PROJECT STAFF COMPETENCE A DETERMINER OF EFFECTIVE IMPLEMENTATION OF WATER SANITATION AND HYGIENE PROJECTS IN KENYA: ANALYSIS OF SELECTED PROJECTS IN KIBERA, NAIROBI COUNTY

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Abstract: Efficient project implementation is necessary for project success. The implementation of Water, Sanitation and Hygiene Projects is of much concern globally. However, In Kibera slums majority of water, sanitation and hygiene projects have not been implemented as required. Large number of Water, Sanitation and Hygiene are stalled or incomplete. This is a challenge in the realization of one of the pillar of the 2030 Sustainable Development Goals; that is access to clean water and sanitation. The purpose of the study was to explore the determinants of effective implementation of water, sanitation and hygiene projects in Kenya: the case of Kibera Slums. Though 2030 is not very far, these goals are not yet achieved to the satisfaction of the target beneficiaries. They are also not sustainable to guarantee survival after withdraw of the project teams. This paper examines how staff competence of project teams has impacted on the effective implementation of these projects to guarantee sustainability and beneficiary satisfaction. Findings were obtained from a population of 435, which were sampled using stratified random sampling technique to obtain a sample of 208 respondents. Findings showed that staff competence influenced positively the implementation of the projects. Therefore the paper concludes its important to recruit competent staff when implementing technical such as the WASH.

Keywords: Integrated Water sanitation and hygiene projects, staff competencies, effective implementation, projects, Kibera

1.0 Introduction and Background

Efficient project implementation is necessary for project success. According to the World Bank (2013), a project is defined as an undertaking that takes in inputs and gives out outputs that are desired by a group of people or and individual within a given period of time. As per the World Bank, projects have a clear life cycle that is just finished with when the project has accomplished the intended goals; signaling its end (WHO, 2016). A project is by and large thought to be effectively executed in the manner planned, properly budgeted for, and accomplishes fundamentally every one of the objectives initially set for it and is acknowledged and utilized by the users for whom it is expected (Mbaluku & Bwisa, 2013). The efficiency and effectiveness of projects is depended on proper implementation.

The implementation of Water, Sanitation and Hygiene (WASH) Projects is of much concern globally. The availability of safe water is critical not just for health reasons, but also for social and economic development (WHO & UNICEF, 2015). The International drinking Water supply and sanitation was declared in the 1980s with the aim of ensuring every person has access to safe water, of adequate quantity and basic sanitary facilities,

by 1990 (World Water Assessment Programme, 2013). In 2010 the United Nations General Assembly explicitly recognized water and sanitation as basic human rights (World Bank, 2015).

Despite the emphasis attached on the provision of clean and safe Water, Hygiene and sanitation, most of Water, Hygiene and sanitation projects fail during implementation stage. According to WHO (2016), 51% of WASH projects collapse because of poor implementation. A lot of funds are invested in safe Water, Hygiene and sanitation projects however, there no tangible outcomes from the same.

Across the globe, many of Water, Hygiene and sanitation projects have been started in the urban area especially the slums (World Bank, 2016). The huge rise in numbers of urban dwellers has contributed to the growth of slums; characterized by hyper-congested, substandard housing, lack of safe water and sanitation, low incomes, and physical and legal insecurity. Slums make up 30–70% of urban populations (WHO, 2015). Slum settlements are most common in Sub-Saharan Africa and South Asia.

1.1. The Kenyan perspective of WASH projects and the underlying need

The Kenya Environmental Sanitation and Hygiene Policy (KESHP) 2016-2030 provides broad guidelines to both state and non-state actors at all levels to work towards universal access to improved sanitation through expansion of sanitation projects. Primarily, the KESH policy aims to increase the proportion of the population with access to improved sanitation to 100 percent by 2030 and ensure a clean and healthy environment for all in Kenya (WSRB, 2014). The access of safe and clean water, adequate sanitation is also still a problem to most Kenyans especially urban centers. To mitigate these, the government and other non-governmental institutions have embarked on building water and sanitation projects across the county. This situation has also been

Despite the importance attached to water and sanitation, there are very few water and sanitation facilities in the Kenyan slum areas (WHO, 2016). The poor sanitation situations and lack of access to clean water in Kibera has forced the national government through the Ministry of Public health and Ministry of Water, the County Government, Non-governmental institutions and other organizations to launch several Water, Sanitation and Hygiene Projects in Kibera Slums among others. However, most of the Water, Sanitation and Hygiene Projects collapse and fail to achieve the intended purpose. The few water and sanitation projects started by the government and other organization are either stag or collapsed (UNEP, 2011).

Kibera Slum is the largest informal settlement in Kenya, and the second largest in Africa. Kibera covers an area of 256 ha and is home to approximately over 800 000 people, a quarter of Nairobi's population. Water and sanitation infrastructure is extremely poor, with open sewers and contaminated water pipes being the norm (UNEP, 2011). There is no formal system for waste management. There is barely any infrastructure in place for sewers, water connections and waste management. Clean water is not easily accessible or affordable to the residents of Kibera.

This situation prompted the national government, the county government and non-governmental organization to initiate several Water, Hygiene and sanitation projects in Kibera. Despite these efforts from the government and non-governmental bodies, most of Water, Hygiene and sanitation projects initiated have collapsed or stalled. This scenario has prompted the county government and NMS to move with speed to avert the crisis of water during the corona outbreak by sinking numerous boreholes in the slum areas.

1.2. Problem Focus and Key Research Question

Although many factors have contributed to the dismal performance in the implementation of projects, staff competence levels are likely to play a crucial role in this performance. Statistics from WHO (2016) showed

that of the 87 water, sanitation and hygiene projects in Kibera Slums, 41 water, sanitation and hygiene projects were successfully implemented. This represents 47% successful implementation of water, sanitation and hygiene projects which is far below the requirement of 100% successful implementation rate as required by the government and WASH project donors. Large number of Water, Sanitation and Hygiene are stalled or incomplete. This is a challenge in the realization of one of the pillar of the 2030 Sustainable Development Goals that is access to clean water and sanitation.

The poor sanitation situations and lack of access to clean water in Kibera has forced the national Government through the Ministry of Public health and Ministry of Water, the County Government, Non-governmental institutions and other organizations to launch Water, Sanitation and Hygiene Projects in Kibera Slums (World Health Organization, 2016).

However, majority of the WASH projects are not successfully completed on time (Lüthi, 2016). Further, some of the Water, Sanitation and Hygiene Projects do not meet the required standard of quality and technical specifications (WHO, 2016). These problems coupled with many others undermine the effective implementation of Water, Sanitation and Hygiene Projects in Kibera Slums (Schouten & Mathenge, 2010). Implementation is a critical phase in the project cycle and has been viewed by many managers all over the world as the critical point in determining success or failure. Of concern in this spectrum of challenges is how staff competence issue is addressed to ensure that every project is well staffed with not only competent staff but also training and staff welfare issues are at core of the implementation team leaders.

This paper zeros down on the issues of staff competence as a determinant of effective implementation of projects. This dimension is taken because it gives project managers evidence upon which to ground their staff policies for purposes of maintaining a staff base that can competently implement and manage project sustainability.

This paper sort to answer the following research question: To what extent does staff competence affect the effective implementation of water, sanitation and hygiene projects in Kibera Slums?

2.0 Literature Review and Theoretical Foundation

Literature abounds on how staff competence contributes to effective implementation of projects. This paper borrows on various scholars who have assessed how staff have been effectively utilized to give life to projects and contribute to their sustainability. The notion of staff competence can be viewed in terms of managerial skills, leadership competence and project designing or technical skills.

Staff competence may also involve leadership, organizational and management competence. Williams (2013) defines leadership as the use of influence to motivate people to achieve a firm's goals. Leading is creating a shared culture and values, communicating goals to human resources in the whole enterprises and infusing the said human resources with the desire to perform highly (Belassi & Tukel, 2011).

These competencies like leadership skills and behaviour contribute to enhancement of the likelihood of project success in an organization. Competency among staff is expected to induce high-performance project outcomes as well as with optimistic business results (Ahmed, 2017). Once the tasks and activities are outlined, jobs must be designed and assigned to employees within the organization or project setting.

The particular competencies include strong vision and imagination competencies, quality management skills, safety consciousness, risk and a conflict management abilities, supervisory skills, experience, coordination and

leadership, communication skills, organizational structures, control mechanisms of subcontractors' work, and the overall managerial actions in planning, organizing, leading and controlling (Ling & Ma, 2014).

Project managers possessing strong vision and imagination competencies have significant influence on preparing for the future to contribute in the project success (Takey & de Carvalho, 2015). Their level of staff competence has a significant impact on the project performance. As a result, determining the level competence of project managers is a prerequisite in promoting successful project implementation.

Research evidence alludes that staff competence is key to project success. For example, Mburu and Makori (2015) investigated the management challenges facing the implementation of youth development projects in Kenya the case study of youth enterprise funded projects in Nairobi County. Ninety-six (96) Youth Development Programs registered under the Ministry of Youth were taken as a sample. The study results revealed that training challenges, financial challenges, leadership challenges and internal control and policy challenges affect the implementation of youth projects in Nairobi County.

2.1. Theoretical Grounding

This paper expounds on the theoretical backing for staff competence as a determiner of project performance. Theories help uncover the underlying assumptions of a concept and show their explanation of the concept under review.

In this paper the theory of project competency is used to anchor the arguments pursued, that staff competence is key in ensuring projects are effectively implemented since staff make key day to day decisions as well as strategic decisions that steer the projects to their desired levels of performance.

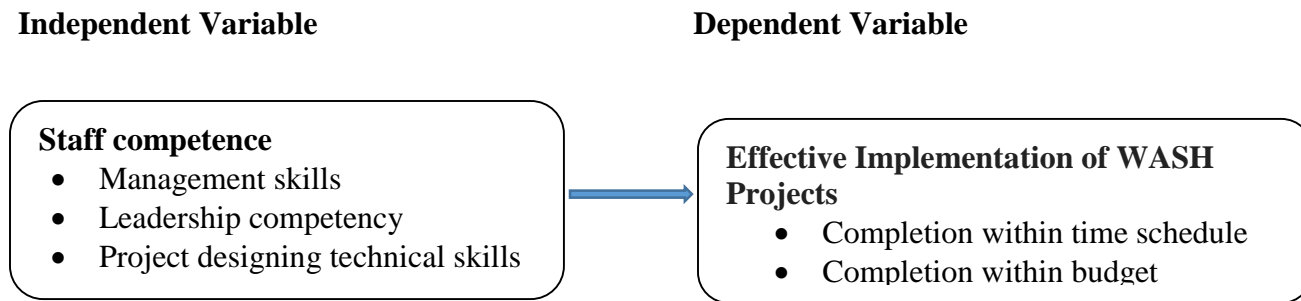### 2.1.1. Project Management Competency Theory

Project Management Competency Theory was postulated by McClelland and McBer (1980). According to Project Management Competency Theory, competency is the underlying characteristic of an individual that is causally related to criterion-referenced effective and superior performance of a task. Since then a number of competency frameworks have been developed by different project management institutes.

Crawford, (2010) argues that two of the most compelling project management standards, the PMBOK, address just the information part of skill while a third, Australia's National Competency Standards, draws from learning but concentrates just on self-evident execution. Crawford, (2010) discovered that task supervisors do not really have the required capability to perform the full activities required to promote and implement projects.

Previous management studies have investigated the impact of competency on performance. Dainty (2004) argued that for a competency based performance model in project management comprise nine project competencies and include team building, leadership, decision-making, mutuality and approachability, honesty and integrity, communication, learning, understanding and application, self-efficacy, and maintenance of external relations. In the context of construction project management; it is assumed that if the project manager and the project team have all the required competence for the task required, then the project implementation will be successful.

This theory helps us understand whether and to what extent staff competency as a factor underscores effective project implementation in a technical project such as WASH. The setting of the project may also contribute to the inability to access and retain highly competent staff. The paper therefore hopes to show how this factor behaves in this setting.

2.2. Conceptualization of the variable

Independent Variable   **Dependent Variable**

Staff competence
- Management skills
- Leadership competency
- Project designing technical skills

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Effective Implementation of WASH Projects
- Completion within time schedule
- Completion within budget

Project effective implementation is a function of many factors. Staff competence is often considered among these many factors and hence one fails to appreciate the critical role played by this variable in contributing to the success of project implementation process.

The underlying argument is that the staff are the ones charged with the actual decisions of assigning and designing tasks that capture the projects' activities. In essence, a competent staff team will utilize resources well and pull together to complete projects within time and budget plans. The skills underscored include; managerial, technical and leadership. Most of these skills are largely acquired from experience and training.

3. 0 Methods and Findings

This paper is based on findings drawn from a population of 435 from which a sample of 208 respondents was selected using the Yamane (1967) formula. It employed a descriptive design to plan and structure the investigations from which the findings recorded here were obtained.

The respondents were drawn from the project managers and community representatives who were used in the implementation of the projects. A stratified random sampling method was used to draw the sample proportionately from the groups. A total of 208 was drawn from the various categories of the population.

The findings were organized around key components of staff competency of leadership, managerial skills, and project designing and planning technical skills. Descriptive statistics were used to describe the outcome.

Table 1: The Role of Staff Competence in Effective implementation of WASH projects

Statement	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	SD
The managers have project management skills to enhance effective implementation of WASH projects	5.9%	4.3%	4.3%	38.0%	47.6%	3.9	1.0
The staff possess sufficient leadership skills to ensure effective implementation of WASH projects	5.3%	5.9%	3.2%	34.2%	51.3%	4.0	1.1
The staff possess project designing skills to ensure	3.7%	5.9%	3.7%	34.2%	52.4%	3.8	1.0

effective implementation of WASH projects						
Decision made concerning the project need to be effective	4.3%	4.3%	4.3%	36.9%	50.3%	3.7	1.0
The staff has sufficient management skills for implementation of water, sanitation and hygiene projects.	4.8%	7.0%	3.2%	32.6%	52.4%	4.0	1.1
The staff possesses technical skills for implementation of water, sanitation and hygiene projects.	3.2%	3.2%	5.3%	39.6%	48.7%	4.2	0.9
The management is good decision makers.	5.3%	4.3%	2.7%	33.2%	54.5%	4.0	1.0
There is frequent training that encompasses all aspects of project implementation process	4.8%	7.5%	2.7%	38.0%	47.1%	4.2	1.1
Average						3.98	1.0

Based on the findings, respondents agreed that decisions made concerning the project ought to be effective with mean score for place is 3.7 and standard deviation of 1.0. It was also established that majority of the respondents agreed that the staff had sufficient management skills, technical skills and that they possessed good managerial decision making skills for implementation of water, sanitation and hygiene projects. The average mean scores on these dimensions was 3.98 and a standard deviation mean of 1.1, implying consensus.

To put things into perspective in regard to actual number of projects considered to be effectively implemented as a result of staff competency was sought. The results of the study are presented in Figure 1 below.
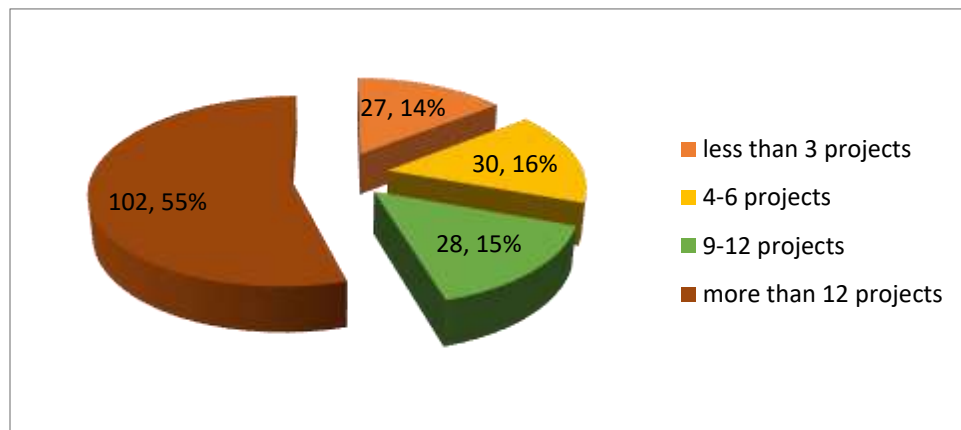
Figure 1: Number of WASH projects completed if staff are competent in key areas

Results indicate that the organizations implemented more than 12 projects after involving competent staff in the implementation of WASH projects implying that staff competence is significant in the effective implementation of water, sanitation and hygiene projects. The use of competent staff is important in ensuring the efficient and effective implementation of water and sanitation projects.

Staff competence underscored in the investigation involved; technical competence, leadership competence and professional competence. The results agree with Muhia (2015) who conducted a study to determine factors influencing sustainability of water sanitation and health projects and found that technical expertise largely influenced positively the implementation of water sanitation and health projects.

According to Nikkha and Redzuan (2010) high level of administrative competence in the project team leads to reduced time overruns, which in turn leads to improved project outcomes and satisfaction of beneficiaries.

4. 0. Discussion Conclusions and Recommendations

Effective implementation of projects relies heavily on the managerial abilities and competence of the project management staff. Competencies and skills are needed by project personnel to work together in projects. Knowledge, competencies, and skills developed by the project team members therefore need to be applied directly during the course of execution, thus facilitating effective implementation of projects.

Intellectual leadership competencies for instance contribute to project success in an organization. Development of intellectual competency based approach to deal with initiation and association can increase and help in building up recent era of project managers. The results agree with Belassi and Tukel (2011) who conducted a study on a new framework for determining critical success/failure factors in projects and found project manager's lack of competence on the job might lead to project failure. The results also agree with Ahmed (2017) that project manager's intellectual competencies influences project success.

Project teams also need to sharpen their skills through training and personal development in project implementation. Findings have shown that 85.1% of the respondents agreed that there was continuous training of project teams. This is critical for project success.

Correlation analysis showed there was a significant positive association between staff competence and effective implementation of water, sanitation and hygiene projects. Regression analysis indicated that staff competence and effective implementation of water, sanitation and hygiene projects in Kibera Slums have a positive and significant relationship.

Therefore staff competence is satisfactory in explaining effective implementation of water, sanitation and hygiene projects. It is hence concluded that staff competence strongly affects effective implementation of water, sanitation and hygiene projects. Competent staff is expected to induce high-performance and consequently lead to desirable project outcomes. Once the tasks and activities are outlined, jobs must be designed and assigned to employees within the organization. The reason for organizing the tasks and activities is to focus responsibility and for attainment of goals on individual or team level.

This paper argues that in any technical project, the staff competence should be at the top of the mind of project initiators since it is the people aspect of the project that ensures resources are well implemented and that time schedules are adhered to by reorganizing activities to fit the available talents.

Since results of the study revealed that staff competence affects effective implementation of water, sanitation and hygiene projects. The paper recommends therefore that:

1. It is vital to develop a project team that has the requisite competencies to perform their functions and also to understand the mission well.

2. There is need for periodic staff training to enhance competency required in the implementation of water, sanitation and hygiene projects.

3. Staff should also be trained on the use of various project tools.

4. Effective coaching must be carried out and the trainees given an opportunity to exercise the newly received abilities on completion of the training.

5. The focal point on capacity building of the project staff ensures a workforce with suitable skills to promote participatory and sustainable implementation of projects.

Future researchers can look at wide components of staff competence levels on a consortium of project scenarios to ensure that the most important competence levels are uncovered in diverse project types.

Other researches can also be carried out for non -technical projects that affect a wide population category to reveal the interplay of staff competencies and project effective implementation outcomes.

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