



INFLUENCE OF PROJECT MANAGEMENT PRACTICES ON SUSTAINABILITY OF FUNDED URBAN BASED HOUSING PROJECTS IN KENYAⁱ

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Abstract:

The aim of the paper was to evaluate the effect of project management practices on the sustainability of urban based housing projects in Kenya. In the past few decades multiple studies of the project management practices were conducted. Despite increasing attempts to tackle the problem of project sustainability, however, many projects still fail to maintain the flow of expected benefits over their intended lifetimes. This research study relied on two theories: The Stakeholders theory and control theory. The study design was descriptive for determining the data features of the study variables. The target population was 203 respondents. Data from respondents were collected through a questionnaire and the primary data collected were quantitatively analyzed by the Microsoft Excel and SPSS V20. In addition, tables were used to present the findings. The analysis from the correlation showed a moderate insignificant positive correlation of 0.578 with a 0.05 level of significance between stakeholder involvement and the sustainability. However, there was a weak positive insignificant connection between project sustainability and project M&E. The study regression analysis showed that the most influential factor was project M&E with a regression co-efficient of 0.164 and 0.016 for stakeholder's involvement which were all significant at 5%. The study recommends that the projects should promote support by the main actors and beneficiaries, as well as tracking and reporting on the progress as this would enhance the survival of the project following completion. The study lastly identified certain areas for further research, such as a study on other project management practices for

ⁱ项目管理实践对肯尼亚城镇住房项目可持续性的影响

Xiàngmù guǎnlǐ shíjiàn duì kěnníyǎ chéngzhèn zhùfáng xiàngmù kě chíxù xìng de yǐngxiǎng

INFLUENCIA DE LAS PRÁCTICAS DE GESTIÓN DE PROYECTOS SOBRE LA SOSTENIBILIDAD DE LOS PROYECTOS DE VIVIENDA BASADOS EN URBAN FINANCIADOS EN KENYA

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example change management, risk management, project design and communication and their influence on project sustainability in Kenya or any other country.

Keywords: project management practices, stakeholders involvement, project monitoring and evaluation, project sustainability, funded housing projects, Kenya

抽象

该文件的目的是评估项目管理实践对肯尼亚城市住房项目可持续性的影响。在过去的几十年里，对项目管理实践进行了多项研究。然而，尽管解决项目可持续性问题的尝试越来越多，但许多项目仍未能在预期寿命期内保持预期收益的流动。这项研究依赖于两个理论：利益相关者理论和控制理论。研究设计对于确定研究变量的数据特征是描述性的。目标人群为203名受访者。通过问卷收集受访者的数据，并通过Microsoft Excel和SPSS V20对收集的主要数据进行定量分析。此外，表格用于展示研究结果。相关性分析显示，在利益相关者参与和可持续性之间存在0.578的中等微不足正相关与0.05水平的显著性。然而，项目可持续性与项目监测与评估之间存在微弱的积极微弱联系。研究回归分析显示，影响最大的因素是项目监测和评估，利益相关者参与的回归系数为0.164和0.016，均为5%。该研究报告建议，这些项目应促进主要行动者和受益者的支持，以及跟踪和报告进展情况，因为这将提高项目完成后的生存。该研究最后确定了进一步研究的某些领域，例如关于其他项目管理实践的研究，例如变更管理，风险管理，项目设计和沟通及其对肯尼亚或任何其他国家项目可持续性的影响。

关键词：项目管理实践，利益相关者参与，项目监测和评估，项目可持续性，资助住房项目，肯尼亚

Resumen

El objetivo del documento era evaluar el efecto de las prácticas de gestión de proyectos sobre la sostenibilidad de los proyectos de vivienda urbana en Kenia. En las últimas décadas se llevaron a cabo múltiples estudios sobre las prácticas de gestión de proyectos. Sin embargo, a pesar de los intentos crecientes de abordar el problema de la sostenibilidad del proyecto, muchos proyectos aún no logran mantener el flujo de los beneficios esperados durante sus vidas previstas. Este estudio de investigación se basó en dos teorías: la teoría de las partes interesadas y la teoría del control. El diseño del estudio fue descriptivo para determinar las características de los datos de las variables del estudio. La población objetivo fue de 203 encuestados. Los datos de los encuestados se recopilaron a través de un cuestionario y los datos primarios recopilados se analizaron cuantitativamente mediante Microsoft Excel y SPSS V20. Además, se utilizaron tablas para presentar los hallazgos. El análisis de la correlación mostró una moderada correlación positiva insignificante de 0.578 con un nivel de significancia de

0.05 entre la participación de las partes interesadas y la sostenibilidad. Sin embargo, hubo una conexión negativa débil e insignificante entre la sostenibilidad del proyecto y el SyE del proyecto. El análisis de regresión del estudio mostró que el factor más influyente fue el M&E del proyecto con un coeficiente de regresión de 0.164 y 0.016 para la participación de los interesados, todos significativos al 5%. El estudio recomienda que los proyectos promuevan el apoyo de los principales actores y beneficiarios, así como el seguimiento y la presentación de informes sobre el progreso, ya que esto mejoraría la supervivencia del proyecto una vez finalizado. Por último, el estudio identificó ciertas áreas para futuras investigaciones, como un estudio sobre otras prácticas de gestión de proyectos, por ejemplo, gestión de cambios, gestión de riesgos, diseño y comunicación de proyectos y su influencia en la sostenibilidad de proyectos en Kenia o en cualquier otro país.

Palabras clave: Prácticas de gestión de proyectos, participación de partes interesadas, seguimiento y evaluación de proyectos, sostenibilidad de proyectos, proyectos de vivienda financiados, Kenia

1. Introduction

Project management is the discipline of organizing and managing resources in such a way that these resources deliver all the work required to complete a project within defined scope, time, and cost constraints (Burke, 2008). Project sustainability is the ability of an organization to develop a strategy of growth and development that continues to function indefinitely. It involves maintaining the results, goals and products of a project and institutionalizing the process (Baumgartner & Ebner, 2010).

Further, in the Project Management Body of Knowledge (PMBOK, 2008) the project phases are the chronological phases that the project goes through, and the knowledge areas occur throughout any time during the project phases. The project phases are horizontal and the knowledge areas are vertical. They are the core technical subject matter of the project management profession and they bring the project to life hence its sustainability. There are ten project management knowledge areas or practices. Namely; Project Integration Management, Project Scope Management, Project Time Management, Project Cost and Finance Management, Project Quality Management, Project Human Resource Management, Project Communication Management, Project Risk Management, Project Procurement Management and finally Project Stakeholder Management (Abudi, 2011). These practices have been cited by past studies reviewed as ones that can enhance project sustainability.

Sustainability of housing projects is the preservations of an acceptable level of services throughout the design life of the housing supply system. After the project completion, responsibility for management and ownership is given to the community/occupants. It has been identified that some projects become noticeably unsuccessful, even without any technical failures, while others have achieved their

targets without much difficulties. Identification of underlying causes for performance of housing projects is significant for sustainable management of existing projects and new development projects. Statistics in Africa reveals that housing supply is practically not achievable as nearly 80% of the African's housing facilities are not decent or otherwise inhabitable (World Bank, 2010).

2. Research Problem

In Kenya, it has been noted that there a number of project knowledge areas that might influence sustainability of the donor/sponsor funded projects. For instance, Okoth (2016) on the determinants of sustainability of health projects in public hospitals in Nairobi County reveal that stakeholders, mission and goals, leadership structure and finance play a role on project sustainability. Further, Imunya (2014) on the factors influencing sustainability of orphans' donor funded projects of Church Based Organization (CBO) in Kenya find that financial resources, donor policies, technology adoption and staff training play a major role on project sustainability. In addition, Mutimba (2013) seeking to evaluate factors influencing sustainability of donor funded projects in Kenya conclude that community participation, donor role, top management and government strategies are among key factors that influence sustainability of projects.

Additionally, Nyika, (2012) in his study of an analysis of the causes of failures in the implementation of projects in Kenya finds that only 20.8 per cent of the projects were implemented on time and budget, while 79.2 per cent of all the projects exhibited some degree of failure hence not reaching sustainability reason being inadequate project knowhow. Whilst the above studies under review provides informative perspectives with regards to project management practices and sustainability of projects, they are largely limited to specific fields and do not provide cross-cutting analysis of practices affecting sustainability. Moreover, they are also inclined mainly to specific projects such as water & sanitation, health, micro-enterprise, education, environment among others majorly in rural areas and such other projects, especially urban based projects which are the main stay in Kenya have not been given due attention in these studies. Hence, the overall findings may not reflect the wide and deeper effects of project management practices on sustainability of urban based housing projects.

This study is therefore aimed at generating new and additional knowledge based on empirical evidence to guide the funding organizations to realize the goal of sustainability of their development initiatives and give necessary recommendations based on the findings.

3. Literature Review

3.1 Stakeholder Involvement

In 2014, Imunya (2014), with a study population composed of 114 project teams, discussed factors which influence the sustainability of the Church Based Organization (CBO) donor project in Kenyan. The study found that financial resources are the key to sustainability of the Zoe Ministry because all of the projects are financed. It was observed that the extent to which donor policies influence the sustainability of the project within the organisation. The adoption of technology is considered to be very important for assessing the facility's work. Last but not least, community participation was also essential.

Peter et al. (2013) studied the need for sustainable project development as part of the organization to maintain the sustainability of her project by considering a multidimensional attribute of sustainability, such as the social, cultural, economic and environmental pillars, and report formulation and community engagement. The study suggested that community members need to identify their own needs and develop Community Action Plans (CAPs) and emphasize the use of community-based knowledge and capacity to develop an innovative approach to deal with their own problems.

The Chizimba study in 2013 stated that if the project is said to be sustainable, it will only have a build-out strategy and if sustainability is to be achieved, the intervention must involve a community and enhance local governments ' capacity to effectively deliver the project's benefits to achieve this. The study also recommended that the community be fully informed about the exit strategies of the project. The study emphasized greater community participation, but the focus of the research was primarily on providing information while maintaining and enhancing the impact of intervention in order that the community could be sustainable throughout the project cycle.

3.2 Project Monitoring and Evaluation

A study of building projects in Nigeria according to Amaka (2011); the researcher pointed out that risk management, support from senior managers, technical support, design management and goal management are very important factors for the success of a project. In the same way, Arogo (2015) documents that plans, indicators and budgets must be used to check the threat and ensure control for a project in order to achieve its optimum project. In surveys on why projects are successful, the common thread includes clear objectives, management support, control mechanisms and communications (Rahaman, 2011).

Zvoushe and Gideon (2013) examined the usage of Monitoring and Evaluation Systems by Development Agencies, the Case of the UNDP in Zimbabwe. They analyzed the usage of Monitoring and Evaluation Systems by global advancement organizations, utilizing the UNDP in Zimbabwe as the contextual analysis. It doesn't have an

independent observing and assessment office. The investigation utilized narrative examination and found that, there is low note deliberate utilization of assessment discoveries from past projects while its assessment approaches have an exasperating skew towards the quantitative. Such excessively quantitative methodologies convey the danger of sidelining the effect of relevant factors being developed projects and activities.

Further, Karanja (2014) investigating the factors prompting project accomplishment in Kangema District, Murang'a County, Kenya. It focused on Training, Monitoring & Evaluation, Leadership and financial management aspects in relation to project sustainability. The study showed the viability of projects is driven by good financial leadership, adequate education, leadership, efficient screening and appraisal. Kimweli (2013), who uses primary data collected from forty respondents in Kibwezi, Kenya, on M&E and on food security projects finds that such projects improve when M&E practices are carried out in a timely and appropriate fashion.

4. Methodology

The research design adopted in this study was descriptive to determine the data characteristics of the variables in the study. According to William et al. (2013) descriptive studies are more formalized and typically structured with clearly stated investigative questions. The sample was 203 project managers, who were the key decision makers and were actively participating in daily operations in the development of these financed housing projects. Data from primary sources was collected by means of a questionnaire. The essential information gathered from the respondents in the field was examined quantitatively using Micro-soft excel and SPSS to produce both descriptive and inferential statistics. The analytical model below was used:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Where: Y= Project Sustainability,
 β_0 = intercept (constant term)
 β_1 , and β_2 = co-efficient for independent variables,
 X_1 = Stakeholder Involvement,
 X_2 = Project Monitoring and Evaluation
 ε = Error term

5. Results and Discussion

5.1 Reliability Test Results

A pilot study was performed with a 12-party sample size to test the reliability and validity of the survey. The rate of response was 83 %. The alpha test of Cronbach was then carried out and all four variables showed the alpha values of Cronbach that were larger than 0.7. Cronbach's $\alpha > 0.7$ indicate a strong measurement of the instrument,

Field (2005) points out. The final data analysis did not include such results of the pilot experiment.

Table 1: Reliability Test Results

Variable	N Test Items	Cronbach's Alpha Value
Stakeholder Involvement	10	0.838
Project M&E	10	0.827

5.2 Descriptive Statistics

5.2.1 Influence of Stakeholder Involvement

So as to build up the impact of stakeholder association on the maintainability of financed housing projects in Nairobi City County, Kenya, the key question was that do you have user involvement to improve engagement initiatives in the project. As shown in Table 2, the mean score for responses was 3.30 indicating that a majority of the participants were neutral in their responses to the question. The standard deviation indicates that a majority of responses did not vary from the mean by more than 1.044. The second question was, are key stakeholders involved in project identification, selection, planning and implementation. A mean of 3.12 suggests that a majority of the participants were neutral to the question. A standard deviation of indicates that the responses did not vary from the mean score by more than 1.338.

The third question was, do the project recipients have links with local service providers to ensure the viability of results? A mean score of 3.77 suggests that most participants consented with a standard deviation of 1.230. Peter et al. (2013) supported this by stating that in the development of projects, the drafting of a report, and community involvement must form an integral part of organization in order for the sustainability of their project to remain viable a multidimensional attribute of sustainability such as social, cultural, economic and environment key elements.

The fourth articulation tried to set up whether client contribution yields anticipate usage of the venture. Lion's share of the members was firmly in concurrence with a mean score of 4.45 and standard deviation of 0.925. The fifth articulation looked to decide whether the undertaking usage rules are completely comprehended and issued to the key partners amid appointing of the venture. Most of the members were in concurrence with a mean score of 4.10 and standard deviation of 0.872. This affirms an investigation by Chizimba (2013) who expressed that, the project is said to be practical if just it has an in fabricate leave procedures and furthermore if manageability is to be accomplished the mediation ought to draw in the network and construct limits of neighborhood government for successful conveyance of undertaking advantages to accomplish this, working in organization as well as cooperation isn't an alternative is should in any intercession. The investigation likewise asked the members whether partner inclusion energize responsibility for undertaking results or administrations. Most of the members were in understanding that there is a moderate degree with a mean score of 3.32 and standard deviation of 1.225.

Table 2: Influence of Stakeholder Involvement

Question	N	Mean Score	Std. Deviation
Do you have user involvement to improve engagement initiatives in the project?	168	3.30	1.044
Are key stakeholders involved in project identification, selection, planning and implementation?	168	3.12	1.338
Are there linkages of the project beneficiaries to local service providers to ensure sustainability of outcomes?	168	3.77	1.238
Do user involvement yields expect implementation of the project?	168	4.45	0.925
Are project implementation guidelines fully understood and issued to the key stakeholders during commissioning of the project?	168	4.10	0.870
Does stakeholder involvement encourage ownership of the project outcomes or services?	168	3.32	1.225

5.2.2 Influence of Project Monitoring and Evaluation

The examination tried to assess the impact of venture observing and assessment on the manageability of subsidized housing venture in Nairobi City County, Kenya. In Table 3, the principal articulation tried to decide to what degree is observing done to check all benchmarks of venture are met. The mean score was 3.81 with a standard deviation of 0.833 demonstrating the members were in understanding. The second proclamation tried to set up whether venture observing and assessment influence venture long run administrations and advantages. Greater part concurred with a mean score of 3.81 and a standard deviation of 0.792. The third explanation asked the respondents whether the participatory M and E energize forthright arranging endeavors. The larger part was reasonably concurring with an average of 3.26 and a deviation from the genuine mean of 0.896.

The forth articulation looked to learn whether the venture supervisory crew and customers formally meet for dialog of checking, refreshing, controlling and assessing the task's advancement. Dominant part was modestly concurring with mean score of 3.06 and standard deviation of 1.030. The fifth proclamation asked the members how persistent is the assessment of the status of the undertaking progression. They were in concurrence with mean of 4.40 and standard deviation of 0.806. The 6th explanation asked the members how would they persistently screen the execution of exercises forms. They were modestly in concurrence with mean of 3.61 and standard deviation of 1.201. The last proclamation asked the members how regularly do the undertaking the board and customers formally meet for talk of checking, refreshing, controlling and assessing the venture's advancement. They were in understanding that such discourses are held frequently with mean of 3.84 and standard deviation of 0.871. This examination bolsters Karanja (2014) discoveries who researched on the impact of the executives rehearses on maintainability of tasks in Kangema Division, Murang'a (Kenya) and contended that sound money related administration, proper preparing, initiative and compelling checking and assessment impact the supportability of the ventures.

Table 3: Project Monitoring and Evaluation Impact

Question	N	Mean Score	Std. Deviation
To what extent is monitoring done to verify all benchmarks of project are met?	168	3.81	0.833
To what extent does project monitoring and evaluation affect project long run services and benefits?	168	3.81	0.792
To what extent do the participatory M & E encourage upfront planning efforts?	168	3.26	0.896
How frequently do the task supervisory crew and customers formally meet for exchange of checking, refreshing, controlling and assessing the undertaking's advancement?	168	3.06	1.030
How persistent is the assessment of the status of the task coherence?	168	4.40	0.806
How would you persistently screen the usage of exercises forms?	168	3.61	1.201
How frequently do the task the board and customers formally meet for talk of observing, refreshing, controlling and assessing the venture's advancement?	168	3.84	0.871

5.3 Regressions Analysis

Multiple regression analysis was conducted as shown in Table 4. Substituting the values in the equation; $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \varepsilon$, the established or fitted regression equation was;

$$Y = 0.455 + (0.016 \text{ Stakeholder Involvement}) + (0.164 \text{ Project M\&E})$$

From the above regression equation, it was revealed that Stakeholder involvement and project M&E to a constant zero, sustainability of funded housing projects would be at 0.455. Further, a unit increase on stakeholder involvement would lead to increase in sustainability of funded housing projects by a factor of 0.016, and unit increase in project M&E would lead to increase in sustainability of funded housing projects by a factor of 0.164. The findings infer that stakeholder involvement, and project monitoring and evaluation statistically significantly influences the sustainability of donor funded housing projects in Nairobi City County, Kenya (since p values are less than 0.05 significance level) with project M&E the highest.

Table 4: Multiple Regression Results

Model 1	Unstandardized Co-efficients		Standardized Co-efficients	t	Sig.
	β	Std. Error	β		
(Constant)	.455	.231		1.973	.006
X ₁ _Stakeholder Involvement	.016	.009	.444	1.815	.005
X ₂ _Project M&E	.164	.056	.251	2.933	.004

6. Recommendations

The study recommends that monitoring and evaluation should be done at each phase of the donor funded housing projects to identify problems and generate solutions. The

beneficiaries and stakeholders should continue conducting monitoring and evaluation after project completion for continued progress of results. The key stakeholders be involved and participate in the development of monitoring and evaluation plans.

Finally, the projects should strive to link the project beneficiaries to local service providers to ensure sustainability of the project outcomes. The local communities should be involved in housing project identification; selection and planning and implementation. They should also be involved in the identification of their needs and solutions to their problems. Conducting of participatory community approaches should be prioritized to boost cost sharing of project implementations as a key ingredient in the sustainability of donor funded housing projects

7. Conclusion

The study concludes that donor funded housing project activities were monitored at each stage of project the implementation and monitoring and evaluation enables the project team and stakeholders to identify problems and generate solutions. There is also constant feedback and information from monitoring and evaluation on progress of projects. In addition, community participation and perspectives were not adequately incorporated into the monitoring and evaluation plans. In conclusion, enhancing monitoring and evaluation greatly improves the sustainability of donor funded housing projects because lack of project monitoring and control leads to project failure.

Lastly, it was concluded from the study findings that stakeholder involvement has a role to play in sustainability of funded housing projects. The study established that the level of involvement of key stakeholders and their interventions have a direct influence on reliability and adequacy of the housing facilities thus their sustainability. However, the correlation analysis show that an increase in the level of key stakeholder involvement would lead to an increase in sustainability of funded housing projects though such a relationship is not statistically significant. Using regression analysis, stakeholder involvement is the least important factor to enhance sustainability of funded housing projects in Nairobi City County.

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Conflict of Interests

The authors declare that they have no competing interests.

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