# INFLUENCE OF STAKEHOLDER MANAGEMENT PLAN ON PROJECT PERFORMANCE: A CASE OF OLKARIA GEOTHERMAL POWER PROJECT, NAKURU COUNTY

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## ABSTRACT

KenGen is the leading government parastatal with sole mandate of power generation through management and operation of power plants in the country. The organization has achieved much in ensuring that energy, an important ingredient and an enabler of national blue print dubbed Vision 2030 is achieved. However the organization has experienced challenges including major delays, project stoppages and even revision of project cost as well as design. The study sought to determine the influence of stakeholder management plan on project performance. The purpose of the study was to examine influence of stakeholder management plan on project performance at Olkaria Geothermal power project. The study was set to determine influence of stakeholder engagement, analysis and mapping on project performance. The study adopted descriptive research design. The target population was 1660 people and it included all stakeholders living in Kamere, RALP settlement, Lemayan, key employees and Kenya Wildlife personnel. The sample size was 322. Data was collected through administration of semi-structured questionnaire, collected data was then be arranged, organized and summarized. Categorization was done and finally patterns and themes were identified and linked by use of computer software. Factors influencing project performance were analyzed using regression methods. The study was used to provide information that will be useful in understanding the factors influencing stakeholder management plan in power generation project Performance with focus in Olkaria geothermal project. The study established that there was a weak positive relationship between stakeholders' interests and performance having a correlation coefficient of 0.374. It was also established that there was a weak positive relationship between stakeholders' engagement and performance having a correlation coefficient of 0.290. Furthermore, it was established that there was a weak positive relationship between stakeholder analysis and performance. It was also established that there was a weak positive relationship between stakeholder mapping and performance having a correlation coefficient of 0.463. The study therefore noted that stakeholder analysis and stakeholder mapping were highly correlated to performance while stakeholder engagement was the least correlated with performance. Stakeholders have significant influence not only on the success of projects but primarily on the performance of the projects. The study therefore recommended that proper assessment and analysis of the stakeholders both internal and external should be held as key factor by project managers. A good understanding of the stakeholders will go a long way in positively influencing the project performance. To ensure successful performance of a project, stakeholder needs and expectations must be placed into consideration before the inception of the project. This will go a long way in positively influencing the performance of the project. Stakeholder involvement in the decision making on matters relating to the project can be done by putting into place a well-structured

channel of communication that will ensure all the stakeholder are engaged in the activities of the project.

***Key Words:*** *stakeholder management plan, project performance, Olkaria geothermal power project, Nakuru County*

## INTRODUCTION

Energy is an essential pillar in social and economic development of any nation, since the beginning of industrial revolution; energy has been a crucial and critical ingredient of economic development. Energy pattern as well as supply and consumption affect the general economic factors such as interest rates and national productivity. It is a critical direct and indirect input in almost all productive processes such as mining, manufacturing and agricultural, it is also crucial in service industries such as transport and Information Technology (Bergasse, 2013). According to the power Africa, as of the year 2015, the Kenya's Energy Regulatory Commission (ERC) has estimated that the country's energy installed capacity is 2295 MW of power; some of this power consists of over 70% of renewable energy if fully exploited. In addition, according to the report from Ministry of energy and petroleum MoEP, Kenya's Rift valley geothermal basin has the capacity to produce over 10,000 megawatt of electricity.Other sources of power which can be harnessed and used in the country other than hydro and solar is wind energy. Wind energy is estimated to be as high as three thousand megawatt (UNEP, 2017).

Geothermal energy is the heat content that occurs naturally in Earth crust ,This resource are located at the boundaries of the lithosphere plate and estimated to be 327, 360 billion TOE which is approximately 400 times the world total fossils fuel reserves in the world. According to Bertani R. (2012), geothermal exploitation has been done for a century and therefore European Union maintains the leads in terms of exploitation of the resource. In Europe, geothermal energy is a key source of energy with the advantage of low carbon energy mix, this source of energy is not only renewable, but are abundantly present under the surface of the Earth. It is expected that by 2020 and beyond, geothermal energy will provide to a greater extend a share of electricity for heating as well as cooling, the resource does not dependent on climatic change. Geothermal energy has significant advantages ranging from reduction of use of fossil fuel, it also encourages local development as well as decarbonize electricity sector, the resource further stabilize electricity rising prices. In addition to being flexible and reliable, they are always available unlike other base-load power plant.

Geothermal power generation began way back in the early 20th century, the first installation was in Larderello, Italy in 1904. The global geothermal total installed capacity by 2015 was 12,635MWe, this is expected to rise and it is focused that by 2020, the installed capacity will be 21,443MWe (IRENA, 2017) (Bertani, 2012). In USA, the total installed capacity by 2015 was 5089 MWe, this was attributed to the fact that geothermal development was driven by the federal and state incentives available to the energy producers, manufacturers and utilities such as

renewable energy portfolio standard, tax exemptions, investments subsidies as well as access to the grid.

In Europe, the total installed capacity by 2015 was estimated to be 2133MWe while in Africa installed capacity was 601MWe (Bertani, 2012).Therefore globally the total installed capacity worldwide by end of 2015 was 12,635MWe. The cost of geothermal power plant largely depend upon the depth, chemistry of the resource and the temperature. In addition, exploration and field development as well as the flow rate play a key role in determining the cost of the plant. The plant are highly site sensitive and therefore the typical geothermal power plant ranges from USD 1870 to 5050 per Kilowatt. A number of market barriers has been identified globally. These includes among others lengthy licensing procedures, high risk in finding and identifying the resource, lack of regulations and funding.

In Kenya over 600MW of power is generated and transmitted to the national grid by Independent Power Producers (IPPs) across 15 plants, this amount to about 30%, whose generation modes include hydro, geothermal, wind and heavy fuel diesel plants across the republic of Kenya. The remaining 70% of market share is generated by Kenya Electricity Generating Company Limited (KenGen)(power Africa, 2016). Kenya through its vision 2030 development plan, aims at becoming a middle income economy, where its citizen will have attained high standard of living .This can only be possible if energy in the country is sufficient. Therefore to boost the demand for energy, plans have been made to expand the energy sector through clean renewable options such as geothermal energy and wind with the aim of meeting the current and future demand of energy in Kenya (Kenya, 2011).

Energy is therefore an essential requirement to power this Vision. According to Bergesse (2013), the degree of economic growth and development is determined by the country's level of energy intensity of use. This then becomes a key signs of an increased energy availability in quality and quantity in the country. In most developed societies energy consumption per unit is used more per economic output than under developed nations, specifically the agrarian societies who are still under pre-industrial state (Bergasse, 2013). Geothermal potential and prospects occurs mainly within the Rift Valley where wide spread volcanic activity and geothermal manifestations signify the existence of Geothermal resources, with an estimated potential of between 7000MW to 10,000MW (Mading, P. T. 2013).

KenGen plc is a Kenyan foremost parastatal power generator with government shareholding amounting to 70% , the organization produces an average of 75% of electricity to the country's national grid with an installed capacity of 1631MW. The company is public limited and was incorporated in 1954 under companies act of Kenya .The organization generates electricity using various generation modes/mix such as hydro-electric, geothermal, thermal and wind energy, currently hydro-electric is the leading source in KenGen, with 819.9MW installed capacity, which translate to about 50% of the energy generated by the company, geothermal being the second with 535.9MW, which is about 30% (Ministry of energy and petroleum, 2018). It is then followed by thermal which produces 253MW (15%) and lastly wind generation which produces

25.6MW, that is, 2% of the company's installed capacity. The organisation sells its power to the Kenya Power Company who are the power-off taker and a single buyer customer. The rest of the power come from independent power producers (IPP) such as Orpower4 Inc., Iberafrica, gulf energy, Thika power and so on.

## STATEMENT OF THE PROBLEM

KenGen is public limited company mandated by law to generate power, the organization separated from Kenya power following sectoral energy reform in 1996, the organization's sole mandate is to carry out electricity generation in the country. The company has embarked on its ambitious power generation development projects and focusing on sustainability in terms of value creation, a strategy that will see growth from one generation of Kenyans to the next, and this transformation strategy is meant to move the company from a just being a Good company to Great Company. Currently, KenGen energy installed capacity is 1631MW amounting to 75% of National installed capacity. The company intends to generate about 4100 Plus Megawatt (MW) by 2025.This ambitious projects, involve a massive geothermal drilling of wells, Steam-field development and management and construction of power plants at Olkaria fields. These projects are worth billions of Kenya shillings from the Government of Kenya and donors, the success of these projects depend upon how the company manages its project stakeholders. Stakeholder management is an important aspect in any project, a project has multiple stakeholders whom each have the potential to speed up, slow down or completely derail the progress of the project. Stakeholder management is a risk management tool that helps clear the path of a potential obstruction and support successful project delivery. Therefore to ensure project performance and project deliverables, KenGen is required to carry out stakeholder identification, analysis and mapping as well as understanding the expectation of the stakeholder in order to efficiently and effectively engage them. Stakeholders who are effectively managed can be the greatest asset to the organization for they will clear obstruction and support the project in times of need; they will also ensure that the project is completed on time and within scope and budget.

## PURPOSE OF THE STUDY

The purpose of the study was to examine influence of stakeholder management plan on project performance at Olkaria geothermal power project in Naivasha, Nakuru County

## RESEARCH OBJECTIVES

1. To establish the influence of stakeholder interest on project performance
2. To determine the influence of stakeholder engagement on project performance
3. To assess the influence of stakeholder analysis on project performance
4. To examine the influence of stakeholder mapping on project performance

## LITERATURE REVIEW

### Project Performance

Projects are initiated to accomplish certain objectives or outcomes; these objectives become the measure with which project completion is often assessed. It is of paramount importance therefore, to specify these objectives before project initiation. Literature on project performance indicates factors that determine the outcome of the project, these factor are also the critical main parameters that define a project, they include time, cost, quality and budget. Therefore project performance is defined based on time, scope and budget. (Alqahtani, Chinyio, Mushatat & OLoko, 2015).This argument was further advocated by (Atkinson, 1999) who further introduced the 'the iron Triangle' a framework within which project manager monitors, evaluates and balances the triple constraint to ensure success. According to (Khan, 2016) success criteria should measure what is important to your stakeholders or clients. Freeman and Beale (1992) highlighted that project management has seven methods of determining the success of projects, some of this factors are commonly used than others, these are; managerial and organizational implications (mainly customer satisfaction), technical performance, efficiency of execution, manufacturability and business performance and finally personal growth, (Alqahtani, Chinyio, Mushatat & OLoko, 2015) (Murphy, Baker & Fisher, 1988). According to (Stare,2011) as quoted by (Alqahtani, Chinyio, Mushatat & Oloko, 2015), several factors have been cited as the causes affecting the outcome of the project performance, these factors includes; an insufficient project schedule ,unclear characterization of the objectives, lack of proper communication , lack of top management support, many changes, insufficient control, an unclear role of the stakeholders. Several literatures have also indicated that these factors can be categorized into three main factors which include organizational culture, project management culture and the project manager (Stare, 2011). The leadership, interpersonal skills, competencies and motivation of a project manager play a great role in ensuring project performance, Organizational culture is also importance in enhancing project performance for this involves behavioral norms, belief and values that shows how an organization works, negative organizational culture will impact on the performance and outcome of the project. In addition, project management culture is significant for this emphasizes on the top management support, project review and leaning, stakeholder commitment, involvement and communication system (Murphy, Baker & Fisher, 1988).

### Stakeholder Interest and Project Performance

Project performance depends upon how stakeholder interests are taken into consideration. Project Manager should identify, assess and prioritized, the interest of stakeholders if he/she intends to deliver a project which are successful (St. Julians, 2008). Stakeholder interests are diverse from one group to another and they keep on changing as the project progresses. Therefore understanding the interest in all the phases of a project will ensure project performance, as delays occasioned by unsatisfied stakeholder will be dealt with beforehand (Chinyio, 2010). This

emphasis was also made by (Burke & Barron, 2007). It is important for a project team to get to know stakeholders in terms of their concerns, needs and expectations. This needs, concern and expectation if not met and prioritized will turn out against the project performance. It is a commonly known that when the project meets time, cost constraint as well as quality sometimes is not a guarantee that the stakeholders accept the project output or outcome. In many instances, stakeholders distanced themselves from project outputs or outcomes despite those activities being completed on time, within budget and with great quality because their expectations have not been met or satisfied (Sultan, 2004; Wanjiru, 2016).

The Influence and the impact of stakeholders can be plotted on the influence and impact graph.This will illustrate the influence and impact relative to other stakeholders. It is required that prior to using the grid, one is required to evaluate the influence and impact for each project stakeholder. Eden and Ackermann (1998) suggested that Power/Interest Grid can also be plotted and analyzed on a similar graph, where power is on the Y-axis and Interest on X-axis. The Power-interest grid requires that identification of stakeholders who are part of the project to be done. In addition, concerns of the stakeholders as well as how much power they have to change the course of the project should be registered (Eden and Ackermann, 1998).

According to the Eden and Ackermann (1998), power-interest grid can be analyzed and determined whether the power of stakeholder is increasing or decreasing, In addition interest as well can be determined as increasing or decreasing. This is important in forging a strategy that will take care of these issues. Consultation, collaboration as well as engagement should be ensured for those stakeholders with high power-interst, this will ensure that undesirable outcome are not encountered. It is therefore important that project team should be able to strategize on how to engage this group of stakeholder to win their support. The stakeholders with high power but less interest, an effort should be made to ensure that this category are kept satisfied but not to go into the details and on daily basis.Project Manager also should not only engage those stakeholder with higher power and interest, but he/she should ensure that even those with their interest and power lower in the grid are kept informed and monitored at all times. Influence is how a stakeholders are actively involved, it is also the extent to which stakeholders can persuade/force others in decision making. Impact is the ability of stakeholder to bring change or result on project activities. Power-Influence Grid - This is also a very important and useful grid in determining stakeholders involvement in a project and also indicate their power so that stakeholder management can be properly done. Importance – Influence Grid is the order in which the interest and needs of each stakeholder should be addressed.

## Stakeholder Engagement and Project Performance

Stakeholder interest's may be positively or negatively affected. Therefore care should be ensured in developing strategies that will mitigate on the negative effect and enhance positive effect. This will also ensure that stakeholder demands and perspectives can be placed in proper context (Sultan, 2004). Sultan (2004) further argued that once stakeholders are identified, Project

Manager can use them to mobilize a critical mass of support to achieve the desired goals or outcomes. It can be further used on the project to reduce political dynamics, generate critical information, shape culture, communicate status, gather reactions and input, dispel rumours, test various options, and mobilize action and support. It is a common phenomenon for stakeholders to change throughout the phases of the project, Sultan (2004) recommended that their identification and clarification of the roles they will play should be an ongoing task (Freeman, 1984; Wanjiru, 2016). Stakeholder engagement as the process of building a good relationship through communication, participation, involvement and collaborating with stakeholders to be able to meet their expectations/ needs, address their issues and reinforce appropriate stakeholder engagement in project activities throughout the project life cycle (PMBOK 5th edition). The guide has put more emphasis on the importance of this process as the best method in increasing support and minimizing resistance from stakeholders, thus increasing the chances of achieve project success in a significantly way (Wanjiru, 2016).

It is a way in which organization deals with matters to do with decision making that is integrated in the organizational programs (Wanjiru, 2016). The constitution of the republic of Kenya, in particular Chapter Five recognizes the fact that citizens have the rights to participate in how government is run and agreeing on a wide range of issues affecting them. Participation and involvement among Kenyans is integrated and enshrined in the national values and principles of governance, Article10 (2) (Costitution of the republic of Kenya, 2010). According to (UNDP, 2017) Stakeholder engagement especially in planning helps strengthens and establishes project ownership, it is also an essential tool that create and builds ownership and foundational relationships and strengthens project integrity and design, it further contribute to the techniques in which problems are solved even during difficult times or when situation is critical and challenging. In addition, mutual trust and good faith are fostered, thus increase project sustainability (International Finance Corporation, 2007; Scharioth, 2003; World Health Organisation, 2011).

Stakeholder engagement is a very important tool in addressing diverse challenges which includes opposition, risks and constrains and enhance potential interventions. It also establishes the degree of local support, some of the opportunities for relationship building and partnerships will be addressed and finally it will be able to curb discrimination and marginalizing of groups that are usually left out of planning processes (Walker & Bourne, 2008; Africa Development Bank, 2001). Stakeholders register should be created, they should from time to time updated , modified and verified based on the current circumstance and prevailing situation and emerging issues, Some of the key areas of information includes; NGO staff, donor representatives , government officials, issue/sectorial experts, community leaders, consultations/workshops with already identified stakeholders, and site visits. It is also important that stakeholder identification should be gender sensitive in order to establish how and when women and men stakeholders should be involved and to close potential existing gender gaps in participation and decision-making (UNDP, 2017).

According to (UNEP, 2005), there are five stages of stakeholder engagement; the first stage involve consideration of the organization's objective and how they relate to stakeholder issues. This will help in prioritization of stakeholder issues. Stage two deals with introduction of different engagement levels that guides in analyzing existing relationship, available resources and organization constraints. In addition, competencies as well as capacities which are both internal and external are dealt with in stage three, it ensures that all parties are joined together to ensure that they take part effectively. Stage five involves different techniques and approaches that suit specific situation and finally follow up on the output of engagement. Effective and strategic stakeholder engagement helps organizations have leadership in an increasingly volatile and complex business environment, it also helps in systematic sustainable development as well as better risk management.Addition, engagement enhance organization reputation, It also provides an opportunity for a corporations to learn from stakeholders, as a result, this will enable achievement of quality product as well as process (UNEP, 2005).

Stakeholder engagement is term used to give an extensive interaction and revolved around diverse activities over the project phase. These interaction can be divided into the following elements (International finance Corporation, 2007; UNDP, 2017): These are stakeholder planning and analysis, broadcasting of information, consultation and participation, dispute and grievance resolution, Involvement of stakeholders in monitoring and evaluation and reporting to affected communities and other stakeholders. Many authors have alluded to the fact that lack of effective engagement will lead to failure of an organization meeting its objective as in the case of Denver International Airport where key important stakeholders (airlines) were not involved, this scenario caused the airport a lot of delay leading to high cost.( Bal et al., 2013).

## Stakeholder Analysis and Project Performance

Stakeholder analysis involves assessment and identification of individual, persons, organization/institution that may have a bearing on the existence of a project. It is a an efficient way of gathering and examining of qualitative and quantitative information with the aim of establishing the interest of stakeholders throughout the project life cycle (PMBOK guide - 5th editions). The PMBOK guide further explained that it is that process of identification of needs and expectations of the stakeholders and connecting them to the overall objective of the project. It is a systematic examination of key people or stakeholders and establishing their stakes in the project. It is also trying to get to know them and their influence or interest on the project activities or outcome (UNDP, 2017). According to World Wide Fund, (2005) stakeholder analysis is any individual, or the people who have an interest in the project within the project environs and have the power to affect the course of the project activities. They are also affected by the project activities.

Stakeholder analysis is a key element of Stakeholder management plan that helps identify relationships between stakeholders who are living within project environs that can be used as an advantage to build an alliance and potential coalition to enhance the survival chance of project

activities. The process should be carried out during the early beginning of the project or at outset of a project; the list can be generated by including the name of stakeholders and their stakes on the project (World Health Organisation, 2011). The analysis is intended to answers to the following important and pertinent issues such as, who are the stakeholders who are key and what are their interests in the proposed project. It also seeks to know how the interest will be affected either positively or negatively, which stakeholder are most vulnerable and subject to adverse impacts. It also further seeks to know which stakeholders hold influential position that can affect project outcomes and finally whose capacity among the stakeholders need to be supported to enable them to participate.

The main three steps in analysis are ; Identifying stakeholders, influence assessment, impact level each stakeholder across different stakeholder groups, and identifying how best to engage stakeholders (Chinyio, 2010; Yang, Shen, & Bourne, 2011). Stakeholder analysis is done so that proper engagement mechanism are put in place , tailored and prioritized to ensure that project goal are met and that maximum benefits is obtained by minimizing harms and to ensuring that projects are carried out successfully (Knowledge, 2013; International finance Corporation, 2007). Identifying stakeholders-A project typically will involve a number of stakeholders, they will include among other; Intended beneficiaries, Adversely affected groups and individual, Project workers and their representatives, Government ministries, implementing agencies, regulators and consultants, Local authorities, Community and traditional leaders, Civil society groups (community based, local or international NGOs), Women's organizations, Organized interest groups (business associations, trade unions and others) Project-related private sector companies, Donors and financing institutions. At this point a lot of consideration must be made to ensure that the stakeholder identification exercise has taken care of special groups so that important and key stakeholders are not left out. According to (Walker & Bourne, 2008), understanding of the nature and types of investigations that will lead to getting to know the power and influence that may be exerted on, within and to project as well as PM teams. Stakeholder analysis can be carried out in various ways, they are the common approaches used, they includes workshops, focus groups and interviews (World Wide Fund, 2005).

## Stakeholder Mapping and Project Performance

Many projects objectives and activities fails because of inadequate or failure to carry out stakeholder mapping, according to (Continuing Proffessional Development, 2014) inadequate stakeholder mapping will lead to the following failures; under or over estimating the power of influence of stakeholders as well as failure to identify key and important stakeholders, as a result chances of excluding key stakeholders in consultation and the communication is high. In this regard, therefore it will emerge at a later stage of the project cycle, where this group of stakeholders will demonstrate their resentment and this could cause serious delays and escalate the project cost. Stakeholder mapping is key in relationship building, it also enhance awareness of stakeholder and help prioritize them as they keep changing during the phase of a project.

Stakeholder mapping is a research process which includes, deliberations from a broad perspectives stakeholders list across the entire spectrum of stakeholders (PMBOK fifth edition, 2013). It is also an involvement and getting to know more about the organisations and the people with a stake in a project with aim of identifying key players, potential saboteurs as well as avoiding time wasters (Fontaine, Haarman, & Schmid, 2006). According to (Centre for Creative Leadership, 2012) Stakeholder mapping is a way in which project team identify potential supporters and opponents early in the life of a project so that they can be able to build a strategy that takes advantage of supporters and addresses the concerns of those who are opposing the project. The project activities are to be delivered within time, budget and quality, therefore stakeholder mapping becomes a crucial and key element in achieving these deliverables.

Mapping consist of four different phases which includes; Identifying (Demitu, 2016). Stakeholders are divided into the following category; those who affect the project and those affected by the project activities. It important to identify stakeholder at the outset of the project for this will ensure that project activities are not delayed or derailed or stopped, some of these stakeholder to be identified includes; Project sponsor, Project manager and team, Customers who set requirements, Customers who pay, those who are affected by the project including bystanders, End users of the project output and Customers who receive project deliverables. It is also important to Analyzed stakeholders. This involves getting to know stakeholders' roles and their expectations, their interest and influence. This will enable project team to strategies on how to win their support. Prioritisation is also another key phase in mapping, it is that process of getting to know and prioritize their needs which then help in mapping them to appropriate levels of engagement. There are those stakeholder who need you to Manage closely, there are also those that need to be Satisfied and informed or simply Monitor them (Continuing Proffessional Development, 2014).The final phase is engagement where project execution team engages with important and key stakeholders with the sole aim of wielding their support and understanding. Different mapping tools are available to choose from by the project manager, the choice will help support the decision making processes, some of these tools include matrixes, grids and maps. The tools will help determine influence, attitude, power, interest, support and legitimacy of stakeholder community. The closer a stakeholder is to the policy at the top of the pyramid, the more influence they have over the policy.

## THEORETICAL FRAMEWORK

Stakeholder theory started way back in 1980s and it was published in 1984 by Richard E. Freeman. The theory involves two approaches with one approach emphasizing on stakeholders with a view to propose strategic management techniques , the second is stakeholder perspective on the organization and how organization are held accountable by stakeholders (Gomes, 2006). Stakeholder theory advocates ethical organization management in a turbulent business environment .The theory further emphasized on the efficient and effective management of the organization (Freeman, 1984; Harrison, Freeman, & Abren, 2015). According to Freeman (1984)

the stakeholders who have been managed, involved and be informed reciprocate back positively and begin to support the organization objective and goal such as sharing resources and valuable information. The theory is comprehensive and advocate for treating all stakeholders with fairness, honesty, and even with generosity (Harrison, Freeman, & Abren, 2015). In other words organizations have an obligation to pay attention to the relationship that must be fostered between the organization and its stakeholders.

The theory further argues that when an organization meets the needs of its stakeholders, then it creates value for itself. It is the management of the organization in a more effective, efficient, practical and ethical way in a challenging and volatile business environment (Harrison, Freeman, & Abren, 2015). (Harrison & Wicks, 2013) argues that stakeholder theory provides a way of bringing together ethics and strategy. In addition, firms that diligently seek to work for the interests of a wider scope of stakeholders will create more value over wide period of time.

Stakeholders who are treated well will reciprocate in a positive manner and that their behavior towards organization will change for better. In addition, stakeholder loyalty also will be enhanced (Harrison, Freeman, & Abren, 2015). Stakeholder theory is management theory that is not grounded on moral theory neither is it a corporate social responsibility theory, but rather it is a moral treatment of those affected by or affects project activities. Stakeholder theory has been applied in academics and various discipline (Freeman et al., 2010) as quoted by (Harrison & Wicks, 2013).

## RESEARCH METHODOLOGY

### Research Design

The study focused on the influence of stakeholder management on project performance. Descriptive research design was adopted as the best research design served to answer research questions and matched the requirements of the research problem as well as purpose of the study. In addition to being a blue print for the study, personal and social facts, beliefs and attitudes was obtained and analyzed using survey design. It is also a standardized and less susceptible to error, manageable medium that can measure attitudes. It is also easy to administer and can be tailored exactly to phenomena under the study (Sarah, 2007). The design opted included choosing of a research sample participant, application or distribution of questionnaires to gather information on variables of interest. According to (Glasow, 2005) survey answers questions that have been raised and solve problems that have been observed.It also assesses the needs and set goals as well as established whether specific objectives have been met or not. The research design was chosen based on its efficiency in collecting large amount of data and provide high reliability as well as a good framework for large sample which is in composition of groups.

## Target Population

Population refers to as a collection of all possible group or groups, objects, or measurements of interest (Mason, 2004). It refers to all the elements or group of things certain standard criterion that is specified for a research investigation (Alvi, 2016). It is the entire universe, group or groups that fits the researchers' selection criteria that will generate the result of the study that can be infered to the entire population (Wanjiru, 2016). It is also called the universe or all people or items that one wishes to understand (Rahi, 2017), a chosen group has ability to make an inference about a population. Specification of population is a requirement in the documentation of both quantitative and qualitative studies (Asiamah, 2017). He further urged that concepts of general, target and accessible population often apply to both quantitative and qualitative design; he stated that quantitative design differs from qualitative in terms of the population sample size required. The study was conducted in Olkaria Geothermal power project and its environs. The population involved all members of RALP settlement scheme, Lemayan, Kamere and project team members and the communities neighboring Olkaria. The study used simple random sampling procedures in order to obtain the respondents from the population. The sample frame included individuals living in Lemayan, Kamere and Ralp settlement scheme, at least 30% of this total population will be representative (Mugenda & Mugenda, 2003). The total population of the key stakeholders was 1660.

## Sample size and sampling procedure

The study adopted stratified random sampling technique in choosing research participants. Stratified sampling method technique was preferred because it involves dividing the target population into various elements based on any unifying characteristics as age, gender or religion (Wanjiru, 2013). This method was preferred because it represented the entire population and eliminated chances of biasness. According to (Mugenda & Mugenda, 2003) this method is used when the population under investigation is not homogeneous and hence requires comparisons between various sub-groups. The study assumed 95% confidence level and error of 5%. Sample size was calculated using simplified formula of proportion by Yamane (1967) where, n can be obtained using the below formula;

$$n = N/ (1+Ne^2),$$

Where: N is the total population; e is the level of precision (Yamane, 1967); n is the sample size

The sample size n will be:

$$1660/ (1+ (1660*0.05^2)) = 322$$

## Sampling Procedure

The method in which we use to select individual to form research participant is critical, a good sample size should be sufficient and reflective of the population under study. The method used for assigning research respondents to different treatment conditions should ensure that there is no biasness. Data obtained from a sample are analyzed statistically for instance, using sample data, we can calculate various statistics which includes; mean and standard deviation. According to Mugenda & Mugenda (2003) census population is used if the population in which sample are drawn is not uniform. This will ensure unbiased representation of participant. Therefore, the study took all the 322 internal and external stakeholders. Therefore, this study adopted stratified sampling design to sample all the stakeholders.

## Data Collection Instruments

The data collected were both qualitative and quantitative, both questionnaire and interview was employed as the best suited for the research study. Questionnaires was used because of it's effectiveness in producing the required response. The researcher provided the participant with questions and option of answers from which to choose from. According to Mugenda and Mugenda (2003), this method is easy and fast because the research participant does not take too much time thinking, it's also economical in terms of money. However, open ended questions was also used to allow for comprehensive answers particularly where the respondents are required give response that are of the attitude in nature such as interests, background, in-depth motivation, emotions and decisions (Mugenda & Mugenda, 2003). Administration of questionnaire was done to the local community in RALP, Lemayan, Kamere and key employees. Questionnaires was used in collecting data and consisted of a mixture of open ended and close ended question. This questionnaire expected to elicit information on the influence of effective stakeholder management plan on project success at the Olkaria Geothermal power project. In addition, face to face interview was also conducted to collect in depth information on departmental heads, this enabled researcher to obtain a background, feeling and hidden motivation.

## Methods of Data Analysis

This is a process a researcher uses to translate data to a narrative, it is where large amount of collected data is reduced to make a sense of them (Kawulich, 2004). She further urged that data collected are first organized, then summarized before it is categorized and finally patterns and themes in the data are then identified and linked. The data collected is then analyzed using both qualitative and quantitative methods of analysis. Questionnaires from respondent was checked for consistency, organized and coded; Statistical Package for Social Sciences (SPSS) was used for data analysis (Samuel, 2013). In addition, data analyzed was presented in terms of percentage, median, mean, frequency as well as standard deviation. The use of semi structured

questionnaire and key informant interview enabled researcher to carry out both qualitative and quantitative analysis. Content analysis was used in the case of qualitative data where classification, summarization and tabulation of the data was done.

## RESEARCH RESULTS

The purpose of this study was to examine influence of stakeholder management plan on project performance at Olkaria Geothermal power project. The study focused particularly on critical key areas which were stakeholder engagement, stakeholder analysis and stakeholder mapping. The study adopted a descriptive research design. The target population was 1660 and included all stakeholders living in Kamere, RALP settlement, Lemayan, key employees of Olkaria Geothermal power project and Kenya Wildlife personnel. The sample size was 322. Data was collected through administration of semi-structured questionnaire to the external stakeholders (residents) and an interview guide was used to collect data from internal stakeholders (senior employees of Olkaria Geothermal power project) and the Kenya Wildlife personnel.

### Stakeholder Interest

The study examined stakeholders' interest with regard to the needs and expectations of stakeholders affecting the success of the project. As noted by most of the respondents (90%), the needs and expectations of stakeholders affected project performance (Figure 4.2). It was noted that the areas of interest of stakeholders were identified. Furthermore, as reported by 55.7% of the respondents, stakeholders' needs, expectations and concerns were met. However, a point of concern was that stakeholders' expectations were not timely met as recorded by 50.2% of the respondents (Table 4.3). This scenario could be related to the fact that some of the projects took long to mature and be realized and hence, delays in meeting the needs and expectations of the external stakeholders. Key informants interviewed in the study noted that delay in meeting the needs and expectations was attributed to the nature of some of the needs, some which necessitated wider and longer consultations to deliver. Some of the projects implemented under the Okalaria Geothermal power project were fronted by the national government and other funding agencies and as such, require high level, well calculated consultations. Such consultations are bound to take long and hence, somewhat delaying the process of meeting the needs and expectations of the stakeholders.

### Stakeholder Engagement

A second point of interest was analysis of stakeholder engagement and its influence on project performance. It was established that stakeholders were not adequately involved in decision making as pointed out by 54% of the external stakeholders. This is despite key informants insisting that decision making was made with the participation of all stakeholders. Decision making in project management is highly dependent on the involvement of all stakeholders

through various modes of participation. This gives the process of decision making key ingredients such as accountability, diverse inputs and insights as well as orienting the decisions to achievable results. It was further noted that most of the stakeholders were informed of project changes as put across by 53.9% of the respondents. This confirmed the emphasis of one of the key informants who noted that communicating project changes to the stakeholders was a key ingredient to project success. Any notable changes in a project need to be communicated to all stakeholders so that they are kept abreast with the changes. This is in relation to the fact that those changes might have an impact (positive or negative) to the project itself or to the stakeholders either directly or indirectly. This therefore necessitates the need to keep communication active and real-time. It was thus noted that active participation of stakeholders ensured project success.

## Stakeholder Analysis

The study further sought to establish the influence of stakeholder analysis on project success. It was established that stakeholder identification was not done during project initiation as pointed out by majority of the respondents (54.3%). This is despite stakeholder classification and analysis being done. It was further noted that the needs and expectations of stakeholders were not well assessed and explored as pointed out by 43.6% of the participants. However, a register was developed to the knowledge of 44.7% of the participants. These findings denote that there were many loose ends in terms of adherence to the requirements of stakeholder analysis in project management. In as much as a register was available, identification of specific stakeholders was missing and thus stakeholder analysis could not be adequately completed. It can thus be noted that stakeholder analysis, despite being a very crucial ingredient in project planning and management, was overlooked and not factored in adequately in the project reviewed.

## Stakeholder Mapping

The study further established that stakeholders' contribution is important to the performance of a project (54.9%). This could be attributed to the fact that the role of stakeholders was well defined as pointed out by 42.6% of the respondents. However, it was noted that there was less prioritization of needs and expectations as well as inadequate stakeholder meetings being held. This limited the process of stakeholder mapping and could also be a factor that limited the scope of stakeholder engagement and stakeholder analysis. The correlation analysis revealed that there was a weak positive relationship between stakeholders' interests and performance having a correlation coefficient of 0.374. This relationship is also significant at 95% confidence level ($p=0.035$). It was also established that there was a weak positive relationship between stakeholders' engagement and performance having a correlation coefficient of 0.290. This relationship was significant at 95% confidence level ($p=0.042$).

Furthermore, it was established that there was a weak positive relationship between stakeholder analysis and performance. This relationship was significant at 95% confidence level (p=0.007). It was also established that there was a weak positive relationship between stakeholder mapping and performance having a correlation coefficient of 0.463. This relationship was significant at 95% confidence level (p=0.000). The study noted that stakeholder analysis and stakeholder mapping were highly correlated to performance while stakeholder engagement was the least correlated with performance. The study therefore established that stakeholders have significant influence not only on the success of projects but primarily on the performance of the projects.

## CONCLUSION

The needs and expectations of stakeholders affected project performance and in particular to the Olkaria Geothermal project, the needs and expectations of the stakeholders were adequately met. Stakeholder engagement was found to be an important influencer of project performance. This was realized through among others, communicating project changes to the stakeholders adequately and in time. However, it was noted that stakeholders were not adequately involved in decision making. Stakeholder analysis, being a very key component of projects, was not adequately utilized and integrated in this project. This was noted in cases where stakeholder identification was not adequately done. Stakeholders' contribution is important to the success of a project. This is only viable where the role of stakeholders is well defined and there is prioritization of needs and expectations as well as adequate stakeholder meetings being held for purposes of engagement.

## RECOMMENDATIONS

1. To ensure that successful performance of a project stakeholder needs and expectations must be placed into consideration before the inception of the project. This will go a long way in positively influencing the performance of the project.
2. Stakeholder involvement in the decision making on matters relating to the project can be done by putting into place a well-structured channel of communication that will ensure all the stakeholder are engaged in the activities of the project.
3. Proper assessment and analysis of the stakeholders both internal and external should be held as a key component and a determinant of the project performance since good understanding of the stakeholders will go a long way in positively influencing the project performance.
4. Stakeholder management tool such as stakeholder mapping should be incorporated in power project this will ensure identification and further analysis of stakeholders. This will enhance building of a strategy that takes advantage of supporters of the project and address concerns of those who are opposing the project. This will reduce resistance and increase project performance.

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