWM models and technology. Currently, Nairobi city has not established transfer stations and does not have a sanitary landfill. The existing open dumpsite at Dandora dumping site is both a health and environmental hazard and is overdue for decommissioning (Kimani, Njoroge, Ndunge, 2014). These study findings advocate for understanding waste disposal current emerging trends, willingness to challenge the status quo, decision-making, data-analysis creates awareness towards environmentally sound waste management technical skills to youths; with increased knowledge on positive enterprises and benefits of waste, particularly household waste, and garbage. Thus, technical project skill on youth environmental project aims first to earn, sustain, and grow profits. Technical planning includes the ability to come up with effective plans to realise particular project goals and to oversee waste management schemes, such as at landfill sites; supervise the transportation of solid waste to ensure that it takes place efficiently without contaminating air, land or water sources. It contributes to project sense of overall big picture and understanding of the project business and helps project team to

review and set goals and priorities, identify potential risks and opportunities and perform long-term planning (Awitti and Scott, 2016). Methods of inculcating project management skills to the youths are varied and can range between traditional ways of information transfer through to interaction with diverse projects from their fellow peers that include skills to assess the market, customers, and competition. Formal approaches may be complemented by tacit learning with peers and networks while monitoring and evaluation practices are deemed important to increase the effectiveness of youth project management skills (Evans and Evans, 2011). Literature review and studies based on technical skills and performance of youth environmental projects specifies that youth led waste management Projects create sources of employment particularly among alienated and marginalized urban youth and youths- waste management projects could help address some of the socio-psychological problems and delinquency that arises from joblessness (Moore, 2017).

### 2.1. Theoretical Framework

Theoretical underpinnings of this study relate to the ability of this study to link human capital theory and the concept of Project performance empirically. It indicates that individuals with more or higher quality human capital will reap more desirable outcomes (Becker, 1964). Scholars label human capital as a term that describes hierarchy of skills and knowledge and is one of the most used theories in relation to project readiness and ability (Wright, and McMahan, 1992). Standard approach in labor economics sights human capital as a set of skills and characteristics that may increase a worker's productivity; indicating significant relationship between innovativeness and project performance under the human capital philosophy (Maruping, 2002). Human capital theory in relation to project performance may include financial performance measures such as projected percentage of sales resulting from new products, amount of capital employed, rate of profitability, return on investment (ROI) rate, including return on assets (ROA) rate (Gratton and Ghoshal, 2003) The link between human capital and performance is based on resource-based view of the project and the expectancy theory of motivation theoretical strands which is composed of the valence or value attached to rewards, the instrumentality, or the belief that the project team may receive the reward upon reaching a certain level of performance, including the expectancy, the belief that the project team may actually achieve the performance level required (Rastogi, 2000).

The human capital theory advocates management as a tool and a vital skill for improving human capital, stimulating labor productivity and boosting the levels of technology within and across the globe (Hewlett, 2002). Based on (Gratton and Ghoshal, 2003) view, human capital may be applied at micro and macro levels. At micro level, the theory suggests that an individual bear the cost of engaging youth in project management skills aiming at attaining higher knowledge and skills that will boost their future enterprise. The skills not only generate income but brings about increased productivity and higher owner wages. Human capital enhancement through quality project management skills is deemed a critical factor that propels economic growth and sustainable development (Nerdrum, and Erikson, 2001). In addition, (Rastogi, 2000) establishes a correlation between the level of project management skills and new products development in knowledge-based economies that invest massively in project management skills, technology and other related growth elements. Successful project management skills focus on processes that generally promote critical thinking, problem solving, and effective decision-making skills and therefore assisting the youths in discussing, inferring, predicting, and interpreting environmental opportunities like waste management (Brymer, 2014). Literature in this study review indicates emerging evidence that human capital investment leads to greater project performance which is a study gap. Thus, this study there for adopts the human capital theory to address this gap in knowledge. The findings of this study have important implications on youth environmental projects policy and practice.

### 3. Methodology

The study used descriptive research and exploratory research designs. The research was preplanned and structured in design so that the information collected could be statistically inferred on the respondents since descriptive design is conclusive and quantitative in nature. The main idea behind using this type of research was to define opinions, attitudes and behaviors held by the youth groups that were engaged in environmental projects. This allowed the researcher to provide deep insight into set study objectives, as well as allowing more opportunities for the researcher to study new things and question them; since exploratory research focuses on the discovery of ideas and insights (Creswell, 2012). The study therefore involved Participatory Action Research (PAR) approach, a democratic process concerned with developing practical knowing and understanding based on emulated culture and values in the pursuit of worthwhile human purposes, grounded in a participatory worldview (McNamara, 2009). In this study context, PAR focused on the effects of the researcher's direct actions within participating youth environmental groups with the goal of improving the performance of the projects. The study adopted descriptive survey and correlational research designs using Participatory Action Research approach. Research instruments entailed questionnaires, observation checklists, an interview guide, a focus group discussion guide and structure forms for content analysis. Qualitative data was analyzed and presented in themes while quantitative data was analyzed descriptively using percentage frequencies, mean, and standard deviation. Inferentially, Pearson correlation coefficient and multiple regression analysis including hypotheses t-test were used as tools of analysis to test for significance on the study null hypothesis.

### 4. Results and Discussions

The objectives of this study was to examine the extent to which Technical skills influences the performance of youth environmental projects. In order to achieve this, the respondents were asked to give their options based on their level of agreements or disagreements based on statements on a Likert scale of 1-5 where 1=strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly Agree. The results were presented in table 1

Statements	SD	D	N	A	SA	Mean	SD
You have oversight management schemes to oversee SWM schemes and landfill sites	34(13.7)	71(28.6)	6(2.4)	52(21.0)	85(34.3)	3.33	1.521
Your SWM group environmental has ensured compliancy with current legislation in the transportation, handling and disposal of solid waste	45(18.1)	44(17.7)	8(3.2)	46(18.5)	105(42.3)	3.49	1.597
You offer quality waste services in transportation of SW without contaminating air, land or water sources	0	0	15(6.0)	62(25.0)	171(69.0)	4.63	.596
Level of SWM an control waste disposal: Project tasks are well scheduled within formulated budget time frame	65(26.2)	107(43.1)	0	56(22.6)	20(8.1)	2.43	1.308
The size of the population receiving collection services is equivalent to solid waste collection bags distributed per household.	3(1.2)	64(25.8)	34(13.7)	66(26.6)	81(32.7)	3.64	1.216
Composite mean and standard deviation						3.51	.630

*Table 1: Analysis of Technical Skills and Performance of Youth Environmental Projects*

Six statements were developed to measure the extent to which Technical skills influences the performance of youth environmental projects. Statement (1) you have oversight management schemes to oversee Solid Waste Management schemes and landfill sites, out of 248 respondents who participated in the study, 85(34.3%) of respondents strongly agreed with the statement, 52(21.0%) Agreed, 34(13.7%) Strongly disagreed, 71(28.6%) Disagreed while 6(2.4%) were neutral. This finding shows that 137 (55.3%) respondents Agreed with the statement, 105(42.3%) disagreed with the statement while 6(2.4%) were neutral. This item had a mean of 3.33 and a standard deviation of 1.521 which is lower than composite mean of 3.51 with standard deviation of 0.630, implying that the statement does not positively influence performance of youth environmental projects. This statement disagreed with a scholar, (Boateng, 2014) who explored solid waste operational skills to include waste diversion, anti-littering, open burning ban and debris management. The statement supports the study's gap in knowledge on technical awareness of solid waste management skills.

Statement (2) your Solid Waste Management environmental group has ensured compliancy with current legislation in the transportation, handling and disposal of solid waste, 105(42.3%) respondents Strongly agreed that their environmental groups were compliant with current legislation in the transportation, handling and disposal of solid waste, 46(18.5%) respondents Agreed, 45(18.1%) Strongly disagreed, 44(17.7%) disagreed while 8(3.2%) were neutral. This had a line item mean score of 3.49 and a standard deviation of 1.597 which is lower than composite mean of 3.51 with standard deviation of 0.630, implying that the statement does not positively influence performance of youth environmental projects. This also means that if this is an important statement to enhance environmental projects, something should be done to improve it. This statement disagrees with the findings by Mumbi et.al., (2017) on waste disposal emerging trends and regulations but supports the study's research gap on cause and effects of defined information and awareness of technical skills on solid waste gainful disposal mechanisms.

Statement (3) you offer quality waste services in transportation of solid waste without contaminating air, land or water sources, 171(69.0%) respondents strongly agreed that their groups offered quality waste services during the transportation of solid waste without contaminating air, land or water resources, 62(25.0%) agreed while 15(6.0%) who were neutral. This had a mean score 4.63 and a standard deviation of 0.596 which is much higher than the composite mean of 3.51 and a standard deviation of 0.630 implying that the statement positively influence performance of youth environmental projects. This result indicate that majority of the respondents agreed with (Gakungu, et.al., 2012) findings on solid waste management and technical waste collection systems which include quality waste services in transportation of solid waste.

Statement (4) Level of Solid Waste Management and control of waste disposal Project tasks are well scheduled within formulated budget time frame, majority of the respondents 107(43.1%) disagreed that the project tasks are well scheduled within formulated budget on the level of solid waste management and control of waste disposal, 65(26.2%) respondents strongly disagreed, 56(22.6%) agreed with the statement while 20(8.1%) strongly agreed with the statement. This had a mean score of 2.43 and a standard deviation of 1.308 which was lower than the composite mean of 3.51 and a standard deviation of 0.630, meaning that the statement negatively influenced performance of youth

environmental projects. The statement supported the study's gap in knowledge following the literature reviewed that explained on integrated sustainable waste management project concepts in youth training programs and lack of institutional capacity on solid waste management gainful skills (Gakungu et.al., 2012). Statement (5) the size of the population receiving collection services is equivalent to solid waste collection bags distributed per household indicated that 81 (32.7%) of respondents strongly agreed that the size of the population receiving collection services is equivalent to solid waste collection bags distributed per household, 66(26.6%) respondents agreed with the statement, 64(25.8%) disagreed, 3(1.2%) strongly disagreed with the statement while 34(13.7%) were neutral. This findings had a mean score of 3.64 and a standard deviation of 1.216 which was higher than the composite mean of 3.51 and a standard deviation of 0.630, meaning that the statement positively influenced performance of youth environmental projects.

Hypothesis testing: The study sought to examine the technical project management skills and the performance of youth environmental projects. Pearson correlation coefficient was used to test the relationship between Technical skills and performance of youth environmental projects. This was done at 95% level of confidence in order to test the extent of the relationship between technical skills and performance of youth environmental projects. The hypothesis testing the relationship between technical skills and performance as the main IV and DV respectively for the study was tested at 0.05 level of significance which stated that (H<sub>0</sub>): Technical skills do not significantly influence performance of youth environmental projects in Nairobi County. In order to prove the validity of this claim, both correlation and regression analysis were run on the SPSS programme version 22 based on the decision criterion that any P-value less than the threshold of  $\alpha=0.05$  would be considered significant and subsequently lead to the rejection of the null hypothesis and acceptance of the alternative hypothesis or fail to reject the null hypothesis when the P-value obtained is greater than the threshold of  $\alpha=0.05$  while failing to accept the alternative hypothesis. Results of the relationship between technical and performance of youth environmental projects are shown in tables 1.1 through 1.4

Table (1.1), the correlation output table, shows that technical skills characteristics were statistically significant (P-values under significant 2-tailed were all less than  $\alpha=0.05$ ) towards performance of youth environmental projects. From table 4.5 the correlation index between technical skills and performance was positive and significant,  $r(247) = .715$ ;  $p \leq .05$ . This implies that as the level of technical skills increases, the performance levels also increases.

		Technical skills	Performance
Technical skills	Pearson Correlation	1	.715**
	Sig. (2-tailed)		.000
	N	248	248

Table 2: Correlation of Technical Skills and Performance of Youth Environmental Projects

#### 4.1. Regression of Technical Skills and Performance of Youth Environmental Projects

Further, a Regression analysis was conducted between the technical skills and performance of youth environmental projects to determine the relative contribution in terms of the variance that could be accounted by the independent variable towards the change in the dependent variable. From this analysis, it was observed from the model summary table (Table 3) that the coefficient of correlation was 0.715 with an R<sup>2</sup> square of 0.512 implying that the technical skill variable could explain about 51 percent of the total variance in performance of youth environmental projects.

Model	R	R Square	Adjusted R Square	Std. Error Of The Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.715 <sup>a</sup>	0.512	0.510	0.38500	.512	257.948	1	246	.000

Table 3: Regression Analysis on Technical Skills and Performance of Youth Environmental Projects

a. Predictors: (Constant), Technical Skills

As to whether this model was significant in enabling predictions containing the independent and dependent variable, the ANOVA table was produced and the results are as shown in Table 4.7

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	38.235	1	38.235	257.948	.000 <sup>b</sup>
	Residual	36.464	246	.148		
	Total	74.698	247			

Table 4: ANOVA Showing Regression Model on Technical Skills and Performance of Environmental Projects

Dependent Variable: Performance

Predictor: Technical Skills

The ANOVA Table 4 showed that in the global model, technical skills had a significant prediction on performance of youth environmental projects, This implies that the levels of technical skills possessed by youths can be a good predictor of performance of youth environmental projects;  $F(1,246) = 257.948$ ;  $p \leq .05$ .

It was important to establish the amount of contribution that technical skills had on the outcome variable of performance. These results are presented in Table 5 on regression coefficient and reported using the t-value statistics

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1	(Constant)	1.428	.138	10.312	.000
	Technical skills	.624	.039	.715	.000

Table 5: Regression Coefficients<sup>a</sup> on Technical skills and performance of environmental projects

The Table 5 of regression coefficient shows the unstandardised beta coefficient for technical skills to be 0.624. The t- value for technical skill is also significant, implying that for each unit increase in technical skills, performance of youth environmental projects can increase by 0.624 units;  $t(247) = 16.06$ ;  $\beta = .624$ ;  $P \leq .05$ .

## 5. Conclusion

From the findings of regression and correlation analysis, it can be depicted that technical skills significantly influenced the level of performance of youth environmental projects in the study area. This therefore implies that the null hypothesis which stated that:

- H<sub>0</sub>: Technical skills do not significantly influence performance of youth environmental projects in Nairobi County; was rejected and the conclusion made that:

There is a significant influence of technical skills on performance of youth environmental projects in Nairobi County, which was the alternative hypothesis hence, the research findings concluded that there was a significant influence of technical skills on performance of youth environmental projects in Nairobi County.

## 6. Conclusion

Five items were developed to measure the extent to which technical skills influenced performance of youth environmental projects in Nairobi County. Key performance indicators for technical skills were the level of oversight management skills to oversee landfill sites and the quality of service rendered in solid waste management projects by youth groups. The correlation index between overall technical skills and performance was positive and significant. This implied that as the level of technical skills increased, the performance also increased. Similarly there was relatively high degree of positive correlation exhibited between the various bivariate variables implying that technical skills predicted performance as a good fit. Technical skills was found to statistically significantly influence of performance of youth environmental projects in Nairobi County, thus, rejection of the null hypothesis

## 7. Recommendations

It is instrumental for youths to gain skills to apply for compliancy with current legislation in the transportation, handling and disposal of solid waste including knowledge on pollution so as offer quality waste services in transportation of Solid Waste without contaminating air, land or water sources. The government should provide youths with technical skills include oversight management schemes to oversee solid waste management schemes and landfill sites for job creation in reducing, reuse and recycling solid waste for job creation. The study also recommends Policy actions by government to incorporate youths to learn project management skills under mentorship programs from corporations, firms and other public entities so as to incubate their skills for effective projects performance. Provision of easy to understand accounts that are easily accessible is highly recommended. This is to encourage youths on the very lowest incomes to open an account with simplicity for savings and bonus payments to give them greater effects with interests due to complexity of financial products generally, combined with youth 's lack of financial management experience and understanding which deters them from using formal saving products

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