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# Impact of Regulatory Framework on Performance of Building Construction Processes In Kenya. A Case Study of Murang'a County

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***Abstract*:- Building regulations refer to the statutory instruments that aim at ensuring legislative building construction policies are effectively implemented and involves registering contractors, projects, site supervisors, skilled sector workers, construction training institutions, and all provisions that relate to quality assurance exercises. In Kenya, the statutory bodies that are tasked with regulatory framework in the construction industry include the National Construction Authority (NCA) which is charged with the responsibility of regulating building constructions. The construction work in Kenya is executed by professionals of different skills and trainings including the land surveyors, the managers of projects, architects and designers, the quantity surveyors, construction engineers, contractors, the estate and marketing agents and the facility managers. Further, the role of supervising these professionals undertaking the construction work include the Board of Registration of Architects and Quantity Surveyors (BORAQS), The National Environmental Management Authority (NEMA), the Engineers Board of Kenya (EBK), County Government, and the state department of Housing and Urban Development. This study aimed at establishing regulatory framework impacts on building construction projects' performance in Murang'a County, Kenya. The study used a descriptive research design and simple random sampling to decide on licensed Engineers, architects, contractors, Site supervisors and skilled workers operating in Murang'a construction projects to find out and clearly define the roles of every party in the industry. In addition, it randomly selected one officer in management position each from the organizations above and a representation of 10% from each board to make a total of 158 respondents. The study was carried for a period of 6 months between the months of November 2021 to April 2022. Data was collected by used of a questionnaire from the various sampled construction projects and from the sampled personnel situated in the various offices of the regulatory bodies forming the treated population. Data analysis tools such as descriptive, test statistics and inferential were conducted through the aid of SPSS. The findings of the study established that the regulatory boards that is BORAQS, EBK and NEMA influences building construction projects' performance in Murang'a County with a significant effect. The findings of the study established that Murang'a County government gives construction and occupation licenses after approvals by relevant entities such as physical planning and public health departments and reviews applicable penalties on rogue developers to enhance approval compliances. However, despite the compliance is issuance of regulatory framework to govern construction projects for quality purposes, the study found that the various regulatory bodies lacked the capacity to prosecute or punish non-compliance. Based on the findings, the study concluded that regulatory frameworks where regulators compel construction firms to undertake constructive engagement effectively facilitated compliance before the emergence of any serious problem. The study further concluded that the loophole in enhancing adherence to regulatory framework in the construction industry was brought by lack of powers by the relevant bodies to punish noncompliant.***

***Key words: Professional regulations, National & County Government Regulatory Practices, Performance of building construction***

## 1.0 INTRODUCTION

Regulations refer to rule or defined procedure that is developed and initiated by the government, applied on specific people or to specific issues and supported by consequences for lack of compliance. In most cases, the consequences take the form of punishments on the people who fail to comply. Regulatory framework, on another hand, is a set or system of regulation and a stipulation of how they should be implemented. In most case, the regulatory framework is instituted by industry regulation to enhance quality work in the industries (Edinburgh, 2003).

The Building Regulations finds necessity in the identification of the factors that enhances and contributes to the determination of the future regulatory processes of the building and regulation procedures and the standards and guidelines that industry requires for the next 20 years for the sustainable construction issues (Architect and Quantity Surveyors Act, 2010). The factors for consideration can be attached to the emerging issues in the construction industry that are related to the physical, social, and economic changes that continue to be witnessed in the industry, within the country and boundaries, such as the international requirements, changing needs of human, and the emergence and development of new technology.

In developing countries like Kenya, the existing regulatory frameworks contribute to serious conflicts because of the inadequacy at the boundaries, especially in terms of the duties and responsibilities of related agencies and unavoidable policies and the urge for development (Grimshaw, 2001). While an ideal situation might be a tall order, the argument that there is no possibility of improvements does not meet the minimum threshold for any considerations. The sustainable development goals, from the onset,

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has instigated a discussion about essential issues and conflicts, especially in terms of planning, the use of land, and the activities involved during construction (Warren & Wilkinson, 2008).

Building regulations are statutory tools that aim at ensuring that the policies governing building and construction, as outlined in the relevant legislative documents, are adhered to in entirety (Gelder, 2004). The approval of building regulations is a requirement in almost all the countries, worldwide. In building, most of the regulations touch on the aspects of registration of contractors, registration of projects the workers within the construction site (skilled and unskilled), and the project managers and supervisors (G.O.K., 2012). Generally, the constitution of regulatory authorities in every country is grounded on the need to harmonize the laws governing construction, especially in situations where the laws are contradicting, and manage the uncontrolled and unchecked physical planning of construction related works. Further, the establishment is informed by the need to control and enforce the application of Building Codes in the construction industry, limit illegal entries of unregistered contractors into the construction industry, and make improvements to the bureaucratic measures, in terms of the minimum threshold of requirements and procedures in the approval of building plans. Besides, the regulations are instituted to limit and eliminate the instances of corruption in the construction industry, with emphasis on the quality of the materials and the performances of the contractors, and make revisions to the Building Codes with a view to enhancing relevance and suitability of the environment (Nahinja, 2014).

According to Mohammed (2010), regulations governing construction work must include a provision that requires the contractors, charged with the responsibility of planning the construction work, to, before the commencement of work, in writing, notify and seek approvals from a competent and relevant authority for planning of constructions. Usually, projects are managed through the parameters of cost, quality, and time. The need to enhance awareness about Health and Safety and its inclusion in the overall management of any construction project, with interest to its influence on the overall performance of a project has, however, become an issue of urgency in the construction industry. The level of awareness has also been raised by the increasing cases of accidents in the construction sites in Kenya.

In Kenya, a statutory body named the National Construction Authority (NCA) is charged with the responsibility of regulating building constructions. The NCA's primary duty is to oversee the construction industry and to enhance its smooth coordination of its development. Further, it has the mandate to enhance the standardization and improvement in quality of materials and techniques used in building and construction, while providing, promoting, reviewing and coordinating training programs involving all the skilled construction workers and the site supervisors. According to the G.O.K (2011), the NCA is also mandated to undertake the registration and accreditation of contractors while regulating their professional undertakings, accreditation and certification of skilled construction workers and supervisors at the construction sites, development and publication of codes of conduct within the construction industry.

According to Buildafrique Consulting Limited (2011), the construction work in Kenya is executed by professionals of different skills and trainings including the land surveyors, the managers of projects, architects and designers, the Quantity Surveyors, Construction Engineers, Contractors, Builders, the estate and marketing agents and the facility managers. Further, the role of supervising these professionals undertaking the construction work include the Board of Registration of Architects and Quantity Surveyors (BORAQS), The National Environmental Management Authority (NEMA), the Engineers Board of Kenya (EBK), the County Government, and the state department of Housing and Urban Development.

Poor workmanship is the leading cause of building collapses in Kenya according to an audit report done by the National Construction Authority (NCA) on building collapses in the country in 2021. NCA made the findings following an assessment involving 14,895 buildings. The assessment found that 10,791 of the buildings were very unsafe and either needed to be demolished or reinforced before occupation. The finding means a significant number of Kenyans are living on structural time bombs. Another 1,217 buildings were found to be fair and only 2,194 certified as safe. NCA also found that thousands of buildings in Nairobi exist without approval. According to the report, the country has recorded 87 building collapses over the past five years while an estimated 200 people have lost their lives in the last five years and over 1,000 injured as a result. Notably, 65 per cent of collapsed buildings were residential while 25 per cent were commercial 10 per cent were mixed-use developments. According to NCA, 66 per cent of the building collapsed after completion while 34 per cent collapsed during construction. The audit report states that no action was taken in the case of 12 per cent of the building collapses while more than 40 per cent of the building collapse cases do not have a clear record of actions. Only one per cent of the cases have made it to court, following a public outcry while in most cases inconclusive investigations that do not lead to prosecutions are the norm.

In Murang'a County, a four-story building that collapsed at Sunstar Hotel in Gatanga, Murang'a County on the 17th December, 2021 was among those recorded for poor compliance to regulatory requirements by NCA audit report (2021).

While the professional and regulatory bodies have remained steadfast in the execution of their duties and massive contributions to the Kenyan construction industry, there has been a change, especially in terms of the efficiency and effectiveness, owing to the changing dynamics in technology. In particular, most of the regulations have become ineffective in enhancing the professional conduct. The penalties and fines as proposed in these regulations, for instance, are too lenient to effectively enhance the management of building and construction in Kenya. The aim of this study was to establishing regulatory framework impacts on building construction projects' performance in Murang'a County, Kenya.

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### 1.1 Professionals regulatory practices on the cost and safety of building construction projects

BORAQS is one of the Kenyan professional bodies instituted and warranted the sole responsibility of regulating the professionals serving in architectural and quantity surveying towards the realization of the sustainable built and natural environment. To execute its duties and responsibilities, the body does training, registrations, and encouragement of ethical conducts within the construction industry. In the Kenyan law, the architects and quantity surveyors act stipultes that the only people who are allowed to use the titles, 'architect,' 'architecture,' 'quantity surveyor', 'architectural,' or 'quantity surveying' unless he or she is registered in accordance with the Act (Architect and Quantity Surveyors Act, 2010).

On the other hand, EBK is charged with the responsibility of registering engineers and offering them sufficient CPD training wherever there is need and encouraging ethical practices by the registered Engineers. It is through the board that engineers and engineering firms are registered. Further, it has the responsibility of regulating professional services in engineering, defining standards, and developing the general practice for Engineers. To ensure efficiency, the Act provides harsh punishments for the employment of persons who are not registered by them. The Act, however, does not have any provisions for the regulation and registration of Engineering technologists, technicians, and artisans who are part of the larger Engineering team and contributes to about 98% of the total Engineering activities in Kenya.

### 1.2 National and County regulatory practices on the safety and quality performance of building construction projects

The County government of Murang'a has the responsibility of providing and managing the basic social and physical structures services to the people living in Murang'a. Some of the service the County offers include education, water and sewerage, health, the collection of wastes and detritus, planning and development control, and urban and public transport.

The financial Act of 2013 was adopted by Murang'a County in 2013 and created modifications in the assessment of building permit fees and created a pool of several costs at a central unit. Today, the fees charged for the permit is based on the size of the building. The rates by the Joint Building Council give a rough estimate of the cost of permit per square meter and vary depending on the types of building under construction. Procedurally, a developer would first make appointments with the County Planning Department of Murang'a County Government to seek for architectural and structural approvals of proposed buildings.

There are many challenges that Counties experience in regulating construction industries. Primarily, the problems arise from the long gauntlets of approvals as stipulated in various regulations before the commencement of any major construction works. The situation is made more complicated by the many approving authorities along the chain (Productivity Commission, 2005). Upon this background, the developers have to meet all the concerned agencies and regulatory bodies as stipulated in various regulations governing construction to acquire approvals for the use of land, the safety of the buildings, considerations to the environment, as well as many other regulations (Testa, Iraldo, & Frey, 2011).

The National Environment Management Authority (NEMA) is an institution founded under the Environmental Management and Coordination Act in line with the Kenyan laws and given the mandate to supervise and co-ordinate all the issues pertaining to the environment. Further, NEMA represents the government in implementing environment-related government policies (Environmental Management and Coordination Act, 1999). As part of its activities, NEMA is charged with the responsibility of safeguarding the environment through various mechanisms. This responsibility, however, includes other entities such as the civil society, different consultation firms, various development banks, and other government actors, including the County and National governments. In the recent times, the system has been hit by lack of sufficient funding, issues of corruption, failure to engage the community stakeholders in various activities, gaps and duplication of various regulations, and extensive misunderstanding of the various environmental projects. These issues influence the overall performance in the construction industry, especially through limited oversight over huge projects that have the potential to contribute to serious environmental impacts.

The National Construction Authority (NCA) is a statutory entity responsible for regulating the construction industry in Kenya. Primarily, it establishes and oversees the construction industry intending to improve it. Further, the NCA has the mandate to enhance the standardization and improvement of the techniques and materials used in the construction, offer, promote, review, and coordinate programs for the training of skilled construction personnel and the supervisors at the construction sites. Moreover, the body is charged with the responsibility of accrediting the workers and registering the contractors to regulate their professional activities and publish a code of conduct for the contractors in Kenya (GOK, 2011).

### 1.3 Theoretical Framework

This study has its theoretical framework anchored on public interest theory. This theory explains how the regulations protect and positively influence the public. The assumption that is made in most of the societies is that people should have the right to undertake their responsibilities in their interest. During these activities, people would interact and influence or be influenced by others. There are, however, other influences on the people, especially when the government decides to initiate certain activities in the interest of the public.

In 1986, one of the scholars named Becker is accredited for having conducted a study on the Public Interest Theory. The empirical research gave results that supported various conclusions about the theory. First, the results supported the findings by Peltzman

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(1943) theory about regulations. The theory had variables that supported the hypothesis that had been identified in the theory. Secondly, the result of the study supported the conclusion that the Peltzman theory was the most popular and preferred as compared to the predatory theory of regulatory capture. Arguably the strength of the predators is not reflected in its decisiveness. The interest of the public is under the control of the state which is mandated to ensure its execution.

### 1.4 Statement of the Problem

Collapse of buildings both under construction and those occupied as highlighted above has been at alarming rate in the past eight years in Kenya. The year 2021 recorded the greatest number of building tragedies where in September 2021 a building collapsed in Kinoo Nairobi county, in October a building collapsed in Ruiru, Kiambu County and in December another building collapse in Gatanga, Murang'a County. With the growing demand and development of real estate in Kenya geared by devolution has seen construction of high storage building across the country. However, this expansive growth has come with collapse of various building with the key areas experiencing frequents tragedies being; Nairobi, Kiambu, Mombasa, Murang'a and Kisii. The construction audit report by NCA (2021) has pointed out that the collapses are attributed to by poor construction processes, low quality materials and poor workmanship in which case people have been injured and fatalities have been reported. An observation has as well been made that there are several projects which have stalled and have been held up due to the ineffective handling and financial constraints. Transparency International report (2014) indicated that there is ineffectiveness within the inspectorate at county and the NCA office operations, compromising the process of inspection of construction projects. It is upon the above background that this study has been founded. Therefore, this study sought to investigate into the impact of regulatory framework on the performance of building construction processes in Kenya, a case study of Murang'a County.

## 2.0 RESEARCH METHODOLOGY

This study used a descriptive survey research design. According to Creswell (2008), a descriptive survey research makes a determination of the what, when, and how of an issue. Primarily, this research design is suitable as it allows for the generalization of findings to a large community. Survey enhances the collection of huge junk of data from a defined population while being conscious of the economy. The target population in regarding the determination of weaknesses in the existing regulatory framework, professional regulatory and National and County government regulatory practices in the construction industry at National and county levels. Approval processes were well taken care of in all the seven sub counties offices of Murang'a County namely; Gatanga, Kandara, Kiharu, Kangema, Mathioya, Kigumo and Maragwa. This study targeted officers involved in the county approval processes including Public Health officers, Physical Planners, Chief Officers, Ministry of lands, infrastructure, housing and urban Development. It also assessed NEMA processes from environment impact assessment to issuance of license. Moreover, it looked into NCA processes from submission of project registration application to the final approval and officers involved in the same. In order to come up with a comprehensive finding, licensed architectural and structural consulting firms and individual consultants, building contractors operating within Murang'a and environs, as well as officers from the BORAQS, EBK, and the MCG building inspection unit(s) in all the sub counties were sampled. Simple random sampling was used to select the officers in charge of different processes. It also randomly selected one officer in management position each from the organizations above to make a total of 158 respondents.

In this research, self-administered questionnaires, one on one interviews and focused group discussions were adopted as tools for the collection of data. The questionnaires were developed to target all relevant stakeholders in the regulatory practices with an aim of collecting the demographic information and impacts of various regulators. The questionnaires contained open and close-ended questions that were aligned to the aims and objectives of the research and were organized into sub-sections. Prior to the data collection pilot study was conducted to test for validity and reliability of the questionnaire. Data analysis tools including, descriptive, test statistics and inferential were conducted through the aid of SPSS. Additionally, multiple regression analysis was done to determine the impact that regulatory frameworks have on the building constructions in Murang'a County. It applied the multivariate regression equation (Equation 1)

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon} \quad \text{..... Eqn 1}$$

Table 2. 1 Sample size distribution

| Target Category | Population | Sample size | Percentage (%) |
|---|---|---|---|
| Public Health Officers | 10 | 6 | 60 |
| Sub county Planners | 10 | 6 | 60 |
| Chief Officers | 7 | 4 | 57 |
| EIA Experts | 15 | 11 | 73 |
| NEMA Officers | 10 | 7 | 70 |
| NCA Officers | 10 | 8 | 80 |
| Developers | 30 | 21 | 70 |
| Engineers | 20 | 16 | 79 |
| Architects | 20 | 15 | 75 |
| Site Supervisors | 25 | 21 | 84 |
| Contractors | 30 | 22 | 73 |
| Others | 20 | 16 | 80 |
| **TOTAL** | **207** | **158** | **76** |

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## 3.0 RESULTS AND DISCUSSION

### 3.1 How architects influence the costs of building construction projects in Murang'a County

The study assessed how BORAQS impact building construction projects' performance in Murang'a County. This question was responded to by the architects and quantity surveyors. Figure 3.1 below shows the results;

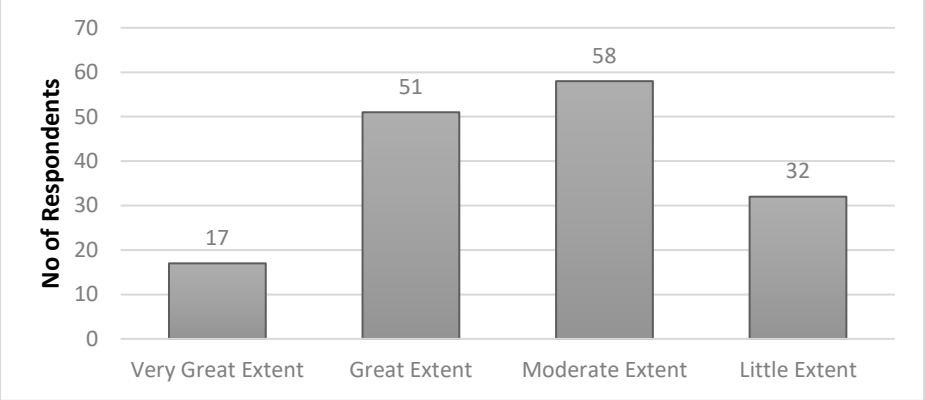


Figure 3.1: How architects influence the costs of construction projects in Murang'a county

As evident in the figure 3.1 above, 36.7% of the respondents noted Architects moderately influence building construction projects' performance in Murang'a County, 32.2% of the respondents noted that they have great influence in building construction projects' performance, 20.3% respondents noted they have little influence whereas 10.8% respondents noted very great influence. On average, most respondents were in agreement that BORAQS impacts building construction projects' performance in Murang'a County.

The study established that the body enhances continuous professional growth and development of Architect and quantity surveyors through the development and implementation of mandatory workshops and seminars. It established that it influences building construction projects' performance in Murang'a County to a great extent. Unlike Architects, however, the inclusion of quantity surveyors in the building construction project is not common. Most projects are undertaken without their input, with some architects only issuing certifications with developers never meeting their projects' managers.

### 3.2 How engineers influence the safety of building construction projects

The study sought to establish how engineers influence building construction projects' performance in Murang'a County. This targeted engineers and engineering consulting firms. The results are shown in figure 3.2 below:

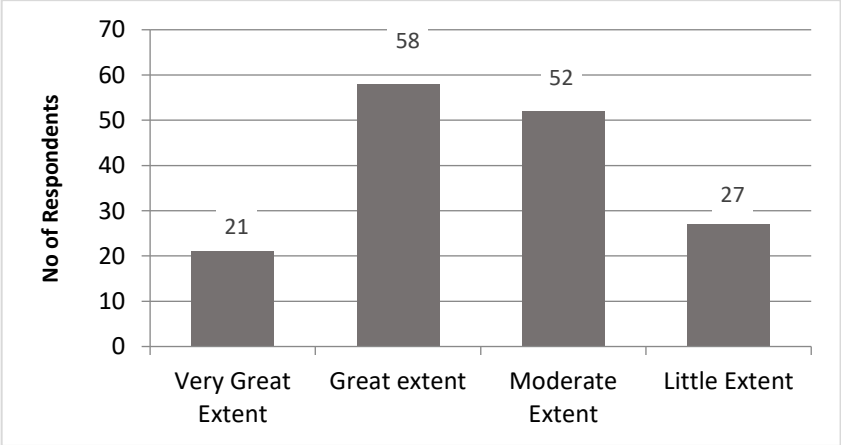


Figure 3.2: How engineers influence the cost and safety of construction projects

Figure 3.2 above shows that 36.7% of the participants indicated that Engineers greatly influences building construction projects' performances, 32.9% showed a moderate extent of performance, 17.1% indicated little performance, and 13.3% indicated a very great extent of performance. Taking an average of the extent to which, the respondents agreed on the statement, majority of the respondents noted that engineers influence building and construction projects' performance in Murang'a County. The study established that EBK enhances continuous professional growth and development of engineers through the development and

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implementation of mandatory workshops and seminars for them, enhances ethical practices. It established that EBK influences building construction projects' performance in Murang'a County to a great extent.

### 3.3 How MCG regulatory practices influence cost and duration of building construction projects.

The study sought to establish how MCG regulatory practices influence building construction projects' performance in Murang'a County. The question was addressed to county CECs in charge of planning, the physical planners and developers. Figure 3.3 below shows the results

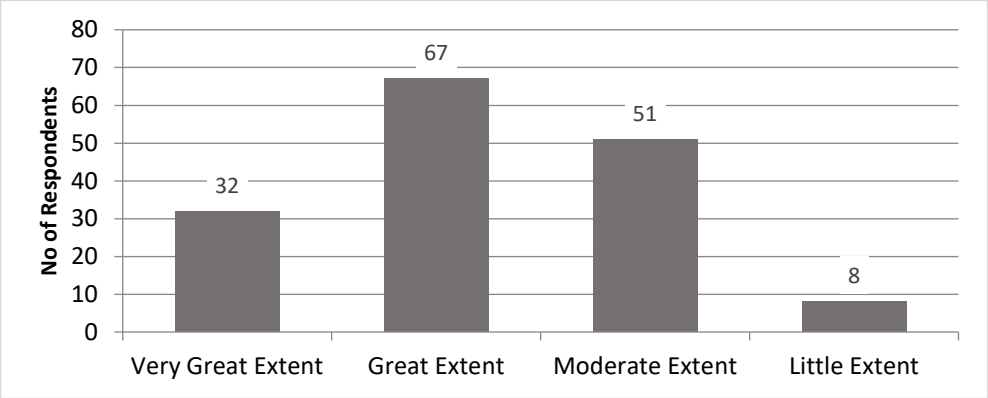


Figure 3.3: How MCG regulatory practices influence cost and duration of construction projects

As evident in figure 3.3, 42.4% of the participants indicated that MCG regulations greatly influence building construction projects' performances, 32.3% showed moderate extent of performance, 5% indicated little performance, and 20.3% stated a very great extent of performance. On average, majority of the respondents agreed that MCG regulations influenced building and construction projects' performance in Murang'a County.

The study established that Murang'a County government gives construction and occupation licenses after approvals by relevant entities such as physical planning and public health departments and reviews applicable penalties on rogue developers to enhance approval compliances. The county has instituted statutory and regulatory frameworks to promote a digital platform for building construction project applications that include the public and all the stakeholders in public policy development. The study also established that Murang'a county had adequate institutional and human resource capacity to promote building construction regulations that lead to 'green' building. Finally, it discovered that the process of approval is relatively complex and takes a lot of time.

### 3.4 How NEMA regulatory practices influence on the safety of building projects in Murang'a

The study sought to find how NEMA influences building construction projects' performance in Murang'a County targeting NEMA officers and EIA experts. Figure 3.4 below shows the findings.

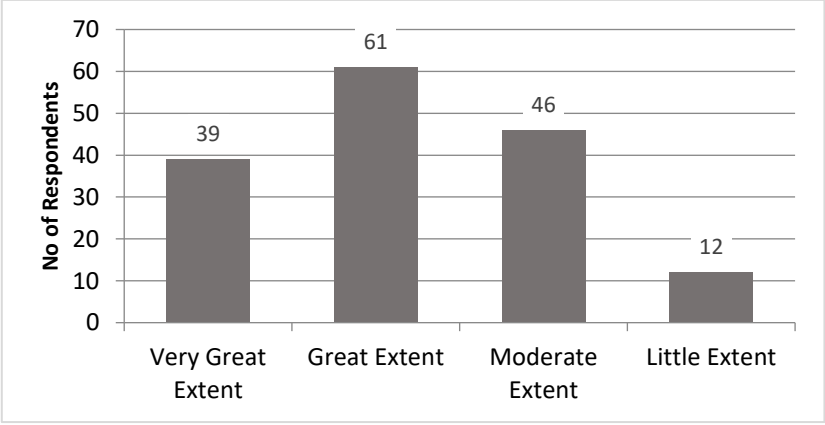


Figure 3.4: How NEMA regulatory practices influence on the safety of building projects in Murang'a

As evident in figure 3.4 above, 38.6% of the respondents noted that NEMA influences building construction projects' performances to a great extent, 29.1% indicated to a moderate extent, 24.7% to a very great extent, and 7.6% to a little extent. The results imply that NEMA's regulatory measures influence the performance of constructions projects in Murang'a County to

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a great extent. The study established that NEMA effectively implements all the relevant environmental policies, institute and enforce adequate mitigation measures to limit adverse impacts, issues environmental management and conservation guidelines and carries out inspections during the construction. In Murang'a County, most construction projects have NEMA licenses and acknowledgment letters, with developers appreciating the fact that NEMA is critical in every development.

### 3.5 How NCA regulatory practices influence on the quality and safety of building projects in Murang'a

The study sought to find how NCA regulations influence building construction projects' performance in Murang'a County. It focused on NCA management team and compliance officers undertaking quality assurance exercise. Figure 4.5 below shows the findings

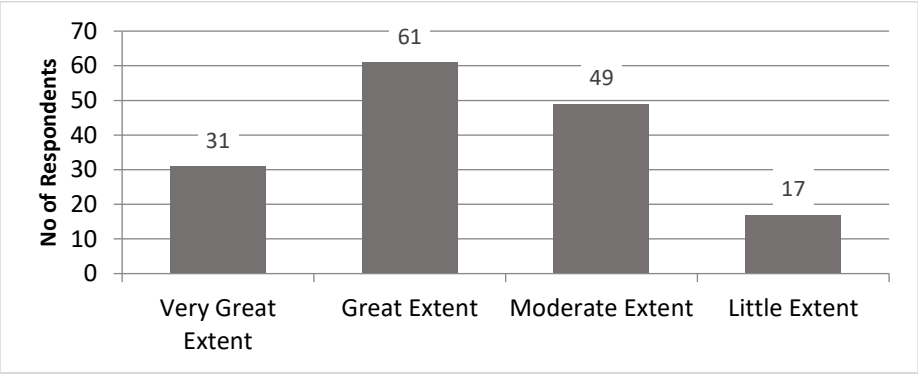


Figure 4.5: How NCA Regulatory Practices Influence quality and safety of Building in Murang'a County

As evident in figure 3.5 above, 38.6% of the respondents noted that they agreed to a great extent that NCA regulations influence building construction projects, with 31% agreeing to a moderate extent, 19.6% noting a very great extent, and 10.8% noted agreement to a little extent.

The study found out that NCA does registration and certification for contractors, consistently publishes construction industry codes of conduct, coordinates construction activities, and standardizes the construction industry, including methods and materials. NCA also offers coordination of training activities planned by accredited institutions for the construction workers. It also found out that many developers lack information that the registration of projects is continuous even after the construction levy waiver, which was chargeable on all construction projects worth 5 million.

### 3.6 Multiple Regression Analysis

As evident in Table 3.1 below, R was 0.929 showing a positive link between all the five regulatory practices. $R^2$ was 0.864, meaning that independent variables could provide an explanation only 86.4% of the dependent variable variations with merely 13.6% of the variations linked to other factors. The implication is that the regression model has an exemplary explanation and prediction foundation as merely 13.6% of the performance variations could not get any explanation.

Table 3.1: Regression Model

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .929[a] | .864 | .782 | .28 |

The findings in table 3.2 below indicate that the model had an F ratio of 2.09 with a p-value of 0.013<0.05, meaning that the F ratio was statistically significant. This implies that the overall regression model for the four regulatory practices are significant statistically and enhance predication at 5% significance level.

Table 3.2 ANOVA (Analysis of Variance)

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 250 | 4 | 62.5 | 2.09 | .013[b] |
| Residual | 3950 | 132 | 29.9 | | |
| **Total** | **4200** | **136** | | | |

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From table 3.3, the regression model can be written as:

$Y=2.286 + 0.696X_1 + 0.598X_2 + 0.526X_3 + 0.384X_4 + 0.457X_5 + \varepsilon$

The t and Sig (p) values provide a rough indication of each predictor variable's influence – a big absolute t value and a small p value indicate that a predictor variable has significant impacts on criterion variable. At a 5% significance level and 95% confidence system, BORAQS regulatory practices realized a 0.696 coefficient value, 0.052 for regulatory practices, and 0.457 coefficients for NCA regulatory practices.

The above information shows that predictor various that entail regulatory practices in BORAQS, MCG, NEMA, and NCA are statistically significant and predict the criterion variables that entail building construction project performance in Murang'a County, Kenya.

Table 3.3 Regression Coefficients of findings on the influence of various regularity framework

| | Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constants) | 2.286 | .622 | | 3.675 | .014 |
| | Architects' Regulatory Practices | .696 | .149 | .995 | 4.661 | .006 |
| | Engineers' Regulatory Practices | .598 | .133 | .817 | 3.942 | .018 |
| | MCG Regulatory Practices | .526 | .161 | .060 | 3.230 | .760 |
| | NEMA Regulatory Practices | .384 | .102 | .738 | 3.783 | .013 |
| | NCA Regulatory Practices | .457 | .356 | .338 | 1.283 | .037 |

## 4.0 CONCLUSION

Based on the findings, the study concludes that regulatory frameworks where regulators compel construction firms to undertake constructive engagement effectively facilitate compliance before the emergence of any serious problem. This is often the management of risk the need for regulators to develop adequate competencies to monitor firms in line with disparities in economy, changes in the environment, and the community's increasing social demands. Ensuring adequacy in supervising resources and imparting knowledge and competencies in regulating staff in critical areas where there are failures have been experienced lately and are essential for enhancing effectiveness in the future. The study found out that the BORAQS had executed its mandate by training, registration, and improvements in ethical practice, promoting performance in the building construction industry.

Finally, NEMA has shown laxity in enhancing renewable energy use in the construction industry and regulatory challenges that include managing the environment in line with rapid population growth and urbanization. It is therefore important for the institution of the regulatory framework which guides the building construction industry in Kenya to encompass professional entities responsible for championing regulations to shape the construction sector. Further, the construction industry's regulatory framework should have the legal capacity to prosecute rogue contractors who contribute to loss of life and exhaustion of resources that are not renewable through unsustainable construction.

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