

**THE IMPACT OF PROJECT MANAGEMENT  
STANDARDS AND COMPETENCIES ON  
CONSTITUENCY DEVELOPMENT FUND PROJECTS  
IN NAIROBI**

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**A management research project submitted in partial fulfillment of the  
requirements for the award of the degree of Masters of Business Administration,  
School of Business, University of Nairobi.**

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**DECLARATION**

This research is my original work and has not been submitted for examination in this or any other University.

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This project has been submitted for examination with my approval as the University Supervisor.

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## **DEDICATION**

Special dedication to my mum. Thank you for instilling the discipline of hard work and making sure I finished all my homework, every day, all days.

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The attainment of MBA from this institution is a long and demanding endeavor with numerous challenges and obstacles to overcome. This has been an arduous journey which was made possible by the support of many individuals and groups. I would like to thank everyone who has contributed to its successful completion and would like to acknowledge the efforts of:

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Mr. Kaptoge, the veteran. Asante sana.

My wife Kiki. Here is your master's degree!

## **ABSTRACT**

Factors that influence the performance of Constituency Development Funds (CDF) projects in Nairobi are important because they have a direct impact on the success rates of the projects. The purpose of this study was to explore and identify the key factors that were required when setting up project guidelines and standards, the competencies of the project leaders, and the criteria for project success in the eight constituencies of Nairobi.

Data collection by means of questionnaire was used to gather information from thirty-two CDF staff members in Nairobi. An exploratory factor analysis was the tool used to identify those factors that the respondents perceived as important.

Triple constraints were established as key components when setting up project guidelines and standards. Project planning and integration needed to be well defined in the standards. Interpersonal skills were deemed more important than technical skills when identifying the competencies of project leaders. Fiscal resource management, time management, and stakeholder participation were identified as significant measures of project success as recognized by CDF staff respondents. The need was thus identified for reinforcing existing structures upon which CDF projects are implemented to embrace the findings of this study with respect to project management standards, project manager competence and criteria for evaluating project success.

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## LIST OF ABBREVIATIONS AND ACRONYMS

AIPM	Australian Institute of Project Management
APM	Association of Project Management
APM BOK	APM Body of Knowledge
CBS	Central Bureau of Statistics
CDF	Constituency Development Fund
CCTA	Central Computer and Telecommunications Agency
FSM	Formal System Model
GAPPS	Global Alliance for Project Performance Standards
ICB	IPMA Competence Baseline
IPMA	International Project Management Association
IPMJ	International Journal of Project Management
JPMF	Japan Project Management Forum
MPD	Master Project Director
NCSPM	Australian National Competency Standard for Project Management
OGC	Office of Government Commerce
OPM3	Organizational Project Management Maturity Model
P2M	A Guidebook of Project & Program Management for Enterprise Innovation
PMA	Project Management Architect
PMAJ	Project Management Association of Japan
PMBOK Guide	A Guide to Project Management Body of Knowledge
PMCC	Project Management Professional Certification Centre
PMCD	Project Management Competency Development
PMI	Project Management Institute
PMJ	Project Management Journal
PMR	Project Manager Registered
PMS	Project Management Specialist
PRINCE2	Projects In Controlled Environments, version 2
QPP	Qualified Project Practitioner
RPM	Registered Project Manager



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# CHAPTER ONE: INTRODUCTION

## 1.1 Background

The recent recession in global economies saw companies reducing workforce, and project teams and other business units assessed how these uncertainties affected corporate direction and thus made short term adjustments accordingly (Hildebrand. 2008). Businesses needed to seek out which management tools to use to enable them to be effective and stay afloat in such turbulent times (Goldsmith & Goldsmith. 2009). As the world comes out of recession, these tools need to continue to be used and localized to address specific needs of varied economies.

In an attempt to stimulate the economy, governments and private investors across the globe invested in massive infrastructure projects. Strong project management methodologies and project manager competencies would be required to ensure that these projects were effectively implemented and the ripple effect felt on the economy. Recent empirical studies confirm that the adoption of project management standards leads to more successful projects (Crawford & Helm. 2009; Mengel et al., 2009; Thomas & Mullaly, 2009).

This study sought to investigate the influence of project management standards and competencies on project success. There is a scarcity of literature on understanding project management successes in emerging nations due to the complex and diverse environments under which they operate. This study sought to highlight stakeholders' perception of project success. By extension, it identified critical elements that aid in defining project management standards in emerging economies for an improved project management performance level.

The study began by providing definitions followed by an introduction to project management and project management standards. It then examined the literature on project management as a profession and its maturity; a review of the leading project management bodies of knowledge; other significant contributors; requisite competencies; success factors, and the Constituency Development Fund. Finally, it provided a summary of the proposed research methodology.

The meanings of terminologies and their background as used in the study were laid out. Starting with the definition of a project as a temporary endeavour undertaken to achieve a

particular aim. it is also frequently defined as a scheme; work or undertaking; or an instrument for achieving one-off changes (Hornby, 1989; Roberts & Wallace, 2004; Verzuh, 2005). It produces an output or delivers beneficial change which can take the form of a new facility or asset. This asset may be tangible, intangible or abstract. Projects involve a single definable purpose, with defined constraints. They incorporate skill sets from multiple professions, uniqueness, and unfamiliar, complex, temporary parts of a series of interlinked processes which are involved in achieving a specific goal. Otherwise, projects would not be distinguishable from day-to-day enterprise operations. This distinction has become increasingly blurred (Soderlund, 2004) as more organizations and business entities add management by projects as part of their routine management processes. From an organizational theory perspective, these classical definitions of projects are incomplete. Instead, "A project is a temporary organization to which resources are assigned to undertake a unique, novel and transient endeavour managing the inherent uncertainty and need for integration in order to deliver beneficial objectives of change" (Turner & Muller, 2003 p. 7).

In this study, a standard was "a document that provides, for common and repeated use. rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context" (PMBOK Guide, p. 450). Standards in project management were important because they stated the specifications that projects needed to adhere to if they were to meet the required performance levels as specified in the standards documents. However, there was little empirical review of the application and effectiveness of standards in project management.

Project management is the application of knowledge, skills, tools and techniques to a broad range of activities in order to meet the requirements of the particular project. The main progression in this respect is the initiation, planning efforts, execution, and controls in bringing the project to a desirable end. Turner (2006b) provided the view that project management comprised the key elements of: definition, appraisal, breakdown, contract and procurement management, information management, financial management, resource management, risk management, the management of the project, and project management life-cycles. Project governance provided the structure upon which objectives and performance were established.

Roberts and Wallace (2004) emphasized the widely held belief and agreement that project management was about achieving time, cost and quality targets, within the context of overall strategic and tactical client requirements, by using project resources.

As a discipline, project management developed from different fields of application, chiefly construction, engineering, and defence. The forefather of project management is Henry Gantt. Called the father of planning and control techniques, he was known for his use of the Gantt chart as a project management tool. Gantt was an advocate of Frederick Winslow Taylor's theories of scientific management. Both contributed immensely to the then controversial scientific management theory and practice and laid the foundations for the concepts of planning methods and tools (Darmody. 2007; Peterson. 1987). Gantt's work is the precursor to many modern project management tools including work breakdown structure and resource allocation.

The Project Management Institute (PMI) was formed in 1969 to serve the interest of the project management industry. The premise of PMI is that the tools and techniques of project management are common among the widespread projects of many industries. In 1981, the PMI Board of Directors authorized the development of what became known as *A Guide to the Project Management Body of Knowledge* (PMBOK Guide). The Guide contained the standards and guidelines of practice used throughout the profession.

The International Project Management Association (IPMA), founded in Europe in 1967, represents an international network of national project management societies and instituted the IPMA Competence Baseline (ICB). The focus of the ICB also began with knowledge as a foundation, and added considerations about relevant experience, interpersonal skills, and competence (Roberts & Wallace, 2004).

Projects In Controlled Environments version 2 (PRINCE2) was a structured method for effective project management. Established in 1989 by the Central Computer and Telecommunications Agency (CCTA) currently known as Office of Government Commerce (OGC), PRINCE2 was developed as a project management method for UK government information system projects. PRINCE2 was a de facto standard used extensively by the UK government and is widely used in the private sector, both in the UK and internationally (OGC, 2002).

Professional standardization provided an assurance of minimum quality of service and some protection of public welfare. Standardization gave the confidence that project managers shared commonly accepted tools and techniques, and thus have the capacity to realize the project objectives (Crawford & Pollack, 2007). It also increased legitimacy afforded to the profession and provided a guarantee of career advancement based on the evidence of recognition and competence.

Organizations that delayed embracing standards frequently spent limited resources trying to bridge the gap between themselves and the early adopters. They also tended to have minimal influence in the standard setting process, losing on the competitive edge (Chiesa et al., 2002).

The importance of project management standards cannot be overemphasized. By general consensus, a standard provided that yardstick of comparison and acceptable levels of performance without which success in that endeavour was illusory. The role of standards in settling disputes became of utmost importance. Standards and their derived competencies continue to be used globally in training and development and are a good measure of project success (Crawford & Pollack, 2007).

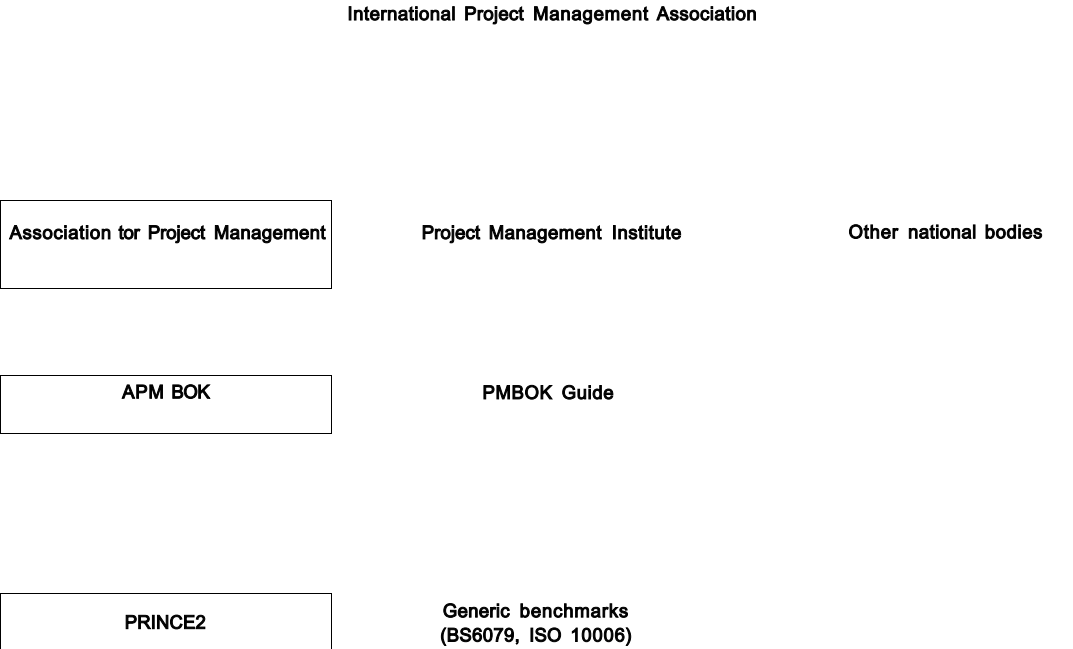
Descriptive standards emphasized facts; normative standards provided general guidance; while prescriptive standards were very specific. Where no standards existed, introducing them not only increased the legitimacy of the profession, but also provided a guarantee of advancement in the profession due to the recognition of competence within the profession (Crawford & Pollack, 2007).

In developing internationally accepted competency standards, a single standard was not possible since various industries and countries had unique needs. It was possible, though, to get broad agreement on a small number of common standards with customizations to meet country specific needs. Thus a basis was developed for deriving competency standards for each country. This ensured a proposed knowledge of project management that would be expected of project managers included in Appendix A (Turner, 1996).

The current hierarchy of global standards is presented in Figure 1.1. The practice of project management was anchored on the various national and international standards, across diverse

sectors and industries (Roberts & Wallace, 2004). Similarities were witnessed within the same geographic region. One flaw with the structure was that PMI was not a member of IPMA; and thus did not subscribe to its practices or guidelines. The structure was useful because it gave a starting point for developing a Kenya Project Management Body of Knowledge. This Body of Knowledge would be significant as it would provide that crucial benchmark for gauging the competencies of project managers and the success rates of the projects they manage.

**Figure 1.1: Global project management standards systems**



Source: Roberts A Wallace (2004), *Project Management'*. p 272.

**1.2 Problem Statement**

Academic research on the value of project management standards and project manager competencies concentrate mainly on North America, Europe and Australia (Muriithi & Crawford, 2003; Crawford 1997, 2000). A literature review of the leading global journals on project management yielded no results of studies aimed at identifying the influence of both the project management standards and competencies on project success in sub-Saharan Africa. Using research reviews and secondary sources. Muriithi and Crawford (2003) proposed modifications to existing project management standards if they were to be relevant to projects in Africa. This study sought to empirically identify which modifications to the standards would be required using the Constituency Development Fund projects in Nairobi.

Many scholars argued that adopting and implementing project management standards increase the likelihood of successful project completion (Zwikael, 2009) by ensuring more accurate cost estimates during planning, thus enabling project managers to make more informed decisions. These decisions may have included the determination of which projects to undertake and which to drop. This, in turn, allowed organizations using project management to gain a competitive edge. No publicly available research existed with a Kenyan scenario to support or counter this view.

This study sought to use Constituency Development Fund projects in Nairobi to determine whether or not the adoption of such standards led to empirically successful project outcomes and to establish contributory factors for successful project implementation. The study aimed at answering the question: Is the influence of project management standards and competencies significant to the performance of CDF projects?

### **1.3 Research Objectives**

The objectives of this study were:

- a) To establish the guidelines and standards for managing projects that were effective in the implementation of CDF projects in Nairobi.
- b) To identify the critical factors that may have contributed to the success CDF projects in Nairobi.

### **1.4 Importance of the study**

No project management body of knowledge can truly be the "body of knowledge". No one document contains the entire knowledge. What roles can successes in the field contribute to this knowledge?

Firstly, the study provided an initial investigation into the success factors of CDF projects and their ability to be replicated in other projects. This would lead to improved project performance and higher success rates. This in turn would lead to reduction in the costs of implementing projects; resulting in economic savings.

Secondly, it sought to validate the triple constraints as the defining criteria for project success. The absence of these constraints would identify which criteria were crucial in

evaluating the performance of these projects. This would provide an additional tool for measuring the health of CDF projects. The end-users and other stakeholders would be given an additional basis for evaluating CDF projects in their constituencies. This in turn would lead to greater transparency in terms of successfully completed projects and identify those which are not performing. Organizations seeking to improve the rate of successfully completed projects would gain significant knowledge and insight into what to do and what not to do by using the findings of this study.

Last, but not least, it would make significant contributions towards developing a Kenya Project Management Body of Knowledge for the management of projects. By extension, this would provide a knowledge base for establishing an accrediting body for project management in the country as none currently exists. It will identify critical factors which would form part of the continuing dialogue on the knowledge base.



## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

A significantly contentious view that a unified theory of the management of projects does not exist with an illustration of the methodological issues to confirm their views is presented by Smyth and Morris (2007) and McCormick (2006). They argue that research methodologies are being selected and applied in ways that are often inappropriate. Both the context and the appropriateness of issues concerning specific explanations are brought into question. There is also a lack of epistemological care taken in the selection and application of research methodologies. Even though their views have not been subjected to close scrutiny, there is need to explore the feasibility of developing a framework for a unified theory of the management of projects. This would enable project management to mature to the level of other internationally recognized theories and standards that govern fields such as accounting, law, engineering or the medical professions.

The findings by Crawford et al. (2006) on project management standards capture the significance that, in countries at the forefront of project management, there is a parallel between existing standards and the general trend toward the development of international standards. The differences noted are attributable to the fact that countries place emphasis on different aspects of the project.

The literature review that follows begins by critically reviewing project management as a profession. It then examines the two widely recognized project management bodies of knowledge with a reference to other standards. The review then progresses to a synopsis of certification standards and competency frameworks that both protagonists offer. This is followed by a review of various project management associations. The literature review continues by looking at the derived competencies and perspectives on success criteria. It concludes with a summation of Constituency Development Fund projects in Nairobi, Kenya.

### **2.2 The Profession of Project Management**

The findings of Smyth and Morris (2007) conflict with those of Sauer and Reich (2006) regarding a unified theory on the management of projects, with the former asserting non existence of this theory while the latter demonstrate its existence. However, project management theory does exist; albeit fragmented, due to a multitude of reasons,

circumstances and differing project environments with Sauer and Reich (2006) mentioning the progression of project management theories without constrained scope as one such reason.

Using a series of premises and lemmas. Turner (2006a, 2006b, 2006c, 2006d) rightfully asserts the existence of theory of project management. He proposes a structured theory by identifying several inherent components of project management. In affirmation of the concrete foundation upon which project management is built, Turner stresses that. "...500 years of accounting theory suggests that to manage cost we should plan for the amount of work to be performed and the cost of that work. Then we should calculate the difference between the amount of work planned and the amount of work performed. In accounting theory this is called the volume variance. But in Project Management has become known as the Schedule Performance Index, SPI. We should also calculate the difference between the cost of the work performed and the plan. In accounting theory this is called the cost variance, but in Project Management has become known as the Cost Performance Index. When applied to Project Management this standard accounting practice becomes Earned Value Analysis. So we see how accounting theory enlightens Project Management Theory." (Turner, 2006d. p 279).

Crawford et al. (2007) explore the global efforts aimed at unifying the fragmented project management theories, standards and similar schools of thought. She suggests a careful review of cultural differences and specifically language emphasis from different cultures as a way of bridging the gap.

Many studies (Kolltveit et al., 2007; Morris et al., 2006; Smyth & Morris, 2007; Winter et al. 2006a, 2006b; Winter et al., 2007) have presented views that concur with one project management association or the other, or made attempts at unifying the views of the two leading schools of thought. However, none of the studies reviewed examined the consequential effects of the political and ideological differences of the two leading project management associations on the theory of project management as a profession. Nor did they address the effects on emerging management associations attempting to gain recognition by one of the main associations. More importantly, the established institutions have neither assessed the successes of projects in emerging nations nor factored them into the process of

developing and improving on their own standards. Furthermore, they have not provided templates for developing country specific standards.

With a view to better actualizing and beneficially informing the theoretical developments in project management, Cicmil et al. (2006) discourage further use of traditional project management practices. Instead, they advocate for a "more developmental one which focuses on practical action, lived experience, quality of social interaction and communicative relating, operations of power in context, identity, and the relationship between agency and structure in project environments".

The worldwide recession has challenged the best analysts to come up with forecasts on the future of the profession. Ingason and Jonasson (2009) provide an assessment of the situation as far as project management is concerned. They identify future direction as being increasingly moving away from traditional approaches and leaning towards interpersonal competencies, relationship management, resource management, and strategic alignment. This view has received considerable support from Jugdev and Miiller (2005); Kolltveit et al. (2007); Miiller and Turner (2007), all highlighting the competencies of the project manager and their contribution to project success.

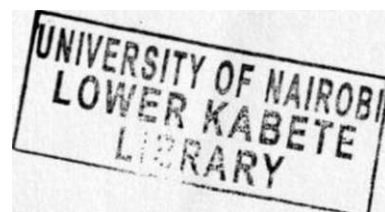
### **2.3 A Guide to Project Management Body of Knowledge**

The recently updated PMBOK Guide has nine knowledge areas with 42 processes (Table 2.1). Each process has its inputs, expected outputs, inter-knowledge area relationships, and extra-knowledge relationships depicted in various data-flow diagrams. It is a recognized formal document that describes established norms, methods, and processes for the project management profession as spelled out by the Project Management Institute (PMI, 2008). its advocacy association. The PMBOK Guide can serve as an evaluation tool for assessing performance levels and success of most projects most of the time in such industries as construction, pharmaceuticals, and agriculture.

**Table 2.1: PMBOK knowledge areas and processes**

knowledge areas	Project Management Process Groups				
	Initiating	Planning	Executing	Monitoring & Controlling	Closing
<b>Project Integration Management</b>	<ul style="list-style-type: none"> <li>• Develop Project Charter</li> </ul>	<ul style="list-style-type: none"> <li>• Develop Project Management Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Direct and Manage Project Execution</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor and Control Project Work</li> <li>• Perform Integrated Change Control</li> </ul>	<ul style="list-style-type: none"> <li>• Close Project or Phase</li> </ul>
<b>Project Scope Management</b>		<ul style="list-style-type: none"> <li>• Collect Requirements</li> <li>• Define Scope</li> <li>• Create WBS</li> </ul>		<ul style="list-style-type: none"> <li>• Verify scope</li> <li>• Control Scope</li> </ul>	
<b>Project Time Management</b>		<ul style="list-style-type: none"> <li>• Define Activities</li> <li>• Sequence Activities</li> <li>• Estimate Activity Res. and Durations</li> <li>• Develop Schedule</li> </ul>		<ul style="list-style-type: none"> <li>• Control Schedule</li> </ul>	
<b>Project Cost Management</b>		<ul style="list-style-type: none"> <li>• Estimate Costs</li> <li>• Determine Budget</li> </ul>		<ul style="list-style-type: none"> <li>• Control Costs</li> </ul>	
<b>Project QM</b>		<ul style="list-style-type: none"> <li>• Plan Quality</li> </ul>	<ul style="list-style-type: none"> <li>• Perform Quality Assurance</li> </ul>	<ul style="list-style-type: none"> <li>• Perform Quality Control</li> </ul>	
<b>Project HRM</b>		<ul style="list-style-type: none"> <li>• Develop Human Resource Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Acquire, Develop &amp; Manage Project Team</li> </ul>		
<b>Project Communications Management</b>	<ul style="list-style-type: none"> <li>• Identify Stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Plan Communications</li> </ul>	<ul style="list-style-type: none"> <li>• Distribute Information</li> <li>• Manage Stakeholder Expectations</li> </ul>	<ul style="list-style-type: none"> <li>• Report Performance</li> </ul>	
<b>Project Risk Management</b>	<ul style="list-style-type: none"> <li>• Plan Risk Management</li> <li>• Identify Risks</li> <li>• Perform Qual. &amp; Quant. Risk Anal.</li> </ul>			<ul style="list-style-type: none"> <li>• Monitor and Control Risks</li> </ul>	
<b>Project Procurement Management</b>		<ul style="list-style-type: none"> <li>• Plan Procurements</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct Procurements</li> </ul>	<ul style="list-style-type: none"> <li>• Administer Procurements</li> </ul>	<ul style="list-style-type: none"> <li>• Close Procurements</li> </ul>

Source: PMI (2008), PMBOK Guide '1, p 43.



The PMBOK Guide (2008) provides PMI with the reference point for its professional development programmes and certifications and consequently enables it to be able to determine and assess the expertise and competencies that its members need to meet and maintain. Bodies of knowledge are one of the key elements required when defining competencies in a given profession (Morris, 2001). This provides the basis for developing certification programmes and courses. As a result, PMI has the Certified Associate in Project Management (CAPM) and Project Management Professional (PMP). among other certifications, designed around its PMBOK Guide (2008).

In discussing the triple constraints elements, PMBOK Guide (2008) highlights those processes that are required to complete only that work which is required in successful project completion. The collect requirements process includes the identification and registration of stakeholders as one of its inputs. Interviews, observations, questionnaires and surveys operate as its tools and techniques. Requirements documentation and requirements management plan serve as its outputs. This enables the traceability of stakeholders' involvement in the project management effort. Scope definition, control, verification, and creation of WBS are the other processes that need to be clarified when planning the scope management.

The processes required for timely completion of project work are: the definition of activities, sequencing, estimating resource requirements, estimating durations of the activities, and the development and control of the schedule (PMBOK Guide, 2008). Many projects fail due to poor time management. Thus, the influence of this constraint on CDF projects outcome will form a key part of the study. Rolling wave plans, precedence diagrams, bottom-up estimates, project management software, parametric estimates, resource levels, what-if scenario analysis, critical path and critical chain methods, and expert judgment are key tools required to ensure that the project is completed on time.

Estimates, budgets and cost controls are all important if the project is to be completed within the allocated budget. Since different stakeholders use different metrics for measuring project costs. Parametric estimates, cost aggregation, and earned value

management are required when preparing cost reports to stakeholders (PMBOK Guide, 2008).

Organizational project management enables organizations to use a project based environment to achieve their objectives. In order to make use of project management principles and best practices at the organizational level and in advancement of the profession, PMI (2003) developed the Organizational Project Management Maturity Model (OPM3). The OPM3 serves as a tool to aid organizations in translating strategy into successful implementations. It has the three elements of knowledge, assessment and improvement. These form the framework within which the organization practices organizational project management. In this model, the organization takes any of the forms: the entire company; business unit; functional group; department; or sub-agency, so long as the objectives of the entity includes meeting and adhering to the OPM3 guidelines whose structure is based on the PMBOK Guide.

#### **2.4 The APM Body of Knowledge**

The APM Body of Knowledge has seven sections, with 52 topics. Each topic has a short definition and explanation and contains up to six relevant references (Table 2.2). The scope of APM is wider than that of PMBOK Guide as it also addresses the wider context of the profession with emphasis on technological, commercial, and general management (Morris, 2001; Morris et al., 2006). APM is more directly influenced by prior research on what a project management body of knowledge ought to contain.

Morris et al. (2006) still contend that formal research has failed to induce changes to the structure of the existing BOKs. They attribute this largely to vested interests maintaining the status quo. They also take into consideration the costs of regularly updating the complex certifications that are derived from the BOKs. A proposed line of future research is "What are the implications of professional associations accrediting universities to teach project management based on the established BOKs without concern for practical or research interests in the field?" (p. 720). This could reshape the development of project management as a profession.

**Table 2.2: The Seven Sections of APM BOK**

Section	Topics
1. Project management in context	<ul style="list-style-type: none"> <li>• Project and Programme management</li> <li>• Portfolio management</li> <li>• Project context &amp; Project sponsorship</li> <li>• Project office</li> </ul>
2 Planning the strategy	<ul style="list-style-type: none"> <li>• Project success and benefits management</li> <li>• Stakeholder management</li> <li>• Value management. Project management plan</li> <li>• Project risk &amp; quality management</li> <li>• Health, safety and environmental management</li> </ul>
3. Executing the strategy	<ul style="list-style-type: none"> <li>• Scope management</li> <li>• Scheduling and Resource management</li> <li>• Budgeting and cost management</li> <li>• Change control &amp; Earned value management</li> <li>• Information management and reporting</li> <li>• Issue management</li> </ul>
4. Techniques	<ul style="list-style-type: none"> <li>• Requirements management</li> <li>• Development and Estimating</li> <li>• Technology management</li> <li>• Value engineering. Modeling and testing</li> <li>• Configuration management</li> </ul>
5. Business and commercial	<ul style="list-style-type: none"> <li>• Business case</li> <li>• Marketing and sales</li> <li>• Project financing and funding</li> <li>• Procurement &amp; Legal awareness</li> </ul>
6. Organization and governance	<ul style="list-style-type: none"> <li>• Project life cycles. Concept and Definition</li> <li>• Implementation. Handover and closeout</li> <li>• Project reviews</li> <li>• Organization structure &amp; Organizational roles</li> <li>• Methods and procedures</li> <li>• Governance of project management</li> </ul>
7. People and the profession	<ul style="list-style-type: none"> <li>• Communication. Teamwork. Leadership</li> <li>• Conflict management and Negotiation</li> <li>• Human resource management</li> <li>• Behavioural characteristics</li> <li>• Professionalism and ethics</li> </ul>

Source: APM (2006). 'APM Body of Knowledge - Definitions', p 5.

IPMA has members from 29 national associations in Europe. It developed ICB with its Sunflower model; is greatly influenced by the APM BOK; and is aimed at unifying the various efforts that countries in Europe were making to jumpstart their country specific BOKs (Morris et al., 2006).

IPMA provides a competency framework known as The Eye of Competence (Appendix B). This can be compared with PMCD Framework Dimensions of Competence (Appendix C). The two major global schools of thought, with the aim of making project management a global profession, offer a draft project definition report containing a significant attempt to establish the complete scope of project management. The aim is to provide a foundation for deriving competency standards in the field (Turner, 1996).

## **2.5 Other Project Management Standards and Organizations**

The challenges inherent in establishing a global body of knowledge has bedeviled project management fraternity. Consequently there has been a mushrooming of varied standards, all of which subscribe to one school of thought or the other. Snider and Nissen (2003) recognize the static nature of bodies of knowledge and introduce in its stead a dynamic multidimensional model to further reflect on the progression of the theory of project management. A synopsis of other schools of thought forms the rest of this discourse.

PRINCE2 is a structured project management methodology that focuses on the business case because it drives the project management processes throughout the life of the project (OGC, 2002). Additionally, it extends project management knowledge to programme management (Appendix D). PRINCE2 recognizes the various reasons for project failure and identifies quality; project definition; communications; acceptance of project management roles; planning; measurable metrics; and estimation of duration and costs as some of the areas where failure is commonly reported. This methodology differs significantly with others since it is designed around the assumption that projects are run as contracts and as such it is optimized for use in contracting environments.



Global Alliance for Project Performance Standards (GAPPS) developed and promotes an agreed framework aimed at the mutual recognition of local standards, it encourages transferability of the diverse project management qualifications. GAPPS has a broad membership base: standards and qualifications organisations, project management professional associations, academic and training institutions, and several multinational companies including Shell International, Motorola and Fujitsu UK (GAPPS. 2007).

Project Management Association of Japan (PMAJ), the national project management association of Japan, was formed as a merger of two project management bodies, Japan Project Management Forum (JPMF) and Project Management Professionals Certification Center (PMCC). PMAJ developed *A Guidebook of Project & Program Management for Enterprise Innovation* (P2M) which has a wider scope than both the APM BOK and PMBOK Guide. It incorporates additional project management knowledge areas aimed at stimulating innovation and improving business value (PMAJ, 2005).

*A Guidebook of Project & Program Management for Enterprise Innovation* (P2M) offers flexible and modular development of programs or projects, and aims to improve the competence of project management professionals in dealing with complex issues. It has a three tier certification and competency measurement programme based on level of responsibilities: Project Management Specialist (PMS), Project Manager Registered (PMR), or Project Management Architect (PMA). The P2M certification program covers 11 domains of project management areas namely: communication, finance, information, organization, relationship, resource, risk, strategy, systems, target, and value (PMAJ. 2005).

Australian National Competency Standard for Project Management (NCSPM) is a government endorsed standard developed and used by the Australian Institute of Project Management (AIPM) as a reference point for its certification and competency evaluation programmes. NCSPM is based on the PMBOK Guide structure and knowledge areas. AIPM offers three certification levels. From the lowest to highest these certifications are: Qualified Project Practitioner (QPP), Registered Project Manager (RPM). and Master Project Director (MPD). The Professional Competency Standards for Project Management highlight the expected elements of competency

and performance criteria for Certified Practising Project Practitioner (CPPP), Certified Practising Project Manager (CPPM), and Certified Practising Project Director (CPPD) (Appendix E).

Very limited information is available regarding project management as a profession, project management standards and competency models currently in place in Kenya. The Association of Project Management (APM) Kenya is listed as one whose objectives are to provide a forum for free exchange of project management challenges and to improve the recognition of the project management profession. Kenya Institute of Project Management (KIPM) is a private limited liability company whose vision is to "be the leading firm in delivery of projects and programs using modern project management skills, knowledge and techniques" (KIPM, 2008). It provides consultancy services to companies seeking such services. Its operations are aligned to the PMBOK Guide.

## **2.6 Project Management Competencies and Success Factors**

As projects become increasingly complex and with more business activities being defined as projects, there is a growing need for competent project management personnel to manage diverse projects to successful completion. A competent project manager should have specific knowledge, skills and behaviours in order to be an effective project manager. Crawford (1997) distinguishes this attribute based approach from a performance based one which assumes that competence may be implied by actual performance in the workplace using pre-defined standards. Crawford further proposes a fusion of the two dimensions in suggesting an integrated model of project management competence which highlights competencies of project personnel in diverse environments and an assessment basis for the accreditation organizations and project based organizations.

Interest in the competency of a project manager can be traced back to research by Gaddis (1959). Gaddis' research highlighted the integrative function and intensive resourcefulness of the project manager and his ability to discern and harmonize fine variations in the triple constraints as definitive of the project manager competence. These are ingredients for successful project outcomes.

As projects become more complex, and as more organizations move to management by projects, there is an increasing demand for competent project managers (Crawford, 1997). In this study distinction is made between project management which is the subject of this study and project life cycle which is typically characterized by project phases that are generally unique to the organization (Mbeche. 2000; PMI, 2008).

In a web-based Delphi study of 147 respondents. Brill et al. (2006) report on the competencies that can guide the development of project management educational programmes. They identify problem-solving expertise as the highest ranked: followed by leadership expertise: context knowledge: analytical; people: and communication skills. It is noticeable that this study ranked lowly other key competencies such as ability to write proposals, knowledge and use of financial management tools, and ability to apply contract law.

The guiding framework of PMCD (2007) has an overview of competence in three dimensions: knowledge, performance, and personal. Knowledge could be demonstrated by passing a credentialed assessment: performance demonstrated by assessing project-related actions and outcomes; and personal competence demonstrated by an assessment of the project manager's behaviour. Performance competence highlights what the project manager can deliver using his knowledge of managing projects. Since there is a causal link between this competence and project success (PMCD, 2007). the competence can be measured based on the criteria of project initiation, planning, execution, monitoring and controlling, and closure against deliverables, assessments, documentation provided, and feedback from the various stakeholders. Personal competency traits are demonstrated by the project manager's behaviour when communicating, leading, managing, cognitive ability, effectiveness and professionalism (PMCD. 2007) while interacting with others. Typical questions that identify personal competence include: Is the manager an active listener? Does he understand explicit and implicit forms of communication? Does he respond to expectations and concerns? Is information disseminated effectively? Does the manager use appropriate sources of validated and relevant information?

Dainty et al. (2005) reveal the differences between project management competencies and generic management behaviours with respect to customer service orientation, self-control, flexibility, propose. They also address the need for sector-specific

dimensions of project management as a way of providing advancements on the existing bodies of knowledge.

Kosaroglu (2008) examines the telecommunications industry in relation to project management competency. He challenges the theoretical basis of the current practice for evaluating project managers. More importantly, Kosaroglu asks what skills project managers utilize and if the skill set could be enhanced. His examination reveals four skill sets for the project manager: technical, leadership, managerial and administrative. He asserts that efficacy of the four areas is a pre-requisite for successfully managing telecommunications new product development projects.

Formal training of project managers as an effort towards developing their competencies for the project management role is not frequently observed because most managers are promoted to this position first, due to their technical background and experience, and then some form of training is provided after the promotion. A study by Carbone and Gholston (2004) shows that very few organizations are developing their project managers with the findings identifying that 41% of project managers confirm that their organizations prepared them for the role. Six out of seven companies that participated in the study had an official project manager title even though only three companies had a defined project manager career path. Formal competency development on the hard and soft skills of project managers would thus have a positive impact on project performance even though few empirical studies are available from previous findings.

A critical evaluation of Kendra and Taplin (2004) asserts that project management competencies exist at the project manager level in the organizational structure. Another classification identifies three characteristics expected of a competent project manager. Input competencies consist of knowledge and skills: personal competencies include core personality characteristics; and output competencies comprise demonstrable performance (Crawford, 1999).

Project success cannot be clearly defined as the definition entails many objectively and subjectively non measurable narratives. Traditionally, objective measures of cost, quality and scope have been used to evaluate performance. Subjective evaluations of those elements that are not measurable have been proffered as accompanying

explanation. The leading non-quantifiable contributors to improving success of projects within the constraints of scope, cost and quality identified by Jha and Lyer (2007) include project manager competence; owner competence; commitment of project participants; and coordination among participants.

Jugdev and Miiller (2005) have discussed the ambiguous and complex nature of project success definition and the fact that it changes over the project life cycle. They advise on the use of multi-point indicators of project success including efficiency and effectiveness measures, and the use of A good relationship and effective communications management with key stakeholders, especially project sponsors, increases the chances of project success.

Munns and Bjeirmi (1996) distinguish between project management success and project success. They argue that measuring the two objectives are not the same. It is possible to get a successful project even if management has failed and *vice versa*.

Success in projects has been determined using differing metrics based on which criteria have been agreed upon beforehand. Fortune and White (2006) propose using the Formal System Model (FSM) instead of traditional critical success factors. The FSM has the additional advantage of being able to consider the relationships between factors, is dynamic, and is capable of distinguishing between successful and unsuccessful projects. The FSM would thus be the better tool for tracking human and organizational aspects in the project planning and implementation phases.

Turner (2004) identifies four necessary, but insufficient, conditions for project success: agreeing on the success criteria before commencing the project; maintaining collaborative work relationship between the project owner and project manager; full empowerment and flexibility accorded to the project manager with the project owner only providing guidance; and active involvement from the project owner in the performance of the project.

Most assessments of project success and project failure focus on the triple constraints which emphasize the hard skills of the project manager as a key contributory factor. The Standish Group (2003) ranks the top success factors from the highest to the lowest as: user involvement; executive management support; experienced project

manager: clear business objectives; and minimizing scope. All take into account both the hard and soft aspects of project management. However, more research is required to identify the factors for project success. This is more participatory and predictive of those factors that would lead to successful projects.

Kerzner (2001) provides an expanded definition from the traditional triple constraint model of project success to include completion:

- Within the allocated time period
- Within the budgeted cost
- At the proper performance or specification level
- With acceptance by the customer/user
- When the customer's name can be used as a reference
- With minimum or mutually agreed upon scope changes
- Without disturbing the main work flow of the organization
- Without changing the corporate culture

He also contends that one of the most challenging tasks is predicting whether or not the project will be successful. This success is typically measured by actions of three groups: the project manager and project team; the parent organization; and the client's organization.

Dvir et al. (2006) investigate and establish the view that the universalistic assumption of all projects being similar may not be the optimal way of managing projects. They instead provide findings from their empirical studies which identified a much better fit for project success as being driven by the personality of the project manager, his or her management style and the type of project he or she manages. Thus, projects with specific profiles need to be analyzed first and then the manager with the optimal character traits for the project assigned to it.

Jha and Iyer (2007) analyzed success of construction projects, and attribute the success to commitment, coordination, and competence as the key factors for achievement of schedule, cost, and quality objectives respectively. Kendra and Taplin (2004) contend that organizations that adopt the confirmed project success model must develop a project management culture based on shared cultural values of the

organization's members that support adoption of project management. The success model in this study is based on the nine knowledge areas in the PMBOK Guide.

Project success is typically defined with respect to time, budget and quality (Verzuh, 2005). Despite decades of individual and collective experience of managing projects, project results continue to disappoint stakeholders. Two dimensions as drawn by Cooke-Davies (2002) are that there is need to understand project management success and project success on one hand, and success criteria and success factors on the other. Success factors identified by Cooke-Davies largely reflect the PMBOK Guide knowledge areas and are summarized as:

- Adequacy of company-wide education on the concepts of risk management
- Maturity of an organization's processes for assigning ownership of risks
- Adequacy with which a visible risk register is maintained
- Keeping project duration as far below three years as possible
- Allowing changes to scope only through a mature scope change control process
- Maintaining the integrity of the performance measurement baseline
- Portfolio and programme management practices that allow the enterprise to resource fully a suite of projects that are thoughtfully and dynamically matched to the corporate strategy and business objectives
- A suite of project, programme and portfolio metrics that provides direct feedback on current project performance, and anticipated future success, so that project, portfolio and corporate decisions can be aligned
- An effective means of 'learning from experience'.

It is apparent that there are a multitude of divergent views presented in the literature on what constitutes a successful project. This is a reflection of the complex and different varied types of projects undertaken in changing or static environments. Diverse agreed upon or dictated success measures are under the watchful eyes of influential and non-influential stakeholders who have varied interests in the project and its outcome. This makes project success an area worthy of further investigation, with research aimed at identifying the key factors that influence successful outcomes of most projects most of the time. Frequently encountered and often confusing topics such as conditions for success, determinants for success, success criteria, success factors, failure factors, and critical success factors need to be worked into the

investigations. Studies are either too broad or too focused to be generalizable across most projects most of the time. Many of them provide an indistinguishable meaning of the different project success factors.

Pinto and Slevin (1987) identified and developed the 10-factor model which shows those factors critical to successful project implementation as project mission, top management support, project schedule/plan, client consultation, personnel recruitment, selection, training and related issues, adequate technological support for the project, client acceptance, monitoring and feedback, adequate channels of communication, and adequate trouble-shooting expertise. They extend this to the development of a behavioural diagnostic tool for assessing project status during implementation of projects.

Belassi and Tukel (1996) provide a useful framework for grouping the critical success factors that would aid in better evaluation of projects by grouping the factors into four broad categories. The first one is related to the project, the second one linked to the project manager and members of the project team, the third associated with the organization, and the fourth connected to the external environment. Despite this grouping, overlap of factors across groups is still inevitable due to the complex and practical rather than theoretical nature of projects. For instance, a communications skill is included as part of project team membership groups when in fact communications impact on and is impacted by the other groups in the framework.

In a survey of 70 professional engineers and 70 postulated reasons for project failure, Black (1996) gives a dozen distinct explanations for project failure. These are summarized in Appendix F. The top rated reason is that the project was probably not adequately defined in the earlier stages of the project. A lack of clearly defined project goals and objectives, all pointing to poor planning, change management, project manager incompetence, and poor scheduling are identified as among the key variables in project failure. A key recommendation proffered by Black is that all stakeholders be included in a thorough planning process.

OGC (1999) identify some common causes of project failure as

- lack of co-ordination of resources and activities



- lack of communication with interested parties, leading to products being delivered which are not what the Customer wanted
- poor estimation of duration and costs, leading to projects taking more time and costing more money than expected
- inadequate planning of resources, activities, and scheduling
- lack of control over progress so that projects do not reveal their exact status until too late
- lack of quality control, resulting in the delivery of products that are unacceptable or unusable.

It is clear, then, that multiple studies on success factors and success criteria have been carried out with numerous factors being considered. An analysis of those factors to identify which ones receive the highest number of mentions reveals planning, monitoring and controlling, and stakeholder management at the project integration level to be among the most referenced (Crawford. 2000). All are within the purview of project manager competence.

There is a paucity of referenced literature on project management competencies and success factors within the sub-Saharan context. Diallo and Thuillier (2005) echo this scarcity of literature in this subject and extend it to international development projects in the region. They empirically examine the relationship between the independent variables of trust and communication on project success and success criteria in the background of the numerous development projects and programmes undertaken in the region. Consequently, there is a growing need to identify those factors which are critical for improved project performance in the region. This study will seek to fill the void by investigating stakeholders' perception of project success.

## **2.7 Constituency Development Fund**

The fund was set up as an act of parliament and, subsequently, embedded in the constitution to stimulate development at the constituency level (CDF, 2003). Despite the political overtures that accompany this kind of endeavour, the fund has made substantive gains in terms of acceptance. It provides a view of the existing government structures at the implementation level. Hence, a window of opportunity is provided to evaluate the practicality of project management standards and competencies with a global significance while functioning at a national level.

Three percent of the national budget is allocated to CDF projects across 210 constituencies in the country (CDF, 2003). This study is focused on the constituencies in Nairobi. The rest of the constituencies will form part of future research.

Nairobi Province has eight constituencies namely: Dagoreti, Embakasi, Langata, Makadara, Starehe, Kamukunji, Westlands, and Kasarani. The CDF projects undertaken in the province are generally small scale. They include education projects such as school construction and rehabilitation; security lighting in slum areas; bridges; pit latrines and toilets construction; road graveling, murraming and culverting; construction of jua kali sheds; and health facilities (CDF, 2003).

A chart of CDF funds allocated for Nairobi constituencies is included on Appendix G. Most of the projects' initial cost estimates are below three million shillings. With the budget predetermined, the cost element of the triple constraints is relatively fixed. Hence, an examination of scope and time would aid in identifying those factors that are key to the successful implementation of these projects. No metrics exist, however, to empirically evaluate the success rates of the projects or to test the initial and consequential assumptions.

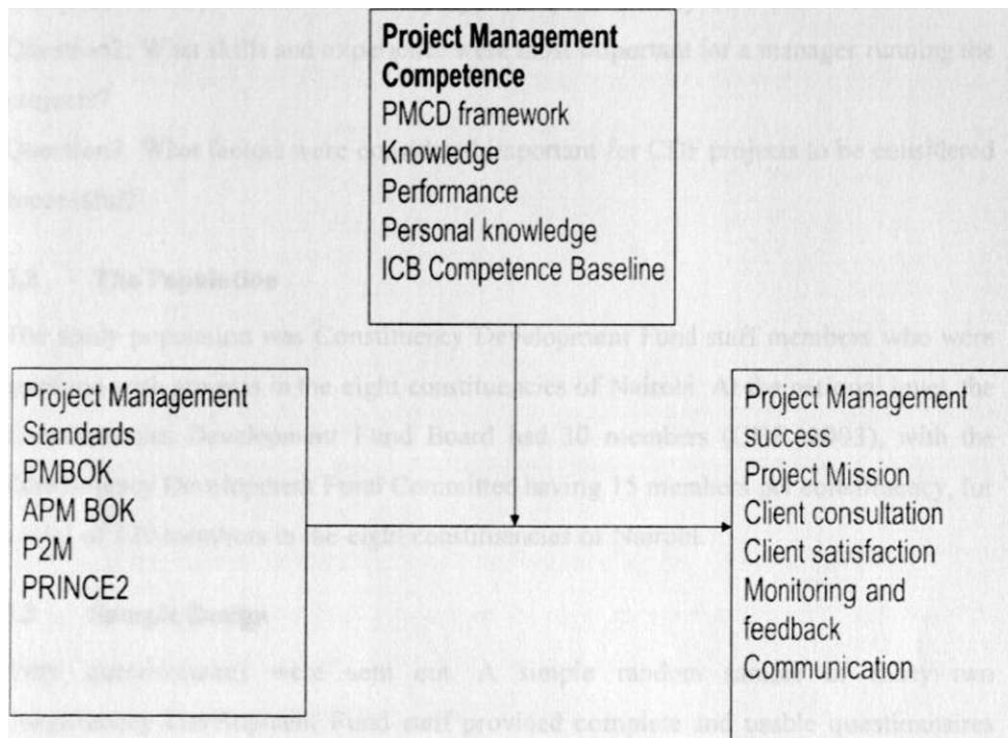
The CDF Act assigns the allocation of funds for various projects in each constituency to be the responsibility of the Constituency Development Fund Committee and further directs that all projects under the Act be community based development projects in order to ensure that the anticipated benefits are widespread in the cross-section of inhabitants of a given area (CDF, 2003). Further, it emphasizes that the funds under the Act should not be used for supporting any form of political or religious activities or bodies. The ACT also provides additional guidelines on the requisite scheduled implementation of the projects.

The District Projects Committee coordinates the implementation of projects financed through the Fund and acts as the 'manager' of projects. Assessment of project performance is based on the work of this committee.

## 2.8 Summary of Literature Review

The ensuing research is based on a summary of the literature thus presented. The review started by looking at the existing global standards on project management as fronted by PMI, APM, and P2M, and the consequent project manager competencies espoused by these organizations. It then presented divergent project management success factors and finally provided an overview of CDF projects. A summary of the review that depicts the conceptual model of the study is captured in Figure 2.1 below.

**Figure 2.1: Conceptual model for the proposed study**



Source: Odhiambo (2011), *The Influence of Project Management Standards and Competencies on Project Success* ' p 26.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Research Design**

This study was conducted to identify which Constituency Development Fund variables were significant to the performance of CDF projects as perceived by the staff members involved in the projects. This design was adopted since it was a comprehensive research strategy which enabled in depth investigation of phenomena and the generation of varied hypotheses (Jones & Lyons, n.d.; Karlsson. n.d.). The purpose of the research was to answer the following questions:

Question1: What were the main influences of project management guidelines and standards on the performance of the projects as perceived by CDF staff members?

Question2: What skills and experience were most important for a manager running the projects?

Question3: What factors were considered important for CDF projects to be considered successful?

### **3.2 The Population**

The study population was Constituency Development Fund staff members who were involved with projects in the eight constituencies of Nairobi. At the national level, the Constituencies Development Fund Board had 30 members (CDF. 2003), with the Constituency Development Fund Committee having 15 members per constituency, for a total of 120 members in the eight constituencies of Nairobi.

### **3.3 Sample Design**

Forty questionnaires were sent out. A simple random sample of thirty two Constituency Development Fund staff provided complete and usable questionnaires out of the targeted forty. In related studies, Yazici (2009) used a sample of 86, Black (1996) studied a sample of 70, Birkhead et al. (2000) analysed a sample of 127, Brill et al. (2006) studied a sample of 147, all with varied factors ranging from 10 to 30.

Large sample sizes had the propensity towards more precise estimates of the population and more stability, with recommendations of minimum size of 100 to 200 and de Winter et al. (2009) stated that 50 was probably the absolute minimum. Importantly, though, de Winter et al. found reliable results in behavioural research data with samples below 50, and MacCallum et al. (2001) determined that small sample size was adequate for factors that had high communalities. The general advice

was to obtain the maximum number of samples possible (Rummell, 1970). with universal guide being that "the more variables that are measured per factor and the greater the level of communality, the smaller the sample sizes need to be" (Mundfrom et al., 2005). Thus, a sample size of 32 provided a good estimation of the population.

### **3.4 Data Collection**

A questionnaire form was the primary data collection instrument used. Research assistants were utilized to collect data from within the population of interest using a semi-structured questionnaire. Likert scale was used in the questionnaire (1-strongly disagree, 5-strongly agree) for the closed ended questions to gather the views of the CDF staff regarding the guidelines and standards of project management, the competencies of the project team and leaders, and the factors considered important for successful projects in the constituencies. A questionnaire was identified as the most efficient instrument since the variables of interest had already been identified and would thus enable the collection of the required data.

### **3.5 Data Analysis**

Exploratory factor analysis was used to reduce the number of observed variables to the critical few that were important for the performance of the projects. As the number of dimensions was not predetermined, further analysis was done to identify variations in the observed variables of interest. In similar studies, Kim and Mueller (1978) identified the exploratory and confirmatory nature of factor analysis. They recognized both the exploratory nature of the analysis when the numbers of underlying dimensions of the study were not well defined and the hypothesis testing nature when specific hypotheses were proffered.

Multiple variables were identified in the investigation and the relationships among them evaluated. Analysis of these interdependencies using communalities and components matrices yielded a smaller number of component groupings which explained those that were important for the performance of CDF projects in Nairobi. Similar analyses were also carried out by Milosevic and Patanakul (2005). Muller et al. (2009), Pinto and Prescott (1987), and Zikmund (2003) to both identify critical success factors and to test the hypotheses.

## CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

### 4.1 Introduction

The data collected using the questionnaire (Appendix J) was analysed using appropriate statistical software. The demographic data was examined using descriptive statistics and summarized in various frequency tables. The factors were ranked in order of importance, the correlation between them yielded the key factors that loaded most on the components and therefore had the greatest impact on CDF projects. The analysis, findings, and discussion are presented below.

### 4.2 CDF Staff responses

Forty questionnaires were sent out. A total of 32 complete responses were received and used for subsequent analysis. This represented an 80% response rate, which was a firm foundation upon which the analysis was conducted.

The respondents were asked to indicate their age group. Over 80% of the respondents were aged over 30 years as summarized in Table 4.1 below, with sixty two percent being in the age range of 31 -45 and three percent being in the over 60 range.

**Table 4.1: Distribution of responses by age**

	Frequency	Percent	Valid Percent	Cumulative Percent
18-30	6	18.8	18.8	18.8
31 -45	20	62.5	62.5	81.3
46-60	5	15.6	15.6	96.9
Over 60	1	3.1	3.1	100.0
Total	32	100.0	100.0	

*Source: Research Data*

This was significant since age was an indicator of experience with projects. Biases would be minimized based on the age factor and knowledge of project guidelines and competencies.

Forty percent of the respondents had secondary school level of education. Fifty percent of the respondents had college level education and 9.4 percent had university level education as presented in Table 4.2 below.

**Table 4.2: Level of education**

	Frequency	Percent
College	16	50.0
Secondary	13	40.6
University	3	9.4
Total	32	100.0

*Source: Research Data*

As a consequence, about 60% of the respondents had college education or higher. This was relevant to the research since it was expected that the respondents had the knowledge and skills required to work on and lead various projects in the constituencies, and possessed demonstrable knowledge of the various aspects of project management standards, competencies and performance.

Fifteen point six percent (15.6%) of respondents had zero to one year experience with project teams. A similar percentage had one to three years' experience. Seventy percent (70%) had more than three years of experience with project team as summed up in Table 4.3 below. As a result, a majority of the respondents had a minimum of three years' experience with project work, and were therefore able to correctly complete the questionnaire based on their repertoire of prior project knowledge.

**Table 4.3: Years of experience with project teams**

	Frequency	Percent
0-1	5	15.6
1-3	5	15.6
4-5	8	25.0
5-10	11	34.4
10-20	2	6.3
More than 20	1	3.1
Total	32	100.0

*Source: Research Data*

### **4.3 Project management standards**

Using the Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's Test of sphericity significance on the data yielded 0.492 and 0.009 respectively, which validated factor analysis as a reliable methodology for identifying the factors (Reino & Vadi. 2010). The criterion to determine which factors to retain, using Kaiser's

criterion, were those factors that had eigenvalues greater than one in the study (Brvman. 1999).

In the initial step, a correlation matrix was generated to identify any significant relation between the items (Bryman, 1999). The number of factors corresponded to the number of respondents' responses to the questions 011 project management guidelines and standards. Before factor extraction, there were thirteen eigenvectors which corresponded to the number of factors. Six principal components were extracted for the project management standards. Observation indicated that the six decision factors accounted for 78.019% of the total thirteen factors as illustrated in table 4.4 below.

**Table 4.4: Project management standards variance**

Comp onent	Initial Eigenvalues			Extraction Sums of Squared Loadings		Rotation Sums of Squared Loadings		
	Total	%of Variance	Cumulative %	%of Variance	Cumulative %	Total	%of Variance	Cumulative %
1	2.852	21.938	21.938	21.938	21.938	2.652	20.404	20.404
2	1.873	14.406	36.344	14.406	36.344	1.676	12.892	33.296
3	1.635	12.573	48.917	12.573	48.917	1.623	12.487	45.783
4	1.484	11.417	60.334	11.417	60.334	1.546	11.889	57.672
5	1.287	9.902	70.236	9.902	70.236	1.394	10.725	68.397
6	1.012	7.783	78.019	7.783	78.019	1.251	9.622	78.019
7	.850	6.537	84.556					
8	.558	4.296	88.852					
9	.449	3.453	92.305					
10	.383	2.943	95.248					
11	.229	1.765	97.013					
12	.217	1.669	98.682					
13	.171	1.318	100.000					

*Source: Research Data*

Rotation optimized the factor structure and equalized the importance of the extracted factors (Field, 2005; O'Brien, 2007; Stellefson. 2009) by reducing the percentage variance for the first component from 21.938% to 20.404%, and by increasing the percentage variance of the sixth component from 7.783% to 9.622%.



**Table 4.5: Communalities for project management standards**

Variable	Initial	Extraction
Guidelines/standards for managing CDF projects	1.000	.888
Scope reach of project	1.000	.732
Ensure project is completed on time	1.000	.797
Ensuring the projects meet objectives (Quality Management)	1.000	.859
Managing employees (Human Resource Management)	1.000	.763
Manage how communication flows in the project	1.000	.625
Mitigate threats/risks that may occur on the project	1.000	.723
Control project costs and other expenses	1.000	.810
Supervise all purchases and procurement of goods and services	1.000	.817
Putting the project together /Integration Management	1.000	.820
The culture of the project environment	1.000	.774
Involving the surrounding community who will benefit or are affected by the project	1.000	.641
Good with project politics	1.000	.891

Source: *Research Data*

The communalities (Table 4.5) were greatest for the project politics, guidelines for managing CDF projects, and quality management, with communication management, community involvement, and project risk ranking lowest. The communalities after extraction for each factor were a reflection of the variance that the factor contributed to the component. The triple constraints loaded significantly on the first component and were identified as the key clustering within this component due to the high correlation among them. Items that did not load at least 0.40 on the components matrix (Appendix K) made little contribution to the discourse and were not included in the analysis, with at least three items loading on each of the retained components (O'Brien, 2007; Stellefson, 2009). Seminal studies by Zwikael (2009) asserted the importance of project management standards as espoused by the global project management organizations, and further recognized the central role that the triple constraints played in defining the standards, and was consequently consistent with the findings of this study. Similar trend was also noted in the findings of Odhiambo

(2010), who examined project performance at a Fortune 500 company and whose findings identified well defined project management methodologies and processes as being definitive of project success

#### 4.4 Competencies

**Table 4.6: Competencies variance**

Comp orient	Initial Eigenvalues			Extraction Sums of Squared Loadings		Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.140	31.395	31.395	31.395	31.395	2.398	23.984	23.984
2	1.837	18.366	49.761	18.366	49.761	2.150	21.500	45.484
3	1.592	15.925	65.686	15.925	65.686	1.679	16.794	62.278
4	1.043	10.427	76.113	10.427	76.113	1.383	13.835	76.113
5	.872	8.716	84.829					
6	.561	5.614	90.443					
7	.462	4.624	95.068					
8	.299	2.993	98.061					
9	.109	1.093	99.154					
10	.085	.846	100.000					

*Source Research Data*

Of the ten competencies factors, four components were extracted as shown in Table 4.6, with interpersonal skills, project management training and analytical skills loading the first component; expertise and fiscal skills loading on the second component; fiscal resources and leadership skills loading on the third component: and leadership as the main factor on the fourth component. Rotation reduced the influence of factor loading on the first component from a variance of 31.395% to 23.984%, but did not have a net effect on the number of extracted components. Thus, four decision factors accounted for the total ten factors with interpersonal interactions being significant in explaining the competencies of the project leaders as highlighted in the communalities Table 4.7 below. After extraction, all the communalities were greater than 0.5 (Field, 2005). This facilitated interpretation of components loadings.

The component matrix (Appendix L) confirmed the loading of interpersonal skills on the components and highlighted the importance that the respondents placed on soft skills of the project team leaders. This was similar to the findings of PMI (2007), which emphasized personal competency traits of communicating, leading, managing,

cognitive ability, effectiveness, and professionalism as key competency drivers due to the fact that project management was a people oriented profession. It further confirmed the findings by Birkhead et al. (2000) which established training needs as a principal determinant of successful competency development, and more importantly, that this competency was generic across different industries and environments similar to those that the CDF projects operated. Additionally, the conclusions were comparable to those of Odhiambo (2010) which confirmed soft skills such as interpersonal interactions as being definitive of the important tributes that project leaders should possess.

**Table 4.7: Competencies communalities**

Variable	Initial	Extraction
Capability to evaluate/analyze the project	1.000	.838
Relates well to other project members/People skills	1.000	.919
Being able to lead others	1.000	.774
Problem solving skills	1.000	.626
Financial management skills	1.000	.721
Have formal training on managing projects	1.000	.778
Have a certificate on project management	1.000	.683
Have expertise/experience on project work	1.000	.853
Leading others	1.000	.800
Capable office administrator	1.000	.620

*Source: Research Duia*

#### **4.5 Success factors**

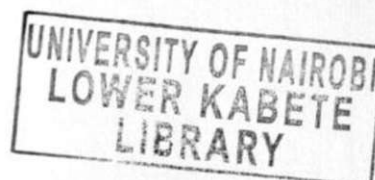
Starting with thirteen items, five principal components were extracted for the project management success as shown in Table 4.8. The five decision factors accounted for 73.204% of the total thirteen factors. Rotation did not significantly change the variance of the loadings, decreasing the variance of the first component from 22.727% to 19.095%, and increasing the variance of the last component from 8.885% to 9.677%. This was an indication of fair loading of the five components.

Extracted communalities (Table 4.9) showed 'If the funds allocated for it are not diverted elsewhere' having the greatest extraction of 0.924, with community participation having 0.841 extraction, and political interference having 0.827. Rotated component matrix (Appendix M) loaded at least three significant factors on the leading three components, highlighting the funds management, time management and stakeholder participation as the main drivers of the first component, and change management together with human resource management as key in the second component. This was consistent with findings of Schultz, Slevin, and Pinto (1987) who categorized the factors as strategic clusters and tactical clusters, with client consultation, client acceptance and communication being the principle factor drivers. Similar findings were noted by Muriithi and Crawford (2003) who concluded that in Africa, there was a particular need to cope with political and community demands on the project's resources.

**Table 4.8: Success factors variance**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	% of Variance	Cumulative %	Total	% of Variance	
							Cumulative %	Cumulative %
1	2.955	22.727	22.727	22.727	22.727	2.482		
2	2.236	17.202	39.929	17.202	39.929	2.473	19.026	38.122
3	1.830	14.078	54.008	14.078	54.008	1.833	14.099	52.221
4	1.340	10.312	64.319	10.312	64.319	1.470	11.307	63.528
5	1.155	8.885	73.204	8.885	73.204	1.258	9.677	73.204
6	.857	6.591	79.796					
7	.618	4.751	84.546					
8	.551	4.239	88.785					
9	.491	3.776	92.561					
10	.359	2.763	95.324					
11	.315	2.423	97.747					
12	.216	1.662	99.409					
13	.077	.591	100.000					

Source: Research Data



**Table 4.9: Success factors communalities**

Variable	Initial	Extraction
If a lot of people living in the area are involved in it	1.000	.841
Completed at the agreed time	1.000	.731
Completion within budget allocated for it	1.000	.738
change management	1.000	.657
If I am somehow involved	1.000	.770
If it is necessary	1.000	.777
If I think that qualified people are managing it	1.000	.621
right location	1.000	.516
If (here is little or no interference from politicians	1.000	.827
If the funds allocated for it are not diverted elsewhere	1.000	.924
If it has no ethical or environmental concerns	1.000	.716
If I was given a chance to participate in it	1.000	.745
If people working on it were hired publicly	1.000	.652

*Source: Research Data*

## **CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Introduction**

The data analysis, findings and discussions presented in the previous chapter were guided by the issues identified in the problem statement. A literature review identified the knowledge gap, the research design, and the subsequent analysis. A summary and concluding remark on the discourse, recommendations, limitations, and suggestions for further research was laid out in the synopsis below.

### **5.2 Summary**

The findings of the preceding analysis and discussion showed the factors that were important, as perceived by the respondents who worked on various Constituency Development Fund projects. Project politics, guidelines for managing CDF projects, and the triple constraints were ranked higher as key variables for project standards.

Project planning and integration emerged as the second broad categorization of factors that the respondents viewed as important. This corresponded with the enterprise environmental factors recognized in PMI (2008), with specific reference to organizational culture, structure, and processes: personnel administration: and the political climate. Interpersonal skills emerged as a significant competence requirement for project leaders.

Fiscal resource management, time management, and stakeholder participation were identified as the fundamental measures of project success. The respondents placed a strong emphasis on misappropriation as a key determinant of project failure. Fiscal resource training and management was thus a key component in this measure.

### **5.3 Conclusions**

The study sought to identify the standards, competencies and factors that were determinants for the success of CDF Projects. Triple constraints played a central role not only as performance standards, but also as yardsticks upon which the success of project outcomes was measured, and this was consistent with previous studies by Jha & Iyer (2007) and PMI (2008). Having standards were thus a fundamental component and significant indicator of the performance of CDF projects. A key objective of the

study was the identification of critical success factors and to this end, fiscal resource management, time management, and stakeholder participation were the fundamental measures of CDF project success. Soft skills were significant competence requirement for project leaders

The high communalities in all the factors highlighted the importance of all three broad areas under analysis. Effective integration and management of project management guidelines and standards: project team leader competencies; and the key success factors were the necessary environment for successful performance of the CDF projects.

#### **5.4 Recommendations**

Putting in place guidelines and standards are a useful way of setting up the background upon which project activities and consequential performance would be measured. Having standards that incorporate the triple constraints is of utmost importance.

When determining the project team leaders, emphasis should not be placed only on the technical skills of the potential leaders. There is a need to moderate technical skills with soft skills requirements as witnessed in mainstream management. Soft skills need to be incorporated into project management.

#### **5.5 Limitations of the study**

A major limitation of the study was the sample size. Whereas this study used a sample size of thirty-two, Yazici (2009) worked with a sample size of 86, and Brill et al. (2006) studied a sample size of 147. Therefore, a larger sample size may have resulted in different loadings of the components.

Another limitation was the interpretation of the loadings on the components that were extracted from the analysis. Exploratory factor analysis identified the broader grouping of the factors into different components in order to reduce the number of initial factors to a manageable few. The interpretation of the reduced factors was mainly qualitative and other researchers may have interpreted these differently.

## **5.6 Suggestions for further research**

This population is representative of urban constituencies and generalization could be made for all urban constituencies. The population excludes rural constituencies, which would form the basis of future studies. Further studies will need to be carried out to establish if the same factor groupings could be duplicated in all constituencies in Kenya.

Studies involving confirmatory factor analysis will need to be carried out to further test the model and to confirm the findings of the exploratory study. Further studies can be conducted to test and confirm the factor loadings in different specific sectors of CDF projects such as education, construction, health, and jua kali. Additionally, further research will establish the validity and strength of the model in industries outside the Constituency Development Fund projects and in both public and private enterprises.



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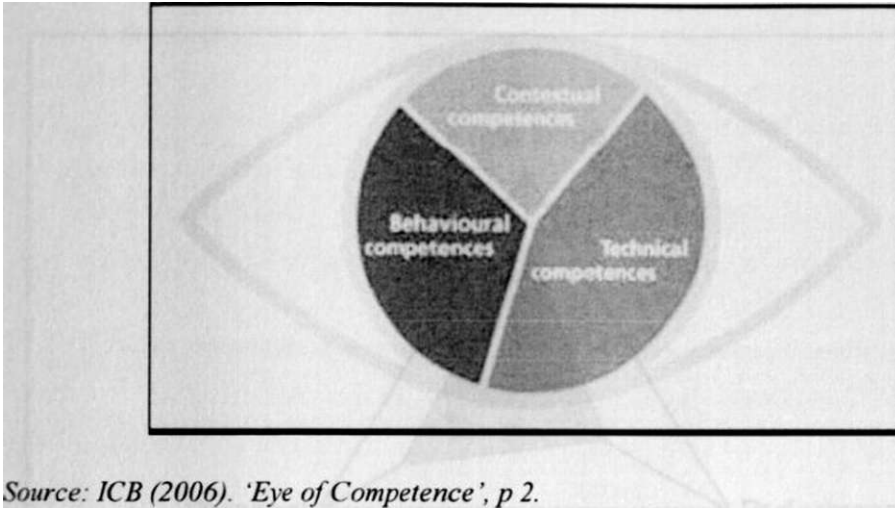
## APPENDIX A. The Discipline of Project Management.

<b>Universal Project Management Functions</b>	
<p><b>1.0 General</b></p> <ul style="list-style-type: none"> <li>1.1. Implementing Strategy through Programmes of Projects</li> <li>1.2. Managing Programmes</li> <li>1.3. Managing Projects</li> <li>1.4. Managing the Process - Integration</li> <li>1.5. Using Breakdown</li> <li>1.6. Using Procedures. Information Systems and the Project Office and Conducting Audits</li> </ul>	<p><b>2.0 External</b></p> <ul style="list-style-type: none"> <li>2.1. Managing Context - Political. Economic, Social and Technical</li> <li>2.2. Managing Context - Environmental</li> <li>2.3. Managing Value. Benefit and Finance</li> <li>2.4. Managing Success and Strategy</li> </ul>
<p><b>3.0 Internal</b></p> <ul style="list-style-type: none"> <li>3.1. Managing Scope - Functionality, Configuration and Value</li> <li>3.2. Managing Scope - Work</li> <li>3.3. Managing Organisation - Structure and Responsibility</li> <li>3.4. Managing Organisation - Commercial and Contractual</li> <li>3.5. Managing Quality</li> <li>3.6. Managing Cost</li> <li>3.7. Managing Time</li> <li>3.8. Managing Risk</li> </ul>	<p><b>4.0 Life-cycle</b></p> <ul style="list-style-type: none"> <li>4.1. Managing the Process - Life-cycle</li> <li>4.2. Project Start-up</li> <li>4.3. Managing Proposal, definition and Feasibility</li> <li>4.4. Managing Design. Planning and Appraisal</li> <li>4.5. Managing Implementation</li> <li>4.6. Controlling Implementation</li> <li>4.7. Managing Commissioning, Testing and Close-out</li> </ul>
<p><b>5.0 Commercial</b></p> <ul style="list-style-type: none"> <li>5.1. Managing Value and Benefit</li> <li>5.2. Managing Finance and Taxation</li> <li>5.3. Managing Partnerships and Alliances</li> <li>5.4. Defining Roles and Responsibilities</li> <li>5.5. Managing Procurement, Bidding and Tendering</li> <li>5.6. Managing Contracts</li> <li>5.7. Understanding Law</li> <li>5.8. Managing Claims</li> <li>5.9. Managing International Projects</li> <li>5.10. Insuring Projects and Contracts</li> </ul>	<p><b>6.0 People</b></p> <ul style="list-style-type: none"> <li>6.1. Organising Projects</li> <li>6.2. Managing Teams</li> <li>6.3. Managing Individuals- Development, Motivation and Reward</li> <li>6.4. Managing and Leading</li> <li>6.5. Managing Stakeholders</li> <li>6.6. Communicating to and Influencing the Organisation</li> <li>6.7. Managing Conflict and Negotiation</li> </ul>

	6 8 Managing Culture
<b>Specific Project Management Functions</b>	
<b>7.0 Industry and Sector Specific</b> 7.1. Engineering and Construction 7.2. Manufacturing and Process Industries 7.3. Information Technology, Computers and Electronics 7.4. Communications 7.5. Infrastructure: Energy, Transport. Utilities and Health 7.6. Defences, Services, Financial and Leisure 7.7. Government	<b>8.0 Country Specific</b> 8 1. Culture 8.2. Legal System 8.3. Developing Nations  <b>9.0 Case Records</b> 9.1. Case History 9.2. Case Studies 9.3. Anecdotal Record
<b>Relevant General Project Management Functions</b>	
<b>10.0 General Management</b> 10.1. Managing People 10.2. Managing Operations 10.3. Managing Financial Resources 10.4. Managing Markets 10.5. Managing Information Systems and Strategy	

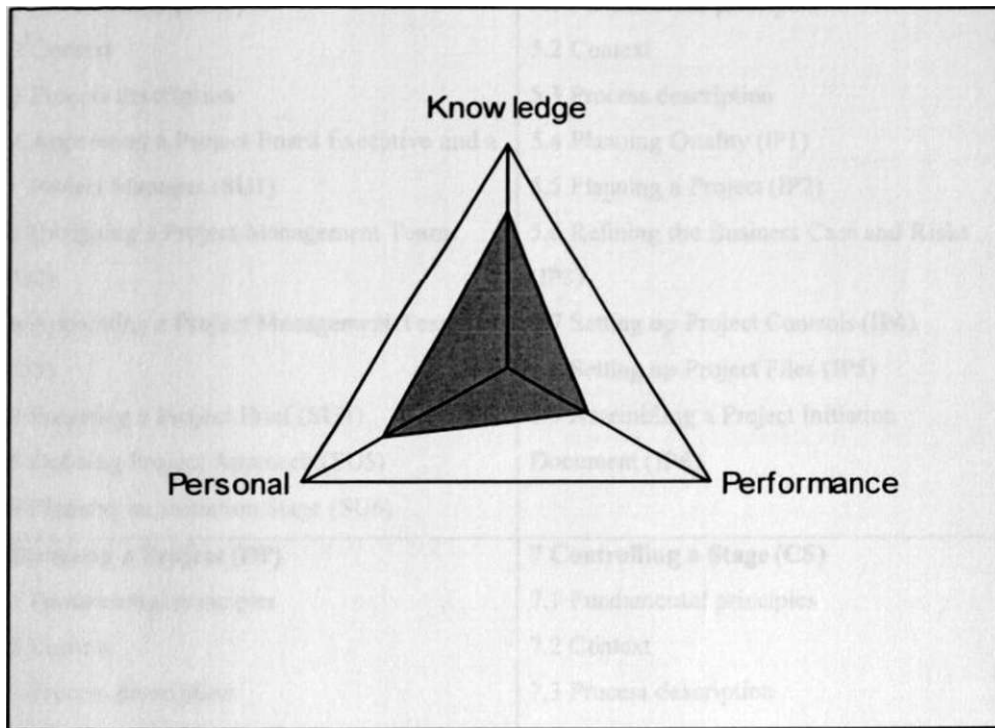
*Source: Turner (1996). International Project Management Association global qualification, certification and accreditation'. p 2-3.*

## APPENDIX B. ICB-IPMA Competency Framework



*Source: ICB (2006). 'Eye of Competence', p 2.*

APPENDIX C. PMCD (2007)



Source: PMCD (2007). 'PMCD Framework dimensions of competence', p 3.

## APPENDIX D. The PRINCE2 Process Model and contexts

<p><b>4 Starting Up a Project (SU)</b></p> <p>4.1 Fundamental principles</p> <p>4.2 Context</p> <p>4.3 Process description</p> <p>4.4 Appointing a Project Board Executive and a Project Manager (SU 1)</p> <p>4.5 Designing a Project Management Team (SU2)</p> <p>4.6 Appointing a Project Management Team (SU3)</p> <p>4.7 Preparing a Project Brief (SU4)</p> <p>4.8 Defining Project Approach (SU5)</p> <p>4.9 Planning an Initiation Stage (SU6)</p>	<p><b>5 Initiating a Project (IP)</b></p> <p>5.1 Fundamental principles</p> <p>5.2 Context</p> <p>5.3 Process description</p> <p>5.4 Planning Quality (IP1)</p> <p>5.5 Planning a Project (IP2)</p> <p>5.6 Refining the Business Case and Risks (IP3)</p> <p>5.7 Setting up Project Controls (IP4)</p> <p>5.8 Setting up Project Files (IP5)</p> <p>5.9 Assembling a Project Initiation Document (IP6)</p>
<p><b>6 Directing a Project (DP)</b></p> <p>6.1 Fundamental principles</p> <p>6.2 Context</p> <p>6.3 Process description</p> <p>6.4 Authorising Initiation (DP1)</p> <p>6.5 Authorising a Project (DP2)</p> <p>6.6 Authorising a Stage or Exception Plan (DP3)</p> <p>6.7 Giving Ad Hoc Direction (DP4)</p> <p>6.8 Confirming Project Closure (DP5)</p>	<p><b>7 Controlling a Stage (CS)</b></p> <p>7.1 Fundamental principles</p> <p>7.2 Context</p> <p>7.3 Process description</p> <p>7.4 Authorising Work Package (CS1)</p> <p>7.5 Assessing Progress (CS2)</p> <p>7.6 Capturing Project Issues (CS3)</p> <p>7.7 Examining Project Issues (CS4)</p> <p>7.8 Reviewing Stage Status (CS5)</p> <p>7.9 Reporting Highlights (CS6)</p> <p>7.10 Taking Corrective Action (CS7)</p> <p>7.11 Escalating Project Issues (CS8)</p> <p>7.12 Receiving Completed Work Package (CS9)</p>
<p><b>8 Managing Product Delivery (MP)</b></p> <p>8.1 Fundamental principles</p> <p>8.2 Context</p> <p>8.3 Process description</p> <p>8.4 Accepting a Work Package (MP1)</p> <p>8.5 Executing a Work Package (MP2)</p> <p>8.6 Delivering a Work Package (MP3)</p>	<p><b>9 Managing Stage Boundaries (SB)</b></p> <p>9.1 Fundamental principles</p> <p>9.2 Context</p> <p>9.3 Process description</p> <p>9.4 Planning a Stage (SB 1)</p> <p>9.5 Updating a Project Plan (SB2)</p> <p>9.6 Updating a Project Business Case (SB3)</p> <p>9.7 Updating the Risk Log (SB4)</p> <p>9.8 Reporting Stage End (SB5)</p>

	9.9 Producing an Exception Plan (SB6)
<b>10 Closing a Project (CP)</b> 10.1 Fundamental principles 10.2 Context 10.3 Process description 10.4 Decommissioning a Project (CP1) 10.5 Identifying Follow-on Actions (CP2) 10.6 Project Evaluation Review (CP3)	<b>11 Planning (PL)</b> 11.1 Fundamental principles 11.2 Context 11.3 Process description 11.4 Designing a Plan (PL1) 11.5 Defining and Analysing Products (PL2) 11.6 Identifying Activities and Dependencies (PL3) 11.7 Estimating (PL4) 11.8 Scheduling (PL5) 11.9 Analysing Risks (PL6) 11.10 Completing a Plan (PL7)

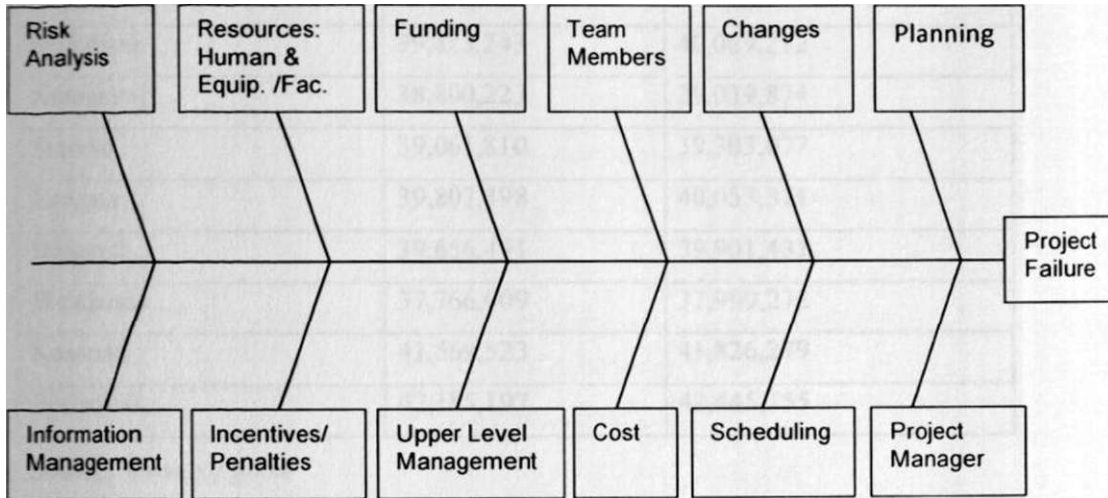
Source: OGC (2002), 'PRINCE2 Manual', p 12.

## APPENDIX E. National Competency Standards for PM (NCSPM)

Result	Code	Title
1	BSBPMG609A	Direct procurement and contracting for a project
2	BSBPMG608A	Direct risk management of a project program
3	BSBPMG607A	Direct communications management of a project
4	BSBPMG606A	Direct human resources management of a project
5	BSBPMG605A	Direct quality management of a project program
6	BSBPMG604A	Direct cost management of a project program
7	BSBPMG603A	Direct time management of a project program
8	BSBPMG602A	Direct the scope of a project program
9	BSBPMG601A	Direct the integration of projects
10	BSBPMG510A	Manage projects
11	BSBPMG509A	Manage project procurement
12	BSBPMG508A	Manage project risk
13	BSBPMG507A	Manage project communications
14	BSBPMG506A	Manage project human resources
15	BSBPMG505A	Manage project quality
16	BSBPMG504A	Manage project costs
17	BSBPMG503A	Manage project time
18	BSBPMG502A	Manage project scope
19	BSBPMG501A	Manage application of project integrative
20	BSBPMG408A	Apply contract and procurement procedures
21	BSBPMG407A	Apply risk management techniques
22	BSBPMG406A	Apply communications management techniques
23	BSBPMG405A	Apply human resources management approaches
24	BSBPMG404A	Apply quality management techniques
25	BSBPMG403A	Apply cost management techniques
26	BSBPMG402A	Apply time management techniques
27	BSBPMG401A	Apply project scope management techniques

*Source: NTIS (2008). BSB07 Business Services Training Package Units of Competency.*

**APPENDIX F. Ishikawa diagram: Reasons for Project Failure**



*Source Black (1996). 'Reasons for Project Failure'. p 22.*



**APPENDIX G. CDF Nairobi Province fund allocations 2006-2008.**

<b>Constituency</b>	<b>2006/2007 (Ksh)</b>	<b>2007/2008 (Ksh)</b>
Makadara	39,823,243	40,069,212
Kamukunji	38,800,223	39,039,874
Starehe	39,061,810	39,303,077
Langata	39,807,498	40,053,371
Dagoreti	39,656,491	39,901,431
West lands	37,766,009	37,999,272
Kasarani	41,569,523	41,826,279
Embakasi	42,185,197	42,445,755

Source: [www.cdf.go.ke](http://www.cdf.go.ke)

## APPENDIX H. Variables to be measured

Project management	Focus areas	Questions addressing the focus areas
Project management profession and standards	<ul style="list-style-type: none"> <li>• Institutions</li> <li>• Bodies of knowledge</li> <li>• Organization maturity</li> <li>• Training</li> </ul>	i, ii, iii, iv, v, vi, vii, viii, ix, x, xi, xii, xiii
Competencies	<ul style="list-style-type: none"> <li>• Integration Management</li> <li>• Scope Management</li> <li>• Time Management</li> <li>• Cost Management</li> <li>• Quality Management</li> <li>• Human Resource Management</li> <li>• Communications Management</li> <li>• Risk Management</li> </ul>	xiv, xv, xvi, xvii, xviii, xix, xx, xxi, xxii, xiii
Success factors	<ul style="list-style-type: none"> <li>• Project Mission</li> <li>• Top Management Support.</li> <li>• Project Schedule/Plans.</li> <li>• Client Consultation.</li> <li>• Personnel.</li> <li>• Technical Tasks.</li> <li>• Client Acceptance.</li> <li>• Monitoring and Feedback.</li> <li>• Communication.</li> <li>• Trouble-Shooting.</li> </ul>	xxiv, xxv, xxvi, xxvii, xxviii, xxix, xxx, xxxi, xxxii, xxxiii, xxxiv, xxxv, xxxvi

Source: *Research Questionnaire*

## APPENDIX I. Cover letter

Nicholas P. Odhiambo  
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School of Business  
Department of Management  
Science  
P. O. Box 30197  
NAIROBI-00100. G.P.O.  
odhiambopn@gmail.com

August. 2010

Dear Sir/Madam,

I am a postgraduate student at the University of Nairobi. School of Business. In partial fulfilment of the Masters of Business Administration degree, I have chosen a factor analysis study on Constituency Development Fund (CDF). By this letter you are invited to participate in this study that examines the Constituency Development Fund (CDF) projects. The objective of the study is to identify and determine the success and or failure of CDF projects and the consequences to the communities that are meant to benefit from them.

You are kindly requested to participate by completing the questionnaire accompanying this letter. The results of the study will be available electronically upon request.

Thank you in advance for taking time to participate in the study.

Sincerely,

Nicholas P. Odhiambo  
MBA Student

Onserio Nyamwange  
Supervisor and Lecturer

## APPENDIX J. The Questionnaire

### Part 1: Demographics

- |  |  |
|--|--|
| <p>1. Gender</p> <p style="margin-left: 40px;">Male           •</p> <p style="margin-left: 40px;">Female        Q</p>  | <p>5-10           •</p> <p>10-20         •</p> <p>More than 20 •</p>   |
| <p>2. Age</p> <p style="margin-left: 40px;">18-30         •</p> <p style="margin-left: 40px;">31-45         •</p> <p style="margin-left: 40px;">46-60         •</p> <p style="margin-left: 40px;">Over 60       •</p>                      | <p>5. Role in project work</p> <p style="margin-left: 40px;">Key stakeholder   O</p> <p style="margin-left: 40px;">End user           O</p> <p style="margin-left: 40px;">Project team member Q</p> <p style="margin-left: 40px;">Project coordinator O</p> <p style="margin-left: 40px;">Project Manager   O</p> <p style="margin-left: 40px;">Project Director   D</p> <p style="margin-left: 40px;">Other (Specify)</p> |
| <p>3. Education Level</p> <p style="margin-left: 40px;">Secondary    <u>I 1</u></p> <p style="margin-left: 40px;">College       O</p> <p style="margin-left: 40px;">University    I]</p> <p style="margin-left: 40px;">Other (Specify)</p> | <p>6. Number of staff supervised by you</p> <p style="margin-left: 40px;">0             •</p> <p style="margin-left: 40px;">1-3           •</p> <p style="margin-left: 40px;">4-5           •</p> <p style="margin-left: 40px;">5-10          •</p> <p style="margin-left: 40px;">10-20         •</p> <p style="margin-left: 40px;">More than 20 •</p>   |
| <p>4. Years of experience working on project teams</p> <p style="margin-left: 40px;">0-1           •</p> <p style="margin-left: 40px;">1-3           •</p> <p style="margin-left: 40px;">3-5           •</p>                               |  |

## Part 2: Research questions

Project management competency describes those skills that a manager of projects is expected to have in order to effectively and successfully manage the projects he/she is responsible for. This study seeks to identify the end-user perception of the current performance of the CDF projects in Nairobi.

1. How do you receive information about CDF projects? (Select those that you have had access to recently)

Radio	•
Television	J
Newspapers	•
Internet	•
Public rallies	•
Friends	CD
CDF Offices	•
Gov. Ministries	Q

Other (Specify)\_\_\_

2. How often do you hear about the projects

Frequently	O
Sometimes	O
Rarely	•

3. Which kinds of CDF projects are you familiar with? (Select all that apply)

Education related	Q
Construction related	Q
Health related	Q
Jua Kali related	Q

Other (Specify)\_

4. Rank the following, starting with 1 as the most important and 8 as the least important, qualities that the people managing the projects should have.

- Communication skills • Influential •
- Ability to solve Problems O Leadership skills O
- Easily accessible Q Popular leader
- Level of education O Experience G) with projects

**Based on importance of standards for managing projects, Indicate the extent to which you agree with the importance of following project management standards, on a scale of 1-5, regarding CDF projects that you are familiar with, where: (please tick where applicable)**

- 1 - Strongly disagree
- 2 - Disagree
- 3 - Neutral
- 4 - Agree
- 5 - Strongly agree

PM Standards	1	2	3	4	5
i. Standards for managing CDF projects	•	•	•	•	•
ii. Scope Management	U	•	•	•	•
iii. Time Management	U	•	•	U	•
iv. Quality Management	U	U	•	•	•
v. Human Resource Management	U	U	•	•	•
vi. Communications Management	U	•	•	•	•
vii. Risk Management	U	U	•	U	•
viii. Cost Management	U	•	•	•	•

ix.	Procurement Management	U	U	U	U	U
x.	Integration Management	U	U	U	U	U
xi.	The culture of the project environment	•	•	•	•	•
xii.	Social conditions	U	U	U	U	U
xiii.	Political conditions	U	U	U	U	U
Other standards (specify below)						
xiv.		U	•	U	•	U
xv.		U	•	U	•	U
xvi.		U	•	U	h	•
<p><b>Indicate the extent to which you agree with the competencies that CDF project managers possess , on a scale of 1-5, regarding CDF projects in Nairobi that you are familiar with,</b></p> <p><b>PM Competence</b></p>						
		I	2	3	4	5
xvii.	Analytical skills	U	•	•	•	•
xviii.	People skills	U	•	•	•	•
xix.	Leadership abilities	U		•	•	•
xx.	Ability to solve problems	U	•	•	•	•
xxi.	Ability to manage project finances	•	•	•	•	•
xxii.	Have formal training on project management	•	•	•	•	•
xxiii.	Have project management certificate	•	•	•	•	•
xxiv.	Technical skills	U	•	•	•	•
xxv.	Managerial skills	U	U	U	•	•
xxvi.	Administrative skills	U	•	•	•	•
Other competencies (specify below)						
xxvii.		U	•	•	U	•
xxviii.		U	•	•	•	•
xxix.		U	U	U	•	•

Using the scale of 1 being least important and 5 being most important, for the following, please think of which factors will make a CDF project in Nairobi to be considered successful

Critical success factors	1	2	3	4	5
xxx. If a lot of people living in the area are involved in it	●	●	●	●	●
xxxii. If it is completed at the agreed time.	●	●	●	●	●
xxxiii. If it is completed within budget allocated for it	●	●	●	●	●
xxxiv. If it is completed without many changes	●	●	●	●	●
xxxv. If I am somehow involved	U	●	●	●	●
xxxvi. If I believe that it is necessary	U	●	U	●	●
xxxvii. If I think that qualified people are managing it	●	●	●	●	●
xxxviii. If it is at the right location	U	●	●	U	●
xxxix. If there is little or no interference from politicians	●	●	●	●	●
xl. If the funds allocated for it are not diverted elsewhere	●	●	●	●	●
xli. If it has no ethical or environmental concerns	●	●	●	●	●
xlii. If I was given a chance to participate in it	●	●	●	●	●
xliii. If people working on it were hired publicly	●	●	●	●	●
Other success factors (specify below)					
xliiii.	U	●	●	●	●
xliiii.	U	●	●	●	●
xliiii.	U	U	●	U	●



**APPENDIX K. Components matrix - Standards**

Variable	Component					
	1	2	3	4	5	6
Supervise all purchases and procurement of goods and services	.806	-.339	.070	.006	-.102	-.194
Control project costs and other expenses	.761	.164	-.041	-.389	.224	.043
Managing employees (Human Resource Management)	.698	-.142	-.361	-.027	-.166	.314
Scope/reach of project	.671	.116	.277	-.013	-.436	-.034
Mitigate threats/risks that may occur on the project	.573	-.405	-.036	.094	.244	-.401
The culture of the project environment	.349	.744	-.143	-.174	.039	.216
Manage how communication flows in the project	-.115	-.554	.203	.152	-.272	.408
Ensuring the projects meet objectives (Quality Management)	.064	.354	-.717	.244	-.349	.184
Ensure project is completed on time	.336	.476	.552	.372	.042	-.116
Putting the project together /Integration Management	-.261	.283	.069	-.790	.036	-.202
Involving the surrounding community who will benefit or are affected by the project	-.060	.482	.367	.497	-.125	-.084
Guidelines/standards for managing CDF projects	.088	.075	-.448	.440	.690	-.067
Good with project politics	.166	-.046	.446	-.080	.507	.631

*Source: Research Data*

**APPENDIX L. Components matrix - Competencies**

Variable	Component			
	1	2	3	4
Relates well to other project members/People skills	.792	-.517	.132	-.085
Have a certificate on project management	.730	.265	-.284	-.011
Have formal training on managing projects	.667	.175	.126	-.536
Capability to evaluate/analyze the project	.637	-.484	.245	.371
Capable office administrator	.571	.165	-.508	-.098
Have expertise/experience on project work	.632	.644	.185	-.074
Being able to lead others	.306	-.530	.625	-.096
Financial management skills	-.140	.478	.617	.304
Problem solving skills	-.124	.398	.597	-.310
Leading others	.526	.353	.010	.631

*Source: Research Data*

**APPENDIX M.Components matrix - Success factors**

Variable	Component				
	1	2	3	4	5
If the funds allocated for it are not diverted elsewhere	.906	-.055	-.306	.028	.072
Completed at the agreed time.	.833	.104	.015	.109	-.118
If a lot of people living in the area are involved in it	.803	.113	.249	-.198	.286
Completion within budget allocated for it	-.143	.832	-.044	-.017	.154
change management	.162	.736	.146	.028	-.260
If people working on it were hired publicly	.311	.687	.268	.062	.084
right location	-.009	.639	-.303	.121	.034
If there is little or no interference from politicians	-.234	-.223	.825	-.203	.024
If I think that qualified people are managing it	-.201	-.292	-.684	-.154	.061
If I was given a chance to participate in it	.096	.135	-.187	.823	-.070
If it is necessary	-.135	-.068	.505	.704	.056
If it has no ethical or environmental concerns	.220	-.205	.123	-.271	.733
If am somehow involved	-.087	.365	-.190	.293	.712

*Source: Research Data*