

**INFLUENCE OF MULTINATIONAL PROJECTS ON THE WELFARE OF  
COMMUNITIES: THE CASE OF BASE TITANIUM PROJECT IN  
KWALE COUNTY, KENYA**

**BY**

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## DECLARATION

This research project report is my original work and has not been presented for a degree or any award in any other university.

**Signature**..... **Date** .....

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### Declaration by Supervisor

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

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## **DEDICATION**

I dedicate this research to my family. A special appreciation to my loving parents, Mr and Mrs. Lamai, for their support and encouragement throughout my studies at the University. My sisters Hilda, Sandra and brother Kevin who have been with me all through my life and are very special. I hope this will inspire them to pursue their education and lead successful lives.

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## **ABBREVIATIONS AND ACRONYMS**

<b>ABS</b>	: Access to Benefit Sharing
<b>AMV</b>	: Africa Mining Vision
<b>ASALs</b>	: Arid and Semi-Arid Lands
<b>BS</b>	: Benefit Sharing
<b>BTC</b>	: Base Titanium Company
<b>CSR</b>	: Corporate Social Responsibility
<b>EIA</b>	: Environment Influence Assessment
<b>EMCA</b>	: Environment Management Co-Ordination Act
<b>FPIC</b>	: Free, Prior and Informed Consent
<b>GoK</b>	: Government of Kenya
<b>HDP</b>	: Historically Disadvantaged Persons
<b>KCM</b>	: Kenya Chamber of Mines
<b>KISCOL</b>	: Kwale International Sugar Company Ltd
<b>MPRD</b>	: Mineral and Petroleum Resources Development Act
<b>NLP</b>	: National Land Policy
<b>IMF</b>	: International Monetary Fund
<b>Kshs</b>	: Kenya shillings
<b>MOE&amp;HRD</b>	: Ministry of Education and Human Resources Development
<b>MoEST</b>	: Ministry of Education, Science and Technology
<b>NGOs</b>	: Non-Governmental Organisations
<b>TMP</b>	: Titanium Mining Project
<b>TNC</b>	: Tiomin Resources Inc. of Toronto Canada is a transnational Corporation
<b>UN</b>	: United Nations
<b>WB</b>	: World Bank

## ABSTRACT

The case of Base Titanium and its effects on the society have been felt in the whole world, Africa and by narrower extent in Kenya especially in the Kwale County where its plant is situated at Maumba. Based on the titanium mining project in Kwale County, communities living in Nguluku were the first hand people who received the company's effects as early as it started its operation (Republic of Kenya, 2013). Starting with the negative influence to this community for example, the Nguluku people were first relocated to Bwiti without being involved in the process. In this regard, the study found the grounds to investigate the influence of multinational projects on the welfare of the people while focusing on Base Titanium operating in Kwale County. Among the felt influences were looked at from the objectives, focusing on labour and employment, education, pollution and displacement coupled with resettlement. Comprehensive literature review has been done to gather information on the influence of multinational extractive companies to the welfare of the communities from the previous researchers, followed with structured questionnaire distribution as a tool to collect data. Stratified Random sampling technique was selected as the appropriate sampling method giving equal chances to the population. This randomly sampled respondents from various NGOs like NEMA, the company employees and the local adults. The data obtained through the questionnaires that were distributed by the researcher and some enumerators to some 130 respondents achieved 110 return rates and the data was coded and analyzed using the SPSS 20.0. Hypothesis testing was done using Chi-Square and in all the cases, alternative hypothesis was favored. The research found out that there has been a significant influence by the project in Kwale County on creation of labour and employment, on the levels of education in the County, on pollution level and also on the levels of displacement and compensation in the County. The study recommends that the multinational corporations should be strengthened in the country and the jobs they create should be equally shared among the citizens. Both the county government and the national government should come up with strategies that involve various activities that should attract more stakeholders to encourage the multinational companies in investing in activities across the country.

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background of the Study

Projects have existed for a long time since the start of agrarian revolution in the 1st centuries in Babylon/Syria or Egypt and the overall importance is their role to the people. In his studies Akplan (2010) argues that projects in the ancient Babylon left everyone almost wealthy if not gold loaded wealthy. Citing examples of the richest men in Babylon, Clason (2011) argues that, it was only in Babylon whereby partnerships with overseas territories that the governments of Syria and Egypt came up with projects that created employments for their people, created businesses for their people, brought inn new innovations, brought in modern universal education, developed new infrastructure like roads and waterways that led to urbanization etc. This has been a positive pose to the populations of Syria and Egypt in terms of resources and wealth; a factor that has made the west to stage manage wars so as to benefit from the riches over 20 centuries down the line.

In their writing about huge international projects and their benefits to the people of the republic of China, World Bank (2011) talks of the Oil Refining Companies in the city of Hong Kong, Shanghai and southern parts of the country. In Shanghai for example, the introduction of the oil processing g company that was funded by the USA government, in 2000-07 it led to improved education, innovation, development in technology (what China leads in exporting), urbanization, boosted employment opportunities etc. Comparative studies by Bryan (2009) have shown that when international corporations started working in the sugar industry, 45 % of jobs were created within 2 years between 1990 to 1995 in India and Brazil. The sugar companies for example brought up the socio-corporate partnership that employed over 3500 Brazilian and educated 3/4 of them in the UK and Ireland. Studies by Matiboba, (2012) have shown that the Brazilian Republic for example used up to 36 percent of its land to cultivation sugarcane, created over 2million new job in 5yrs between 1995 and

1998, exported up 1000 footballers funded by the various sugar companies in the country, built modern universities and colleges, urbanization came to the smallest settings, living situation of the mothers changed etc.

Studies by NEMA (2011) have shown that South Africa grew to its status due to the introduction of social corporate responsibility that saw the introduction of projects that helped the poor by various mining companies in the country like Gold mining companies, sand harvesting companies etc. This led to creation of jobs for the skilled and no skilled both in the towns and the villages. According to Goessling (2010), the concept of Corporate Social Responsibility goes beyond the narrow economic, technical and legal requirements of the firm, beyond profitable production of goods and services in the world. It is increasingly being seen as helping to solve important social and environmental problems, especially those that the companies have helped to create. One important thing that contributed towards the development of CSR concept is a view that firms can no longer be seen as purely as private institutions but as social institutions. Firms are expected to operate in full understanding of the general welfare of society and to share benefits from their economic activities with society.

The case of Base Titanium and its effects on the society have been felt in the whole world, Africa and by narrower extent in Kenya especially in the Kwale County where its plant is situated at Maumba. World Titanium is an Australian incorporated ASX listed mineral sands company and as at 22 December 2014 had a market capitalisation of \$9.0 million. The company in Australia alone it has created over 20, 000 direct jobs since its inception in the early 1980s (World Bank , 2011),it has partnered with 8 universities, 40 high schools,98 elementary schools and 4 vocational training colleges with the aim of bettering and improving the state of education that is aimed at providing quality labour force into the market (Pham, 2011),has created easy access to medication by creating new internationally recognized hospitals in the central parts, western parts and the most remarkable one being the referral hospital at the Queensland University of Australia (Pietro 2012)

According to Aref, (2011), it is in this spirit that firms like Base Titanium companies in the world retain their social role within the society by responding to society's needs and giving society what it wants. CSR in the mining industry is viewed as a mechanism for maximization of positive and minimization of negative social and environmental influences of mining while maintaining profits. The liberalisation of investment regimes in many developing countries, has contributed to the expansion of the mining industry in remote areas of the world, thus raising more concerns relating to social and environmental issues (Mulwa, 2010).

Base Titanium (Mauritius) Limited that operates in Mauritius for example controls over \$450 million and has given too much to the country's population via various initiatives through the CSR programmes. In their studies, Australian Aid and World Bank 2012 have established the positive and negative roles of the Base Titanium to the societies in the country and found out that in 1990s alone, the company had directly enabled the locals in the middle state and southern state of the country to move upwards from poverty by 45% through various jobs that were directly or indirectly created between 1992-1998. The report continues to show that over 2000 students were funded to higher institutions of learning, built over 7 schools in the eastern parts of the country, built 5 major water pumps among the displaced communities, created 6700 SMES for the locals etc. However, environmental pollution/degradation, social cultural rot, displacements and political rivalries were some negative factors associated with the company's influence in the country.

In Madagascar, Base has operated there for over 2 decades now and the popularity of the company has not only been locally felt but has regionally been felt. In 2009 alone, the company built 3 hospitals for the local in the peri-urbans of eastern Madagascar, trained over 133 medical personnel to aid in boosting the health situation of the people in the area especially in the MCH projects, partnered with UNDP in providing clean water for the locals displaced by the mines by creating 2 major water reservoirs and one water purifier, resettled the over 980 affected homesteads and changed the standards of living of those who worked in the mines (Mulwa,2010). However, several studies have shown that the Base has created

antagonism between communities allied to former president Marc Ravalomanana, Andrey Rajoelina and Hery Rajaonarimampianina in the whole country since 2000s. This led for example to the ousting of president Marc Ravalomanana by the city club DJ Andrey Rajoelina in 2009 in a coup d'état that saw the rival community being supported by part of the sand processing firms in the country-Base included. Also issues of families being settled away from their usual places brought issues like maladjustment to the new environment, while the ugliness of the land associated with mining scars has left the people in devastating states than ever (Amar and Candice, 2013).

In Kenya, Base (then named Base Iron Limited) was established as an iron ore exploration company and listed on the ASX in October 2008, raising \$4 million at IPO. Base completed the acquisition of 100% of the Kwale Project in August 2010 from Tiomin Resources Inc together with options to acquire three further exploration projects in Kenya. The Kwale Project was acquired as an advanced development opportunity with a full Definitive Feasibility Study (DFS) having been completed and all material project approvals, permits and licenses in place. Base paid consideration of US\$3 million in cash on settlement and a 2% royalty on gross product revenue (FOB Mombasa) from the Kwale Project's Central Dune and South Dune deposits (Republic of Kenya, 2009a).

The Company undertook a share placement to raise \$8.1 million in November 2010 in order to provide additional funding for the completion of an enhanced DFS. A revised resource estimate was announced in February 2011 following the completion of a drilling program in December 2010 and the enhanced DFS was completed in May 2011 incorporating this enlarged resource base. The enhanced DFS was used to support a project financing for the Kwale Project. Credit approval for a US\$170 million project debt facility was announced in July 2011 and the completion of share issues totaling \$162.3 million in September 2011, provided Base with the requisite funds to proceed with the development of the Kwale Project. Base raised a further \$40 million through an underwritten share placement and entitlement offer in October 2012. The first drawdown on the project finance debt facility was announced in November 2012 as construction of the Kwale Project took place. Amendments were made

to the project finance debt facility during the Kwale Project development, with the final project finance debt principle being US\$215 million (Republic of Kenya, 2013).

The Kwale Project is the first large-scale mining project to have been undertaken in Kenya. The Kwale Project is located 10 kilometres inland from the Kenyan coast and 50 kilometres south of Mombasa, which is Kenya's second largest city and host to the primary port facility for the country and East Africa more broadly. The Kwale Project is considered to be a high margin operating project when compared against global mineral sands operations and projects yet to be developed. The ore body is both high grade and has high value mineral assemblage, enjoying large scale and very low stripping ratio (0.1:1). The Kwale Project is also located close to well-developed physical and social infrastructure (Patricia, 2013).

In regards to titanium mining project in Kwale County, communities living in Nguluku were the first hand people who received the company's effects as early as it started its operation (Republic of Kenya, 2013). Starting with the negative influence to this community for example, the Nguluku people were first relocated to Bwiti without being involved in the process. According to Ontita, Mwenzwa, and Misati, (2013), when Base Titanium Company arrived, the company chose the compensation options over the relocation because those who were displaced by Tiomin to Bwiti settled back into the mining site area and were satisfied by what was done by Tiomin Ltd in regards to relocation. Even with the compensation given by Base Titanium Company, interviews by (Osoro, 2011) that the community mentioned that they did not have a negotiation power and the market value of the land was not taken into account. As consequence, most of them were not able to buy land elsewhere.

For example, the community cited the Ksh. 80, 000 were paid by Base was not enough to buy the same acre of land elsewhere especially in Kombani, Tiwi, Mamba etc. where land of the same size went up to Ksh.105, 000. Another jeopardy that has la-di-da the community very much due to the introduction of Base is the issue of water and sanitation. In Bwiti for example, the source of water for those people who moved to settle there remains to be a small borehole that gives seasonal salty water that is not fit for use (Peskett, 2013).



However analysts argue that the Kwale Project that is approximately with the total capital cost of US\$310 million has been a blessing to the Kwale community and the surrounding. In a meeting held in Swahili Beach Hotel at Diani in 2014 November organized by UNDP and the Kwale County Development Authority, the residents applauded the Base for the wonderful job it is doing to the locals and all the related communities. Citing some of the issues felt by the locals, the residents mentioned areas that have benefited from the Base to include: Supporting Small Local Businesses, Employment and Skills Development, Community Health Initiatives, Community Participation in Decision making and many more (Mining Bill, 2014).

According to the World Bank (2013), the local community starting from Vanga to Kaya Tiwi has not been aware of the CSR of plan. According to UNDP (2014), one of the participants in the group that was at the meeting held at Swahili Beach sits in the Base Titanium Corporate Social Responsibility committee and gave a long list of community development projects carried out the company. These included: Secondary school and Health center at Magaoni and Likoni Ujamaa, Boreholes at Bwiti, Dispensaries, Polytechnic at Mwabungu, Ambulance at Msambweni Referral Hospital School dormitories at Mwamzandi area, School fees for a number of students, 20 scholarships for students admitted to Kenya Medical Training College, Support to local football clubs among others. This degree of community support by Base Titanium was unknown to most participants most of whom were impressed at the meeting hearing. Actually a number of CSOs who had been campaigning against the company's CSR policy changed their mind on this day and beyond (World Bank, 2014; UNDP, 2014).

## **1.2 Statement of the Problem**

Studies across the world has shown that big companies especially the multimillion corporations have for a long time ventured into social corporate activities that are always aimed at improving the lives of the people surrounding their operations socio-economically or socio-culturally (Republic of Kenya, 2013). This has been observed in Australia, US, SA, Lesotho and all the multimillion companies in the world especially those operating under big

capital based foundations. Examples include the British Petrol (BP), Tiomin World, Coca-Cola, Base Titanium, Shell, etc. In Canada alone, Tiomini created 24 recreational centres between 1990 and 1996 that were to be managed by the locals (World Bank, 2012).

Narrowing the case into the literature existing about the benefits of Base to the Africans, it has helped raise the economic standards of the people of Mauritius and Madagascar by 45 % and 41.12% respectively. This is as a result of jobs created by the Base for the skilled and non-skilled locals, the market that was created for their local products, growth of towns, resettling of those who had issues with land issues, building of schools etc. This for a long time has made the mentioned countries boost their image in the continent and beyond. In 2009 during the coup in Madagascar, the international community came in to resolve the issue very fast because of the losses that could be incurred if mining companies in the country became into a halt; a factor that saved up to 25% of the Madagascans who could lose lives through civil blood shed (Misati, and Ontita , 2012)

However, few studies have been done in relation to the activities of Base Titanium in Kwale as far as the role of Base in the community is concerned. This study was meant to address this by looking at the influence of multinational projects on the welfare of communities: the case of base titanium project in Kwale County, Kenya.

### **1.3 Purpose of the Study**

The purpose of this study was to find out the influence of multinational projects on the welfare of communities: the case of Base Titanium project in Kwale County.

### **1.4 Objectives of the Study**

This study sought to address the following objectives:

1. To examine the extent to which labour and employment by Base Titanium Company has influenced the welfare of the people of Kwale County.
2. To examine the extent to which displacement and compensation by Base Titanium Company has influenced the welfare of the people of Kwale County.

3. To assess the extent to which education by Base Titanium Company has influenced the welfare of the people of Kwale County.
4. To find out the extent to which pollution caused by Base Titanium Company has influenced the welfare of the people of Kwale County.

### **1.5 Research Questions**

The study was guided by the following research questions:

1. How does labour and employment by Base Titanium influence the welfare of the people of Kwale County?
2. How does displacement and compensation by Base Titanium influence the welfare of the people of Kwale County?
3. How does education by Base Titanium influence the welfare of the people of Kwale County?
4. To what extent has pollution caused by Base Titanium Company influenced the welfare of the people of Kwale County?

### **1.6 Research Hypothesis**

The study was guided by the following research hypothesis:

1. H<sub>1</sub>: Labour and employment by Base Titanium Company has a significant influence on the welfare of the people of Kwale County.
2. H<sub>1</sub>: Displacement and compensation by Base Titanium Company has a significant influence on the welfare of the people of Kwale County.
3. H<sub>1</sub>: Education by Base Titanium Company has a significant influence on the welfare of the people of Kwale County.
4. H<sub>1</sub>: Pollution caused by Base Titanium Company has a significant influence on the welfare of the people of Kwale County.

### **1.7 Significance of the Study**

It was expected that the findings of the study could be beneficial to community members in

Kwale County, CBOs, NGOs, Base Titanium board and future researchers. At first, it was expected that the study highlighted the various activities that have been undertaken by Base with the aim of changing the lives of the locals voluntarily or no voluntarily; thus helping the community members understand their participation and how this participation will change their lives.

It was also expected that the findings of the study will assist CBOs and NGOs operating in the Kwale region and beyond to understand the activities/influence of the activities coming out as a result of the Base Company and how the positive ones can be strengthened through partnerships and how the negatives can be minimized.

Moreover, the knowledge generated in this study will inform governments (county and national) that local people are always affected either positively or negatively by any development initiative and they should be given prior information and should be allowed to participate freely. Lastly, the result of the study will increase the existing body of knowledge.

### **1.8 Limitations of the Study**

The major limitation that faced the study was time. Time for classroom work, research, that at work, that for the family and that of linkage between the supervisor and the respondents was highly in competition. Also, owing to the nature of the researcher's work, the time of the research and guidance by the supervisor at the campus was highly in competition. However the researcher took a leave and created personal time to link the supervisor and the respondents.

Financial resources were not only a limitation but a factor in the study. Limited resources were expected to delay the achievements of the study. However the researcher got family support.

The final limitation was that of the language barrier and the ignorance of majority of the big tribes living in Kwale County. The Digos, Durumas and Kambas in the area have little

knowledge on the activities of Base and a high percentage is illiterate. This was minimized by use of enumerators who helped in the research in the ground.

### **1.9 Delimitation of the Study**

The research delimited itself to the effects of the activities carried out by Base Titanium in Kwale County. Also the research delimited itself to studying influences of the projects since it changed its operations from the Tiomin-more specifically from 2010 to 2015 in order to achieve quality information from Base and not the Tiomin sand harvesting company.

The research focused on only four aspects of influences on the community's welfare; education providence, jobs creation, displacement and pollution. Enumerators were used to distribute the questionnaires and at the same time they were used as translators.

### **1.10 Basic Assumptions of the Study**

The assumptions were that there were records of several community projects initiated by Base in Kwale and also that the Kwale community members were willing to give information necessary for the study.

Another assumption under this study was that the information retrieved from respondents through questionnaires and non-structured interview schedules could meet the purpose of the study. Finally, it was assumed that the four roles played by the Base Titanium influenced the welfare of the people of Kwale and Kenya in general.

### **1.11 Definitions of Significant Terms**

**A community-** is a social unit of any size that shares common values. Although embodied or face-to-face communities are usually small, larger or more extended communities such as a national community, international community and virtual community are also studied. In human communities, intent, belief, resources, preferences, needs, risks, and a number of other conditions may be present and common, affecting the identity of the participants and their degree of cohesiveness.

**Education-** in its general sense is a form of learning in which the knowledge, skills, values, beliefs and habits of a group of people are transferred from one generation to the next through storytelling, discussion, teaching, training, and or research. Education may also include

informal transmission of such information from one human being to another. Education frequently takes place under the guidance of others, but learners may also educate themselves (autodidactic learning). Any experience that has a formative effect on the way one thinks, feels, or acts may be considered educational.

**Environmental pollution-** is defined as the undesirable change in physical, chemical and biological characteristics of our air, land and water. As a result of over-population, rapid industrializations, and other human activities like agriculture and deforestation etc., earth became loaded with diverse pollutants that were released as by-products.

**Resettlement** - The transportation of people (as a family or colony) to a new settlement (as after an upheaval of some kind) or relocation.

**Compensation-** This is the act or state of compensating, as by rewarding someone for service or by making up for someone's loss, damage, or injury by giving the injured party an appropriate benefit.

**Labour** – It is defined as productive work, especially physical toil done for wages.

**Employment** - This is an occupation by which a person earns a living; work; business. It is the condition of having paid work.

### **1.12 Organization of the Study**

This research organized in five chapters. Chapter one is the introduction which includes the background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, statement of the problem, purpose of the study, objectives of the study, research questions, research hypothesis, significance of the study, delimitations of the study, basic assumptions and the definition of significant terms. Chapter two of the study consists of the literature review with information from other articles which are relevant to the researcher. Chapter three entails the methodology to be used in the research. Chapter four has given the insights of data analysis, the findings and discussions of the study. Then lastly in chapter five, the study has given a summary of the findings, discussions, conclusions and recommendations.

## CHAPTER TWO

### LITRATURE REVIEW

#### **2.1 Introduction**

The reflection and collection of the literature review to this chapter attempts to present a review of various previous studies that have been undertaken in relation to the influence of multinational projects on the welfare of the community. Various studies on this subject are reviewed herein to provide a broad perspective on how the influence of multinational projects on the welfare of the communities in Kenya have been felt and still continue to be felt. A conceptual framework was used also to show the variables to be considered in the research (the independent variables, the dependent and the moderating variables). The objectives were the basis of literature review discussion and they were arranged in sub-headings.

#### **2.2 Base Titanium project and its influence on creation of employment in Kwale County**

Studies have been undertaken in order to evaluate the effects of Multinational Corporations (MNCs) on developing countries (Abdul, 2006, Rae, 2013). In the last two decades, globalization has contributed to significant increases in foreign investment in developing countries, and thus bringing some of them more political and structural stability. In addition, it is commonly admitted that MNC's play a role in creating new kind of jobs and therefore can contribute to economic growth and the increase of welfare. As well, the infiltration of MNCs in developing countries has a potential to augment the salary level of employed people, hence increasing the buying power of the local citizens, which in turn will lead to increased tax payments. The availability of more resources will allow the government to spend more money in social welfare areas such as education, health care, and infrastructure building.

Studies in Australia for example have shown that in the years 1999, 2004 and 2009, the mining companies that existed in the area increased the total revenue of the country by 4% through the tax revenue it got from the citizens who were employed in the mining plants. The companies had employees starting from the casual laborers, skilled laborers, experts in technical ideas, managers and many more who handled various projects in the country and at

the end of the day paid tax that could not be paid were it that this population was not working. Pham (2013) argues that, the major role of corporate companies in the world is to better the lives of the citizens. Bettering lives here doesn't mean that the lives of the people are bettered through charity giving but by helping the individuals become productive and engaged in that which provokes their reasoning and their income level.

A report by World Bank (2011) shows that in China for example, the economy has been growing by double digits for the past two decades since the mining industry was revamped and the manufacturing industries concentrated on basic skills that took into account the use of technology. This way, jobs were created in three categories; managerial/services/ideas jobs, skills/technical jobs and menial jobs/labour. This helped to increase the levels of income of all the citizens whereby the people employed in various industrial sectors were paid salaries and wages that later on changed them and the county at large. Similar studies in Libya showed that all that benefits the country is not leadership but the resources that change people's lives (Dhaatri, 2010), policies that command the available investors to put the human first by providing jobs and better political governance (Goessling, Kristen, 2010), and the projects that put the welfare of the citizens first.

Studies by KATSAURA, Obvious (2010) entitled "Violence and the political economy of informal diamond mining in Chiadzwa Zimbabwe," has shown that in any political fight in Africa, the minerals are in the centre stage. Sand harvesting in the southern parts of the country have led to ever renewed political animosity between the same members of ZANU PF party for long. The major reason for inter-clan wars is the issue of employment. The mining companies have been blamed for favoring one clan in jobs appointments while the other clan has for a long time been left out.

This has led to the national policy in jobs appointments to the mining companies operating in the country whereby the jobs are classified in three stratified categories (15% for foreigners, 15% for people from the city and the remaining 70% is shared equally among the two major clans in the region).



A report by the World Bank (2010) on mining in Uganda shows that, over the period of 2004 to 2011, the World Bank, together with the African Development Bank and the Nordic Development Fund invested approximately US\$32 million to strengthen the government's capacity to develop a sound minerals sector based on private investments and improvements in selected artisanal and small-scale mining areas. Over the period of 2004 to 2011, annual investment in mining exploration increased significantly from US\$5 million in 2004 to US\$47 million, with a total cumulative investment over the period of US\$329 million. Exports of cement, gold and cobalt (representing about 95 percent of total exports) also increased during the same period, from US\$22 million per year in 2004, peaking to between US\$250-350 million in 2008 and then reducing to US\$120 million at the end of 2010 as commodity prices relaxed. In part because of increased volume and prices of mineral production, but also due to increased government capacity, total fiscal revenues more than doubled over the life of the project.

This increase in revenue was achieved at the same time as the increase in the transparency of mining sector revenues as evidenced by regular publication of such mineral revenues and taxes from the employees attached to these mining centres. The project also had a significant influence on the incomes and operating performance of artisanal miners. Incomes of artisanal miners increased 60 percent from US\$4.81 per day to US\$5.00 – US\$7.50 per day for precious metal and industrial mineral miners respectively. Furthermore, by the end of the project the Government of Uganda had received and approved, 590 health and safety plans from artisanal miners, up from zero in 2003. This shows how the mining industry has been of positive influence to Uganda according to World Bank (2011)

Studies across Kenya in her extractive industry have shown that despite the nature of the jobs provided by the industry being shrinkage in nature whereby at the study these capita; projects are labour intensive but the jobs shrink as the projects mature, they have created a great number of jobs that are more better paying than other offers in the economy (Nixon, 2010). In his writing about the conflicts in the black continent, Patricia (2013) focuses his studies on the recent roles of the extractive industry in Kenya. According to him, Extractive industries in

Kenya just like any other region of the world are not labor-intensive, and complain about the shortage of skills. Employment is somewhat concentrated in the construction phases of capital projects, but less so during exploration, ongoing operation, and close-down phases.

In addition, extractive industries can have important negative influences on jobs elsewhere in the economy. The McKinsey Global Institute notes that the mineral sector in Africa and Kenya specifically makes large contribution to GDP, government revenue, export earnings, but it employs less than 1 percent of Kenya's just like Africa's workforce, even accounting for direct and indirect job effects. Another issue is the skills deficit in the mineral sector. This tends to be exacerbating by the high premium paid to skilled workers in modern extractive sector employment; it could erode the effectiveness of the public sector and other sectors, since there would be an incentive for staffs to leave for more attractive opportunities in the extractive industries. A report by the World Bank (2011) on the benefits associated with base titanium in the country has strongly focused on revenue increase and jobs creation. According to the report, Base Titanium's project will have a significant influence on Kenya and Kwale County. The Project is expected to contribute close to 1% to Kenya's GDP and will allow minerals to overtake coffee as Kenya's fourth largest earner of export dollars.

As mentioned earlier, Base expects to contribute US\$220+ million in taxes and royalties directly to the Government of Kenya. Its annual operation spend of US\$60 million will primarily be spent in the local economy, creating jobs and additional indirect tax revenue. On the employment front, during construction the Project employed close to 2400 workers, with half of these coming from Kwale County. Now that operations have commenced Base employs close to 600 workers, 90% of which are Kenyan. The report finally concludes that the Base Titanium company has created all the levels of jobs for the locals especially the women starting from the menial jobs, skilled jobs and professional jobs; thus changing their final outlook and their poor living standards.

A report by African Development Bank (2014) says that, with the recent discovery and exploration of natural resources such as oil in Turkana, coal in Kitui and titanium in Kwale,

the emphasis on employment for indigenous communities in the mining industry is timely. In Kwale for example, the report shows that, despite titanium mining taking place from 2013, communities living near the mining site have benefited to a great extent. In Kwale, an estimated 35 per cent of households earn less than Sh.3, 000 a month, significantly less than the country's minimum wage. Women are the most disadvantaged. Notably, one per cent of 41 per cent of locals residing near the titanium mines have a diploma or certificate, less than 10 per cent have secondary school qualifications and more than 40 per cent lack formal education. But since the introduction of Titanium Company in the area, the wages of these people surrounding the company changed significantly whereby the locals were paid between Ksh.20, 000 to Ksh. 45,000 depending on their skills.

Another study by UNEP(2013) shows that, over 14 per cent of the poor households surrounding Base are involved and benefit from mining activities; most of them in low cadre jobs such as casuals, security guards, cooks, gardeners or storekeepers due to limited education but have had their lives change, unlike cases where they could be without jobs at home. Base Titanium, the company exploring the mineral, has recruitment policies. However, these do not favour the locals because they lack relevant education and training.

Research shows that increasing indigenous community participation in the workforce gives extractive industries "social license to operate". A framework on how to maximize benefits to indigenous communities through employment is not only good practice but pertinent to averting conflict as well as the resource curse. Skill development among the locals will also be another positive outcome of mining employment for locals. Therefore, from various studies, the company has given both non-skilled, skilled jobs and specialized jobs to the Kenyans and more specifically to the people of Kwale County.

A report posted in the base website ([www.bace.com/kenya](http://www.bace.com/kenya) accessed on March 16, 2015) in relationship to Base's role in employment sector states that to date, the Kwale Project has helped create significant opportunities for local economic development, one of which being a focused local employment programme. "This part of Kenya," Schwarz highlights, "is

somewhat economically depressed compared to other regions of the country and therefore employment and economic opportunities are sensitive and emotive issues. Through formalized agreements with the government and local communities, we are committed to maximizing local recruitment from among project affected and neighboring communities.” According to the report, Base Titanium operates a recruitment system based on registering job seekers into a database that captures information on domicile, skills and other relevant factors. People are then selected for employment on a best fit basis, while giving first priority to those from affected and immediately neighboring communities.

“In addition to the aforementioned efforts we have made,” Schwarz says, “we are also committed to transferring skills to locals in order to equip them for employment in the wider mining and related industries. Among the ways we are trying to do this is by providing formalised training, apprenticeships and mentoring programmes for young people who lack the necessary hands-on experience.” ([www.base.com/kenya](http://www.base.com/kenya). Accessed on March 16, 2015). No studies have been carried out on the area touching on the role of Base in jobs creation, a factor that the research intends to address.

### **2.3 Base Titanium project and its influence on displacement and compensation in Kwale County**

Studies by Australian Aid and World Bank (2012) have shown that there are reasons as to why communities have to be cautious about the earth robbery industry are due to its displacement accompaniment. In the report, up to 2million world animals and insects are displaced in 3 months due to the activities related to robbing the earth through activities like mining and quarrying while 1.1million people are displaced annually across the globe. These people and animals are either moved out of their homes due to the effects feared that could reach them as a result of emissions from the industry or as a result of the natural habitat being identified for use in scavenging for the said minerals.

In Thailand for example, people were moved from the lower parts of the country by force against their wishes and settled elsewhere when the Iron smelting company from the USA

entered there in the early 1990s. The displacement led to regular conflicts between the local Kunkruu Clan and the mining companies due to the theories held that the land that is a virgin is holy and it shouldn't be robbed as this could offend their gods and in turn the gods could revenge and deny them things like water and food (factors associated with overexploitation of land scientifically) (Elizabeth and Remi, 2011). Extraction of any kind of valuable mineral on land has a general effect on the structures and the settlement plans of the people (European Union and United Nations Interagency Framework Team for Prevention Action, 2012), as people could be dislocated from where they had lived for long (Muhammed, 2012), and the people could either live good lives or doomed lives later especially in cases whereby they are compensated in cash terms and previously they have been poor (Pietro, 2012).

In his writing, Bimo (2010) argues that the mining industry is frequently associated with decisions that have enormous social consequences. One of the most negative effects of mining today is the forcing of thousands of people to abandon their current places of residence. Gold mines in Tarkwa, open-cast copper mines in Papua New Guinea or Jarkhand (India), lignite mines in Germany, and diamond mines in Zimbabwe are just a few examples of activities leading to the displacement of large numbers of people worldwide. Today, mining-induced displacement constitutes a major social problem and a challenge for human rights. This particular issue affects at least one million people around the world per year.

According to European Union and United Nations (2012), scientific publications regularly enumerate four causes of involuntary displacements: conflicts, natural disasters, long-term environmental changes, and development. Although useful, these categories do not exhaust all the possibilities that are likely to occur. In many cases, such as in discrimination against minorities, the reliable categorization of casual factors behind displacement is simply unachievable. It is difficult to say today whether 'displacement' should be treated as a homogenous notion or rather an atomized one. Although many types of displacements have much in common, there are sharp differences between them as well.

Development-induced displacement is probably the second largest category of resettlement.

Each year, approximately fifteen million people are displaced as a consequence of large investments (Cernea, 2006 cited by Peskett, 2011). The problem was exposed in the mid-fifties during the construction of large dams in Africa. It is worth mentioning here the long-lasting research conducted by American anthropologist Thayer Scudder concerning displacement during the construction of the Kariba dam in Zambezi. First attempts to theoretically conceptualize the whole problem began in 1985 with the publication of a work by Michael M. Cernea, *Putting People First: Sociological Variables in Rural Development*.

Thus, the scientific understanding of ‘development-induced displacement and resettlement’ was shaped by the effects of building large dams, not by any social consequences of mining. According to a 2011 Oxford Refugee Centre report, the mining industry is the fourth greatest cause of development-induced displacement.

At least one in ten cases of development-induced displacement is caused by mining. It seems obvious, then, that mining-induced displacement and resettlement should be recognized as a fully autonomous category of development-induced displacement and resettlement. Lack of any national data and a small degree of interest within international institutions makes it difficult to circumscribe the approximate scale of the phenomenon. Yet, when we take into account the alarming reports from non-governmental organizations, we can, with a high dose of certainty, define it as a crucial social problem at least in several countries in the world. Furthermore, we may speak about the presence of people displaced by mining in several dozen countries—people highly prone to many specific threats (Rae, 2013).

The first cases of displacement resulting from mining activity can be dated back to 19th-century India (and the practices of British colonists) or the United States. Actions of this kind were undertaken in Africa, which was divided at that time among the colonial empires as well as against Indians, due to the gold rush that had broken out in America. In the majority of cases, the natives became the victims, a situation which has not changed to the present day (Patrick, 2013).

The rapid development of technology in the 21st century has transformed mines into large industrial facilities. Big companies exploiting open-pit mines rarely pay attention to the situation of local communities. The internationalization of capital flow, along with the conduction of extraction by transnational corporations, make it difficult to determine who is really responsible for the social problems triggered by mining. By exploiting mines in developing countries, Western and Chinese companies occasionally commit practices that are ambiguous as regards the environment and society. With globalization mining has become a huge source of profits for the transnational corporations (Osoro, 2011).

Mining-induced displacement is not limited to poor and developing countries. Problems of this kind also take place in the United States and in European countries like Germany, Serbia, and Poland. Nevertheless, the high standards of rights-protection institutions and the responsiveness of business to public opinion hold back such negative practices there. Unlike in the cases of Africa and Asia, homelessness, unemployment, social marginalization, or health problems are not ordinarily the result of displacement in the developed world. Redress is mostly paid with surplus, which means it covers the economic and social costs of relocation. MIDR constitutes a real problem where the division between North and South is particularly perceptible (Pietro, 2012).

When analyzing development issues in E. Africa and Asia, it is worth referring to previous European experiences. Mining-induced displacement is present in many countries worldwide. In several of them, however, it constitutes a visible and burning social issue that poses a threat to human rights. These countries are India, Ghana, Uganda, Kenya and Mali. There is less interest in the scale of the phenomenon in China. Admittedly, the whole body of literature on this subject is exceptionally small. So let us draw attention to the fact that MIDR is present in countries in which we observe other forms of development-induced displacement. Kenya is a country with an extremely interesting peculiarity of displacements. Environmentally-induced displacement (migration from North to South) is accompanied by various causes of DIDR (mining, the construction of the seven falls dam) (Osoro, 2011).

Development-induced displacement is equally heterogeneous in India and China. The problems of people resettled due to mining development are analogous to those with which other categories of people displaced by development struggle. We might mention here the problems of indigenous and tribal people, or the environmental after-effects of mining. We observe at least a few specific processes at play. One of them is the issue of whether local communities are sharing in the profits from the exploitation of resources. If a person is forced to leave his/her residence located in an area with potentially big profits, he/she should receive concrete gratifications. Compensation for lost land meaningfully exceeds indemnification for land abandoned for other reasons, whereas struggle for the ultimate quotas is always very fierce. Long-lasting negotiations lead to signing detailed “displacement agreements” between corporations and populations (Michael, 2011).

Big firms often agree to various forms of compensation, such as, for instance, the promise of employing displacees in mines. The social consequences of mining-induced displacement are an intensely complex and relevant issue which is rather poorly described. According to specialists 60 percent of world natural resources are located in indigenous lands. Mining-induced displacement and resettlement phenomena do not represent the sole physical change of residence. In other words, the amount of remaining people affected by the environmental effects of mining regularly exceeds the amount of displaced people (Ana, 2012).

Any scientific analysis of MIDR should distinguish between various categories of resettlement and displacement. Mining-induced displacement and resettlement is not only an issue of development induced displacement, but also of ethnic conflicts, the struggle for resources, access to land, indigenous rights, the question of self-determination of tribal people and local communities, and sustainable development. Environmental disruption caused by mining can also cause subsequent environmentally-induced displacement (Van, 2009).

According to Amar and Candice (2013), involuntary resettlement can have a dramatic influence on the lives of the people living in the area of influence of development projects.



The displacement may provoke changes, which could dismantle settlements patterns and modes of productions, disrupt social networks, cause environmental damage and diminish people's sense of control over their lives. When the Tiomin Inc announced its intention to extract titanium from the sands in the Kwale District at the beginning of 2001 for example, local communities strongly opposed the project but Kenyan Government approved it and gave a special mining license to Tiomin Inc later on. A group of scientists with the support of Action Aid Kenya published an environmental influence assessment that revealed several environmental challenges unmentioned in the studies commissioned by Tiomin Inc. Meanwhile, Kwale farmers suspended negotiations on compensation and re-settlement with Tiomin Inc in 2002 which later transformed into Base titanium. The suspension was due to the initial offers of 9,000 and 2,000 (100 euro and 24 euro respectively) proposed by Tiomin Inc to communities (Republic of Kenya, 2009). The company went further pointing out that the compensation plan included the construction of two primary schools and several churches and mosques.

However, Kwale farmers rejected the offers and pointed out that they would not accept less than 50,000 Kenyan shillings (about 600 Euros) per year for every acre, in compensation for their displacement, and no less than 10,000 shillings (about 120 Euro) per year for land rental.<sup>68</sup> In 2003, The Kenyan High Court ordered NEMA not to grant licenses to Tiomin for its environmental influences assessment, until NEMA complies with Section 59 of the Environmental Management and Coordination Act which obliges the public re-examination of the Environmental Management Plan (EMP). Meanwhile, the Centre for Environmental Legal Research and Education (CREEL) appealed to the High Court asking NEMA to publish the plan by claiming that an EMP is a public document and therefore must be available for consultation. However, the Kenyan Government gave the go ahead for its titanium mining project in Kwale, scheduled to start in September 2005. The company signed a tax agreement with the Kenyan authorities including a 50 percent tax reduction on company income from the tenth year of activity onward and the payment of 25 percent gross tax to the Kenyan Government (Republic of Kenya, 2009b).

In 2006, eight farmers opposed the seizure order, rejecting the compensation offered by Tiomin Inc. and began a campaign against their displacement. Among them is Rodgers Mwema Nzioka, who reported the violation of his fundamental land rights. Tiomin Inc. requested the State to pay 200 million shillings in compensation. The State then used the Land Acquisition Act to obtain the farmers' displacement and summoned the eight protesters to appear in court. Later on, the Nairobi High Court Judge, Joe Nyamu, ruled that farmer Rodgers Mwema Nzioka couldn't oppose the contract as, according to it, farmers will rent their land to Tiomin Inc. for 80,000 shillings (950 euros) per acre. The Judge also pointed out that the Government had already purchased land where the farmers will be re-settled for 3 billion shillings (36 million Euros) and it could displace the farmers according to the Mining Act and Land Acquisition Act. Although the progress made to tackle the issue of compensation, Tiomin Inc. announced the suspension of its mining project in 2007, due to unforeseen circumstances, and that increasing delays and costs led sponsors to withdraw US\$ 155 million from the project. However, the Kenyan Government forcibly displaced seven farmers who refused to accept compensation. The start of mining activities, scheduled for mid-2008, was postponed until the first half of 2009 (NEMA, 2011).

Later on, Tiomin Inc. cut US\$ 200,000 per month from its investment and announced further reductions. Tiomin coordinator claimed that at the end of 2007 representatives of the Jinchuan Group, a Chinese partner holding 20 percent in Tiomin, visited Kenya and considered cutting costs. The Jinchuan Groups intended to definitely solve the problems with Kenya. In 2008, Tiomin Inc. said that it had to face several obstacles over the last 10 years mainly the opposition from displaced residents and this led to the dismissal of all engineers and local mining experts as well as delays in their 2007 operations that cost US\$ 40 million. Tiomin Inc stressed that the mining project was suspended because of circumstances out of their control and the bureaucratic procedure was often unpredictable and took longer than expected (Republic of Kenya, 2009b).

Tiomin Inc declared that the major problem was the re-settlement of the residents affected by the project. A Judge ruled in favour of Tiomin Inc. in its land property rights case, while

Tiomin Inc claims it spent US\$ 7 million for resettling hundreds of families. Many phases of resettlement have been undertaken since 2005 following a Resettlement Action Plan done by the company in accordance with Africa bank of development involuntary resettlement policy 2003. Compensation was paid for land, agricultural crops and forest trees. The first resettlement action plan (RAP) was prepared for the Project in 2005. This covered the resettlement of the households occupying the Special Mining License (SML) area including Nguluku and Maumba. Following disclosure and consultation households were resettled from the SML area between 2006 and 2008. 381 households were resettled from within the SML. Base Titanium Company affirmed that a post-resettlement monitoring and audit report was prepared in June 2011 (Republic of Kenya, 2012).

The second and the third resettlement action plan were also prepared for the access road and water pipeline and Mukurumudzi Dam Site in August 2011. Affected households included 112 associated with the Mukurumudzi Dam and 86 in the access road and water pipeline routes were resettled from these areas in 2011. Of these a total of 486 were physically relocated. Also as part of the programme 255 graves were exhumed and reinterred in a specially created cemetery adjacent to the SML. Moreover, Base Titanium Company has engaged Kenya Power and Lighting Company Limited to undertake resettlement of communities associated with the 132kV transmission line from Galu to the mine site. KPLC is mandated to implement resettlement linked to power reticulation in Kenya. The RAP was prepared in accordance with KPLC's resettlement framework which follows IFC's Performance Standards. 159 households were affected by the 14km trace (Republic of Kenya, 2013).

Many challenges have been pointed out by the communities during different focus group discussions held in Nguluku in relation to the displaced communities by Tiomin's Base Company in Kwale County. According to the community members interviewed, around third quarter of the population from Nguluku was displaced. Few have been left behind and wish to be resettled. Homes are scattered, schools, hospitals and markets were moved from Nguluku. Wildlife from Gogoni and Buda forest has migrated to Nguluku because the place has not

been occupied. Insecurity has increased due to the human-wildlife conflicts. Those who are left behind believe that they have been forgotten and have suffered from environmental issues (Republic of Kenya, 2013).

#### **2.4 Base Titanium project and its influence on provision of education in Kwale County**

Education for a large number of people in rural areas is crucial for achieving sustainable development (UNESCO, 2010). The lack of learning opportunities is both a cause and effect of rural poverty; hence education training strategies need to be integrated within all aspects of sustainable rural development be it from corporate groups like Base company or local companies like Manu Chandaria manufacturers (Gomes and Gamara, 2004 cited in Republic of Kenya, 2010). It is also observed that, the exogenous injection of higher income and induced consumption cannot produce sustainable development, if the influence of education, training and skills are not there. Therefore education has to enhance the capacities of people, expand the areas of competence and change people's practices and attitudes, which together and significantly improve their lifestyles (World Bank, 2012).

Basic education is a critical part of economic development and individuals who have had some education are better employees in companies, better farmers and problem solvers across the globe (Mulwa, 2010). The local people welcoming any development project in their region should benefit from the overall development of the national economy and alleviation of poverty, in which basic education is essential (Moulton, 2001 cited by Republic Of Kenya, 2012).

According to one definition a person cannot comprehend the instruction on a bottle of medicine or a bag of fertilizers or read a government notice and it is also impossible to develop one's potential or to contribute in anything (Greaney, 1999 cited by NEMA, 2012). The importance of basic education in improving people's lives has been argued from various perspectives.

From a narrow perspective of rural development, it facilitates off farm employment, rural jua kali employments, local administration and the economic development of rural areas plus the

developing urbans. On the broader perspective, basic education improves productivity and the economic development of all the spheres and areas of the economy (World Bank, 2012).

There are various explanations of why schooling contributes to economic productivity (Carnoy, 1994; Matiboba, 2012); as individuals acquire skills that, enable them to be more productive. What individuals learn in schools make them more likely to adopt new technologies and practices , schooling also helps individuals function more effectively in modern production , organizations , enables individuals to socialize effectively and the discipline of learning taught schools helps individuals learn new skills outside school .Therefore, when corporate institutions invest in education, the communities not only feel worthily appreciated but gain grounds for future development and survival.

A country benefits mostly, if a high rate of its citizens are educated. A study carried out in India on the relationship between human capital and economic development found that, although higher levels of education have a greater direct influence on economic development, Primary and secondary schools are important because they widely distribute the conditions conducive to development (Mathu, 1993, World Bank, 1997; 2010).In this regard, any company operating in Kenya should or must invest in education just like equity house holdings has done, safaricom or Manu Chandaria's companies not forgetting the Channia group of companies that has a business incubation centre in KU.

In addition to monetary benefits, education especially basic education provides other productivity benefits. Women with some education are more likely to provide basic sanitation conditions and thus nutrition meals for their families thus enabling them to lead healthier; a common reason as to why all the social corporate responsibilities should be geared towards education. These broader benefits relate not only to improved productivity as measured by Gross domestic product (GDP ) but also to improved human development as measured by the human development index , which is based largely on the indicators of life expectancy at birth , educational attainment and Gross product (Mulwa, 2010).

Flor (2006) cited by Republic of Kenya (2013) in their study, they established that, education helps to alleviate poverty by affecting labour productivity and through other paths of social benefit. They added that, lack of organizational capacity is a main barrier that is related to poverty. Therefore education contribution to community development must be locally controlled, practical, applied problem posing and focused on functional specialization.

In this realization, Tiomin Company that was adopted by the Base in Kwale County, in the years 2007, 2009 and 2010 started programs in Kwale County that aimed at changing the educational levels of the local community. According to the information in the Base website in Kenya and that from the Kwale county educational board shows that base has built 3 secondary schools in the last 2 years (Bomu in Likoni, Gombato Sec. School at Kombani and Base titanium sec. school headed by Mwalimu Mwachome), have supported various school projects like building of dormitories at Msambweni sec. school and classrooms at Kwale seminary, Kichaka Shimba, Mwamzandi etc., distributing learning materials and sanitary towels to Kingwede, Ngozi girls, Kinondo and many more. This makes it worth studying the influence of Base on the education of Kwale County, which the research intends to look at.

## **2.5 Base Titanium and its influence on Pollution in Kwale County**

According to Mwendwa, & Onduru (2010), the worst recipients of world robbery earth industries, is pollution. Pollution has been cited as the worst environmental effect of mining in China, Venezuela and Croatia.

According to the World Bank (2012), China has for 9 years now experienced over the 80% normal solar insolation due to overdependence on mining and over mining that has left the toxic levels beyond environmental and nature controls. The same has been experienced in Chile, Haiti and SA.

According to Osoro (2011) An Environmental Influence Assessment (EIA) was carried out by Coastal and Environmental Services of South Africa on behalf of Tiomin Kenya Ltd, the local subsidiary of Tiomin Resources Inc, a Canadian multinational to establish how much

has been achieved in averting the effects of pollution from extractive industries. The study shows that in almost all the countries the Base Company has operated, it has taken little measures of checking the effects of the pollution effects. According to the Coast Mining Forum for example, The EIA plan did not, however, address adequately the influence of released toxic substances, including radioactive emissions from the mining operations on the coastal ecosystem, nor the need for continuous rehabilitation of the mining area.

In July 2002, the National Environmental Management Authority (NEMA) conditionally approved the Environmental Social Influence Assessment and an Environmental Influence Assessment (EIA) Licence was received in June 2005. After Base Titanium Company bought the mines from Tiomin Limited, several supplemented reports were prepared and approved by NEMA (NEMA, 2012). A number of specialist studies were undertaken over the last decade. These studies include assessments of the ecosystems services, soils and land use, ground and surface water, vegetation and floristics, terrestrial and aquatic fauna, air quality, radiation, noise, social and health. These EIA report has shown that the environmental pollution has been a reality in relation to the above and this has been all over the Kwale County just like any other world countries (Pietro, 2012). Therefore, the major environmental and social pollution challenges as a result of Base in Kwale are outlined as follows.

At the initial stage of the titanium mining project, there were a lot of controversy on environmental challenges over the project in Kwale (Republic of Kenya, 2013). A previous environmental assessment report presented by the mining firm to the previous government for example had received much criticism with stakeholders dismissing it during the EIA report tabled. They argued that the foreign environmental assessment report was not done well and favored the mining company. It would have been better to have an EIA done by independent bodies for more transparency. However, Tiomin Inc argued that initially the company contracted the Kenyatta University to undertake an environmental influence assessment (EIA) but the company realised that at that time, Kenya lacked environmental consultants who had the necessary experience to manage the EIA for the Kwale project.

The report continued to show that, in 2003, a second study led by Dr. Wamicha of Kenyatta University raised key queries on the level of radioactivity and presence of sulphur during the mining. Later on, a study on radioactivity in surface soils around the proposed sites for titanium mining project in Kenya was undertaken by Kenyatta University and the Institute of Nuclear Science of University of Nairobi in 2010. The study reveals that activity concentrations of naturally occurring radionuclides are low in the area's surface soils. Likewise, the absorbed dose rates in air due to the observed radionuclides concentrations in soils are also low to affect workers or communities living around the mining site (NEMA, 2011).

At this point it is worth to note that the potential issue of radioactivity and its influence is not clearly addressed in the Environmental Social Influence Assessment Report while the summary of the Environmental Social Influence Assessment does not mention the issue at all. If even activity concentrations of radionuclides are low, the report should have better mentioned it and demonstrated mitigation measures to tackle the low level of radionuclides. This has a far reaching influence on the population in the future times since nuclear fusions have bad side effects (NEMA, 2012).

According to Elizabeth and Remi (2011), Large-scale mining has the potential to contribute significantly to air pollution, especially in the operation phase. All activities during the ore extraction, processing, handling and transport depend on equipment, generators, processes and materials that generate hazardous air pollutants such as particulate matter, heavy metals, carbon monoxide, sulfur dioxide and nitrogen oxides. Community members who took part in different focus group discussions held in Nguluku pointed out that dust is the biggest environmental challenge. According to Victor and Sophia (2011), the Company has put in place dust monitor in compliance to its environmental management plan in order to monitor the level of dust in the area. However, this does not stop the influence of dust on community's health at all. There is an urgent need for the company to undertake mitigation measures to reduce air pollution due to dust in the area as stipulated in the Environmental Management Plan and for the National Environment Management Authority to make sure that Base



Titanium Compliance with the mitigation measures stipulated in the environmental management plan (NEMA, 2011).

The 2002 Titanium EIA report indicates that the development of the mineral sands mine will influence on the physical, natural and socio-economic environments in Kwale. The mining operations have resulted in permanent changes to the topography of the Central and South dunes and the tailings dam area. Changes to the topography do not really affect the local surface drainage pattern and the mining operations do probably not affect the main deep aquifer in the mining area, but some of the springs have experienced a change in yield, change position and others have disappeared (Nish and Simon, 2012).

A study was carried out by NEMA in 2010- 2012 Concerning water pollution in Kwale county due to Base and some of the results were as follows.,16% of respondents estimated that the Titanium mining has contaminated ground water bodies, increased competition for water resources, and degraded water quality. The EIA report that was tasked with giving the situation of soil pollution as a result of Base Company shows that the ground operations have no effect on the soil hardness or its susceptibility to erosion. However, community members living in Nguluku pointed out that the soil erosion is one of the environmental degradation occurred due to titanium mining activities. More damage has been observed due to the open-cast mining , strip mining, method to be used, which involves clearing all vegetation, stripping and stockpiling the topsoil and lead to soil erosion. 16% of the respondent in the study pointed out that soil erosion has become a challenge since the mining started (Republic of Kenya, 2013a).

## 2.6 Conceptual Framework

The conceptual framework outlined the dependent, independent, intervening variables and extraneous variables as discussed in the literature review and elaborated in the Figure 1 below. It helps one to understand the relationship between the variables of the study.

### Independent Variables



**Figure 1: Conceptual Framework**

In the conceptual framework, the study has focused on the interaction between the variables that are interacting to bring out the outlook of the influences of Multinational Projects on the Welfare of the Community while focusing on the Base Titanium Company operating in Kwale County. The independent variables are the variables the researcher cannot change which include Labour and Employment, Displacement and Compensation, Education, and, Pollution.

Influences of Multinational Projects on the Welfare of the Community is the dependent variable on the other hand, while Social Evils, Political Polarization and Businesses Development act as intervening variables as illustrated in the figure of conceptual framework. The conceptual framework has also indicated the entry of the Extraneous Variables that are, Health Hazards and Infrastructure Development. These are factors that have an indirect outcome on the dependent variable and their literature has not been written.

## **2.7 Summary of Literature Review**

According to various literatures in the studies, extraction projects have been in the rise across the world and their effect in the world round has been felt by all the populations and individuals. In this study, the literature has shown that factors like education, employment, pollution and displacement are just part of the sub-headings that have made the basis of our literature discussion. The study has also included a conceptual framework that has summarized the whole work as per the objectives and the indicators.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter discussed the following: research design, target population, sample size and sampling procedure, data collection method /procedure, research instruments and data analysis methods.

#### **3.2 Research Design**

According to Kombo and Tromp (2006), a research design can be regarded as an arrangement of conditions for collection in a manner that aims at combining relevance with the research purpose. The study employed a descriptive research design. This approach aimed at collecting data without manipulating the research variables or the respondents in an attempt to assess the influence of multinational projects on the welfare of communities; the case of base titanium project in Kwale County. Inferences among variables were also made without direct intervention from connected variations of independent and dependent variables.

#### **3.3 Target Population**

The target population refers to the specific group relevant to a particular study. Mugenda and Mugenda (2003) explain that a population is a group of individuals or objects that have the same form of characteristics. They are the “totality of cases that conform to certain specifications, which defines the elements that are included or excluded in the target group”.

The target population of this study was 600 employees of Base Titanium, the employees of NEMA who are in charge of environmental influence mitigations in the county that has had over 64 workers who have operated in the area for over the last 5 years, and, the residents of Nguluku area that has felt the direct influence of Base and have lived in the area for over 18 years and are able to read and interpret the data collection tool. This made the total population of the study to be 1, 300 given that the people who could be able to read are only 636.

**Table 3.1: Target Population**

<b>Target</b>	<b>Total Number</b>	<b>Percentage</b>
Base Employees	<b>600</b>	<b>46%</b>
NEMA Workers	<b>64</b>	<b>4.92%</b>
Nguluku Residents	<b>636</b>	<b>49.08%</b>
<b>Total</b>	<b>1300</b>	<b>100%</b>

### **3.4 Sample size and Sampling Procedure**

A sample is a smaller number or the population that is used to make conclusions regarding the whole population. Its purpose is to estimate unknown characteristics of the population. Sampling therefore is the systematic process of selecting a number of individuals for a study to represent the larger group from which they were selected (Marshall & Rossman, 1999, Mugenda and Mugenda, 1999). The process of sampling takes in to account various issues and will depend on the organization type, purpose, complexity, time constraints and previous research in the area.

The study used purposive sampling. This type of sampling technique refers to the process by which a researcher selects a sample basing on the experience or knowledge of the group that is to be sampled. It will be applied to identify the study site of Nguluku and to select key informants from Base Titanium Company including those in Base but from- the Ministry of Mining, and Kenya Chamber of Mines- and National Environment Management Authority employees. For the households, the respondents were selected by the use of stratified random sampling methods whereby stratification was based on the duration of residence in Nguluku (+18 years), the age of respondents (+18 years old) and well educated respondent . That was to make sure that respondents had experienced different challenges due to titanium mining activities in Nguluku.

According to Mugenda and Mugenda (2013), when the study population is less than 10, 000, a sample size of between 10% and 30% is a good representation of the target population and hence 10 % was adequate for analysis. Therefore, 60 Base Employees (600 x 0.1), 6 NEMA

Workers (64 x 0.1) and 64 households/local residents (636 x 0.1) was considered making a larger population of 130 respondents.

### **3.5 Data Sources and Data Collection Instruments**

The study would rely on both primary and secondary sources of data. The primary data would comprise information collected from communities affected by the titanium mining project in Nguluku to answer the forth objective of the study. Questionnaires were administered to one hundred and thirty respondents among a cross-section of women, men and youth balancing factors such as age, marital status, socio-economic status and level of education. The survey examined perceptions of community on the issues of include Labour and Employment, Displacement and Compensation, Education, and, Pollution.

Key questionnaires were to be filled by officials from Base Titanium Company, National Environment Management Authority and Ministry of Mining and educated local residents. Secondary data would include data collected from relevant literature in libraries such as journals, annual reports, books, case records, workshop proceedings and periodicals. Observations helped to determine the unbearable levels of dust.

### **3.6 Validity and Reliability of Research Instrument**

The study used validity and reliability tests to ensure meaningfulness and consistency of the results.

#### **3.6.1 Validity of Research Instruments**

Validity refers to the accuracy and meaningfulness of inferences, which are based on the research results. According to Mugenda and Mugenda (1999), the usual procedure in assessing the content validity of a measure is to use a professional or expert in a particular field which helps in discovering question content, correction in the wording and the sequencing problems before the actual study as well as exploring ways of improving overall quality of study. For the sake of this study, the researcher sought the opinions of experts in the field of study especially the lecturers in the department of project management to establish the validity of the research instrument.

This facilitated the necessary revision and modification of the research instrument thereby enhancing validity.

### **3.6.2 Reliability of Research Instruments**

Reliability of the data collection instrument is the consistency of measurement and frequently assessed using a test–retest reliability method (Mugenda and Mugenda, 2003). Reliability enabled the researcher to identify the ambiguities and inadequate items in the research instrument; where the instrument reliability is the dependability, consistency or trustworthiness of a test.

The test-retest technique was the measure, where questionnaires were administered to a group of individuals (according to the tested number) with similar characteristics as the actual sample. Tests were repeated at intervals of one week. The scores obtained from each tests were correlated to get the coefficient of reliability.

### **3.7 Data Collection Procedure**

The questionnaires were administered by trained research assistants and were completed by the respondents. The respondents were given a time frame within which they were required to respond to the questionnaire. Upon completion, the research assistants collected the questionnaires and ensured high completion rate and return of the completed questionnaires.

Secondary data involved data that was collected from other past data that would have been collected and tabulated through graphs, charts, and reports. This type of data was collected from reference materials, which have key information and was helpful to this research study.

Collection of secondary data was obtained through desk research, which was either from internal or external sources. The external source included publication press, newspapers, libraries, and various research related organizations.

### **3.8 Data Analysis Methods**

The filled questionnaires were checked for completeness at two levels where the data collectors verified that questionnaires were complete before they were taken to the researcher to do the final verification. This was done to ensure that any anomalies detected were

corrected immediately before the questionnaire was taken from the respondent. Data analysis started once all the data was captured. Closed-ended questions were analyzed using nominal scales into mutually exclusive categories and frequencies by employing descriptive statistics using the statistical package for social sciences (SPSS V 20.0) and MS Excel. Open-ended questions were analyzed using conceptual content analysis. Analysis involved the production and interpretation of frequencies counts and tables that described and summarized the data. The study also applied means, correlations and factor analysis to provide conclusions and comparisons on the variables. Hypothesis was tested using the Chi-Square.

### **3.9 Ethical Considerations**

The goal of ethics was to ensure that no one is harmed or suffered adverse consequence from the research activities. Given the often sensitive relationships between researcher and respondents, reasonable safeguards were built in this study based on ethical considerations and requirements. Therefore, the information that the researcher received during the period of this study was treated in confidence and purely for academic purposes. Names or respondents were not used or mentioned in this study.



**Table 3.2: Operationalization Table**

<b>Objective</b>	<b>Variable</b>	<b>Indicators</b>	<b>Measurement scale</b>	<b>Types of analysis</b>
To examine the influence of the labour and employment role played by Base Titanium Company on the welfare of the people of Kwale County	Labour and Employment	Non-Skilled Jobs Skilled Jobs Management Jobs	Nominal Scale	Descriptive
To examine the influence of displacement and compensation role played by Base Titanium Company on the welfare of the people of Kwale County.	Displacement and Compensation	Voluntarily Relocation Forced Relocation Poor Compensation	Nominal Scale	Descriptive
To investigate the influence of education role played by Base Titanium Company on the welfare of the people of Kwale County.	Education	Financial Support Training Support Schools Building	Nominal Scale	Descriptive
To find out the influence of pollution caused by Base Titanium Company on the welfare of the people of Kwale County.	Pollution	Radioactivity Air pollution Water Pollution Soil Degradation	Nominal Scale	Descriptive

## CHAPTER FOUR

### DATA ANALYSIS PRESENTATION AND INTERPRETATION

#### 4.1 Introduction

The data collected was keyed and analyzed by simple descriptive analysis using Statistical Package for Social Scientists (SPSS) version 20.0 software. The data was then presented through frequency tables and narrative analysis. The chapter presents data in different sub-sections that are in relationship with the objectives and the items asked in the questionnaire.

#### 4.2 Response Rate

The study 130 questionnaires were administered to various categories of respondents and the results analyzed. Out of the 130 questionnaires issued, 110 were returned, fully filled while the remaining 20 were not filled in correctly thus they were never valid for the study. Total response rate for the valid questionnaires therefore was 84.62% while 15.38% of the questionnaires were never returned or were returned without being fully filled.

**Table 4.1: Questionnaires Response rate**

Questionnaires	Number	Percentage
Returned questionnaires	110	84.62%
Questionnaires not returned	20	15.38%
<b>Total</b>	<b>130</b>	<b>100%</b>

#### 4.3 Demographic Characteristics of the Respondents

The study wanted to find out the bio data of respondents, age and educational level as shown in the tables below.

##### 4.3.1 Sex Distribution of the Respondents

The study found out the sex composition of the respondents as shown in the table 4.1 below.

**Table 4.2: Gender Distribution of Respondents**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Female	40	36.36%
Male	70	64.64%
<b>Total</b>	<b>110</b>	<b>100%</b>

From table 4.1, 64.64 percent of the respondents were male while 36.36 percent were female. This was a fair distribution of the target population where a total of 70 respondents were male while 40 of the respondents were female.

#### **4.3.2 Age Distribution of Respondents**

**Table 4. 3: Age Distribution of Respondents**

<b>Age</b>	<b>Frequency</b>	<b>Percentage</b>
Below 20 years	22	20.00%
20 - 29 years	35	31.82%
30-39 years	39	35.45%
40-49 years	10	9.09%
Over 50 years	04	3.64%
<b>Total</b>	<b>110</b>	<b>100%</b>

As for age distribution, table 4.2 shows that majority of the respondents that participated in the study were between the ages 30- 39 years making 35.45%. This was followed by 31.82% for ages 20 – 29 years, ages below 20 years followed with 20.00%, 40-49 years followed with a percentage of 9.09% and over 50 years at 3.64% followed. Ages below 40 years dominated than the others.

#### **4.3.3 Educational Level of Respondents**

The study sought to establish the level of education of the respondents and the results indicated by the table below were arrived at.

**Table 4.4: Academic Qualification of Respondents**

<b>Education level</b>	<b>Frequency</b>	<b>Percentage</b>
KCSE	39	35.45%
Diploma/certificate	30	27.27%
Bachelors' degree	27	24.55%
Master's degree	04	3.64%
Others	10	9.09%
<b>Total</b>	<b>110</b>	<b>100%</b>

Respondents with a secondary education made 35.45% of the respondents. These were followed by those with diploma 27.27%, Bachelors' degree 24.55%, others 9.09% and that for Master's degree went for 3.64%% of the respondents.

From this information, it can be deduced that at least 90% of the respondents have secondary level education and above thus showing some level of literacy.

#### **4.3.4 Work Experience of the Respondents**

The work experience of the respondents was sought for and those in the formal employment had the following responses.

**Table 4.5: Academic Qualification of Respondents**

<b>Work experience</b>	<b>Frequency</b>	<b>Percentage</b>
Below 2 years	22	20%
2 – 5 years	40	36.36%
6 – 10 years	22	20%
11 – 20 years	11	10%
21 – 30 years	11	10%
31 years and above	04	3.64%
<b>Total</b>	<b>110</b>	<b>100%</b>

20 % of the respondents had a working experience of below 2 years, the respondents with 2-5 years work experience made 36.36%, 2-4 years were at 20%, 6 – 10 years made 20% of the

respondents, 11 – 20 years and 21 – 30 years made 10% each while those with 31 years and above made 3.64% of the total respondents.

#### **4.4 Labour and Employment creation by Base Titanium project**

The research sought to find out the role of multinational corporations in relation to jobs creation to the local communities and results under the following sub-headings

##### **4.4.1 Number of Jobs for the Locals**

The respondents were asked whether Base Titanium had increased the number of jobs for the locals in the County.

**Table 4.6: Number of Jobs for the Locals**

<b>Structural Difference</b>	<b>Frequency</b>	<b>Percentage</b>
Yes	99	90%
No	11	10%
<b>Total</b>	<b>110</b>	<b>100%</b>

From the figures in table 4.5, 90 % of the respondents argued that the establishment of Base Titanium in Kwale County has led to increased jobs for both the locals and the outside people. This agrees with the observation that was made which established that a higher percentage of the employees in the company were people from the local communities: Durumas, Digos and Kambas.

10% of the respondents felt that there was no much difference in what the locals were experiencing in terms of jobs shortage long times back and what is currently going on, several years down the line since the Base was introduced by the Australians.

##### **4.4.2 Degree of Agreement or Disagreement In Relation to the Factors**

The respondents were asked to rate on a scale (Strongly disagree = 1, Disagree = 2, Weekly agree =3, Agree =4 strongly Agree =5), the extent to which various factors below were associated with Base Titanium in the region and the results in table 4.6 below were obtained.

**Table 4.7: Job Factors Rating**

<b>Situation</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Base has greatly increased the number of Non-Skilled Jobs	5	5	20	45	35
Skilled Jobs have been created for locals by Base	10	9	31	56	4
Management Jobs have great importance to the locals	7	6	21	34	4

From the responses, various factors attracted different degrees of responses. Base Titanium project has greatly increased the number of non-skilled jobs, 5 strongly disagreed, 5 disagreed, 20 weekly agreed, 45 agreed, while, 35 strongly agreed with the factor. On the issue that read, ‘skilled jobs have been created for locals by Base, 10 strongly disagreed, 9 disagreed, 31 weekly agreed, 56 agreed, while, 4 strongly agreed with the factor. This is strongly attributed to the fact that a number of locals were found to have benefited from the activities of base by getting a number of jobs in the company. On the last issue on management jobs have been of significance to the locals 7 strongly disagreed, 6 disagreed, 21 weekly agreed, 34 agreed, while, 4 strongly agreed with the argument.

When asked to give reasons for the above, respondents felt that since Base Titanium came into the Nguluku area of Kwale County, the local women, youths and men have been offered permanent, casual or other alternative places of workings. There were over 10 locals for example who were mentioned to have come from Msambweni, Vanga and Matuga who are in the management, over 2000 people who have previously worked as non-skilled jobs while other have been and still employed as skilled persons in the industry; thus increasing the income base of the locals and by extension, making their living styles and standards pronounced.

#### **4.5 Hypothesis Testing Using Chi-Square**

H<sub>1</sub>. Labour and employment by Base Titanium Company has a significant influence on the welfare of the people of Kwale County.

**Table 4.8: Showing Observed and Expected Responses**

Scale	SD	D	WA	A	SA
Observed (O)	10	9	31	56	4
Expected (E)	22	22	22	22	22

**Table 4.9: Showing Chi-Square Testing for the First Hypothesis**

O	E	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
10	22	-12	144	6.54
9	22	-13	169	7.68
31	22	9	81	3.68
56	22	34	1156	52.54
4	22	-18	324	14.72
$\sum (O-E)^2/E = 85.16$				

$\chi^2_c = 85.16 > \chi^2_{\alpha=0.05} : 9.49$  at 4 degrees of freedom and 5% level of confidence. Since the calculated chi-square value of 85.16 is greater than the critical chi-square value at 5% level of confidence, we accept the alternative hypothesis. Thus, labour and employment by Base Titanium Company has a significant influence on the welfare of the people of Kwale County.

#### **4.6 Displacement and Compensation by Base Titanium project**

The study sought to examine the role played by Base in relationship to the displacement and relocation of the residents and the following results were gotten.

##### **4.6.1 Involuntarily Displacement**

Respondents were asked whether they thought that Base displaced people from their homes involuntarily during its activities and the following responses were given.

Table 4.10: Displacement by Base Titanium to communities in Kwale County

Response	Frequency	Percentage
YES	70	63.64%
NO	40	36.36%
<b>Total</b>	<b>110</b>	<b>100%</b>

From the response, 63.64% of the respondents felt that the Base activities in the area displaced people without proper and due required procedures that in turn made them feel that they were involuntarily displaced, 36.36% felt that the relocations were well organized and no one forced the locals out of their homes or houses for the periods the issue was undertaken.

Respondents asked a question that read, indicate your position using a scale of: Strongly Disagree = 1, Disagree = 2, Weakly Agree =3, Agree =4 and Strongly Agree =5 in relation to the factors below' and the results were as shown in the table.

Table 4.11: Rating of Displacement and Compensation

Situation	1	2	3	4	5
Base entry led to Voluntarily Relocation of the locals from Nguluku.	35	25	30	12	8
Forced Relocation was experienced by the locals of Nguluku.	9	10	31	56	4
Poor Compensation is a cry by most of the locals of the area.	6	6	20	34	44

In relation to the second objective, from the responses gotten, various ratings were given as follows: 35 respondents strongly disagreed with the idea that Base entry led to Voluntarily Relocation of the locals from Nguluku, 25 disagreed, 30 weakly agreed, 12 agreed, while the rest 8 strongly agreed with the factor. On the issue that touched on forced relocation was experienced by the locals of Nguluku attracted, 9 respondents who strongly disagreed, 10



disagreed, 31 weekly agreed, 56 agreed, while the remaining 4 strongly agreed with the factor. On the final issue on poor compensation is a cry by most of the locals of the area attracted 6 respondents who strongly disagreed, 6 disagreed, 20 weekly agreed, 34 agreed, while the remaining 44 strongly agreed with the statement.

#### 4.7 Testing of the Hypothesis

H<sub>1</sub>. Displacement and compensation by Base Titanium Company has a significant influence on the welfare of the people of Kwale County.

Table 4.12: Showing Observed and Expected Responses

Scale	SD	D	WA	A	SA
Observed (O)	35	25	30	12	8
Expected (E)	22	22	22	22	22

Table 4.13: Showing Chi-Square Testing for the Second Hypothesis

O	E	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
35	22	13	169	7.68
25	22	3	9	0.41
30	22	8	64	2.91
12	22	-10	100	4.55
8	22	-14	196	8.91

$$\sum (O-E)^2/E = 24.46$$

$\chi^2_c = 24.46 > \chi^2_{\alpha, 0.05} = 9.49$  at 4 degrees of freedom and 5% level of confidence.

Since the calculated chi-square value of 24.46 is greater than the critical chi-square value at 5% level of confidence, we accept the alternative hypothesis. Thus, Displacement and compensation by Base Titanium Company has a significant influence on the welfare of the people of Kwale County.

#### 4.8 Education by Base Titanium to the welfare of communities in Kwale County

The respondents were asked to give their position in relation to the rate at which they agreed or disagreed with issues below carried by Base in relation to education. Their responses were as follows in table 4.13 below.

Table 4.14: **Rating of Education**

<b>Situation</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Base has been offering Financial Support for schools in the county.	12	10	25	30	33
Base has been facilitating educational Training Support for schools around.	11	11	27	29	32
Schools Building has been erected/ facilitated by Base in almost the whole county.	10	16	19	28	37

In relation to the above statements, 12 respondents strongly disagreed with the idea that Base has been offering financial support for schools in the county, 10 disagreed, 25 weekly agreed, 30 agreed, while the rest 30 strongly agreed with the factor. On the issue that read, Base has been facilitating educational training support for schools around attracted, 11 respondents who strongly disagreed, 11 disagreed, 27 weekly agreed, 29 agreed, while the remaining 32 strongly agreed with the factor. On the final idea that read, Schools Building has been erected/ facilitated by Base in almost the whole county, attracted 10 respondents who strongly disagreed, 16 disagreed, 19 weekly agreed, 28 agreed, while the remaining 37 strongly agreed with the statement.

#### 4.9 Third Hypothesis Testing

H<sub>1</sub>. Education by Base Titanium Company has a significant influence on the welfare of the people of Kwale County.

Table 4.15: **Showing Observed and Expected Responses**

<b>Scale</b>	<b>SD</b>	<b>D</b>	<b>WA</b>	<b>A</b>	<b>SA</b>
Observed (O)	11	11	27	29	32
Expected (E)	22	22	22	22	22

**Table 4.16: Showing Chi-Square Testing for the Third Hypothesis**

O	E	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
11	22	-11	121	5.5
11	22	-11	121	5.5
27	22	5	25	1.14
29	22	7	49	2.23
32	22	10	100	4.55

$$\sum (O-E)^2/E = 18.92$$

$\chi^2_c = 18.92 > \chi^2_{0.05} = 9.488$  at 4 degrees of freedom and 5% level of confidence.

Since the calculated chi-square value of 18.92 is greater than the critical chi-square value at 5% level of confidence, we accept the alternative hypothesis. Thus, Education by Base Titanium Company has a significant influence on the welfare of the people of Kwale County.

#### 4.10 Pollution Influence by Base Titanium to Kwale County

Respondents were asked whether they thought that Base has contributed to a great deal in the pollution situation in the region and respondents below were given.

**Table 4.17: Responses on pollution influence by Base Titanium in Kwale County**

Response	Frequency	Percentage
YES	100	90.9%
NO	10	9.1%
<b>Total</b>	<b>110</b>	<b>100%</b>

When asked whether the presence of Base in Kwale County had in any way increased the rates/amounts of pollution in the area, 90.9% of the respondents went for a yes while the remaining 9.1% went for a no.

#### 4.10.2 Rating of Pollution Factors

Respondents were asked to rate the on a scale of 1 to 5, the extent of agreement with the following factors (Strongly Disagree = 1, Disagree = 2, Weakly Agree =3, Agree =4 and

Strongly Agree =5) gave the following:

**Table 4.18: Rating of Various Pollution Factors**

<b>Situation</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Radioactivity pollution has not been addressed effectively.	8	10	29	35	28
Air pollution is a major challenge to the people of Nguluku in Kwale.	08	05	31	34	32
Water Pollution is a major challenge as a result of Base entry.	7	7	19	28	49
Soil Degradation is a major setback in the Nguluku area.	04	4	45	40	17

In relation to the factors of pollution, 8 respondents strongly disagreed with the idea that Radioactivity pollution has not been addressed effectively, 10 disagreed, 29 weekly agreed, 35 agreed, while the rest 28 strongly agreed with this factor. On the issue that read, Air pollution is a major challenge to the people of Nguluku in Kwale attracted, 8 respondents who strongly disagreed, 5 disagreed, 31 weekly agreed, 34 agreed, while the remaining 32 strongly agreed with the factor. On the final idea that read, Water Pollution is a major challenge as a result of Base entry, attracted 7 respondents who strongly disagreed, 7 disagreed, 19 weekly agreed, 28 agreed, while the remaining 49 strongly agreed with the statement. Finally, in relation to Soil Degradation is a major setback in the Nguluku area, 4 respondents strongly disagreed, 4 disagreed, 45 weekly agreed, 40 agreed, while the rest 17 strongly agreed with this factor.

#### **4.11 Testing of the Hypothesis**

H<sub>1</sub>. Pollution caused by Base Titanium Company has a significant influence on the welfare of the people of Kwale County.

**Table 4.19 Showing Observed and Expected Responses on Parental Factors**

<b>Scale</b>	<b>SD</b>	<b>D</b>	<b>WA</b>	<b>A</b>	<b>SA</b>
Observed (O)	08	05	31	34	32
Expected (E)	22	22	22	22	22

Table 4.20: Showing Chi-Square Testing for the Fourth Hypothesis

O	E	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
8	22	-14	196	8.91
5	22	-17	289	13.14
31	22	9	81	3.68
34	22	12	144	6.55
32	22	10	100	4.55
				$\sum (O-E)^2/E = 36.83$

$\chi^2_c = 36.83 > \chi^2_{0.05, 4} = 9.488$  at 4 degrees of freedom and 5% level of confidence.

Since the calculated chi-square value of 36.83 is greater than the critical chi-square value at 5% level of confidence, we accept the alternative hypothesis. Thus, pollution caused by Base Titanium Company has a significant influence on the welfare of the people of Kwale County.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents the summary of the study findings, discussions, conclusions and recommendation of the research. The chapter also contains suggestions of related studies that may be carried out in the future.

#### **5.2 Summary of Findings**

The aim of this study was to determine the influence of multinational projects on the welfare of communities; case of base titanium project in Kwale county, Kenya. From an analysis and review of the research data and additional data gathered through interviews and questionnaires filled, a number of issues became apparent.

As per the first objective that to examine the influence of the labour and employment by Base Titanium Company on the welfare of the people of Kwale County, variant responses became apparent. From the responses gotten on the issue that touched on Base's great increase in the number of Non-Skilled Jobs in the area, 5 strongly disagreed, 5 disagreed, 20 weekly agreed, 45 agreed, while, 35 strongly agreed with the factor. On the issue that read, 'skilled jobs have been created for locals by Base, 10 strongly disagreed, 9 disagreed, 31 weekly agreed, 56 agreed, while, 4 strongly agreed with the factor. In an explanation for the above support, respondents felt that since Base came into the Nguluku area of Kwale County, the local energetic women, youths and men have been offered permanent, casual or other alternative places of workings. There were over 10 locals for example who were mentioned to have come from Msambweni, Vanga and Matuga who are in the management level, over 2000 people who have previously worked as non-skilled jobs while other have been and still employed as skilled persons in the industry; thus increasing the income base of the locals and

by extension, making their living styles and standards pronounced.

In relation to the second objective which sought to examine the influence displacement and compensation by Base Titanium Company on the welfare of the people of Kwale County, from the responses, 63.64% of the respondents felt that the Base activities in the area displaced people without proper and due required procedures that in turn made them feel that they were involuntarily displaced, 36.36% felt that the relocations were well organized and no one forced the locals out of their homes or houses for the periods the issue was undertaken.

On the third objective that sought to investigate the influence of education by Base Titanium Company on the welfare of the people of Kwale County responses were as follows:

On the issue that read, Base has been facilitating educational training support for schools around attracted, 11 respondents who strongly disagreed, 11 disagreed, 27 weekly agreed, 29 agreed, while the remaining 32 strongly agreed with the factor. On the final idea that read, School building has been erected/ facilitated by Base in almost the whole county, attracted 10 respondents who strongly disagreed, 16 disagreed, 19 weekly agreed, 28 agreed, while the remaining 37 strongly agreed with the statement.

In relation to the last objective that sought to find out the influence of pollution caused by Base Titanium Company on the welfare of the people of Kwale County, 8 respondents strongly disagreed with the idea that Radioactivity pollution has not been addressed effectively, 10 disagreed, 29 weekly agreed, 35 agreed, while the rest 28 strongly agreed with this factor. On the issue that read, Air pollution is a major challenge to the people of Nguluku in Kwale attracted, 8 respondents who strongly disagreed, 5 disagreed, 31 weekly agreed, 34 agreed, while the remaining 32 strongly agreed with the factor.

### **5.3 Discussion of Findings**

Findings have shown that there is a great relationship between multinational projects implementation and the welfare of the community more specifically Base Titanium project in Kwale County.

From the findings on the support of the first objective that touched on Labour and Employment, 5 strongly disagreed, 5 disagreed, 20 weekly agreed, 45 agreed, while, 35 strongly agreed with the factor. In an explanation for the above support, respondents felt that since Base came into the Nguluku area of Kwale County, the local energetic women, youths and men have been offered permanent, casual or other alternative places of workings. A study by UNEP (2013) shows that, over 14 per cent of the poor households surrounding Base are involved and benefit from mining activities; most of them in low cadre jobs such as casuals, security guards, cooks, gardeners or storekeepers due to limited education but have had their lives changed, unlike cases where they could be without jobs at home. Base Titanium, the company exploring the mineral, has recruitment policies. However, these do not favour the locals because they lack relevant education and training. Research shows that increasing indigenous community participation in the workforce gives extractive industries “social license to operate”. A framework on how to maximize benefits to indigenous communities through employment is not only good practice but pertinent to averting conflict as well as the resource curse. Skill development among the locals will also be another positive outcome of mining employment for locals. Therefore, from various studies, the company has given both non-skilled, skilled jobs and specialized jobs to the Kenyans and more specifically to the people of Kwale County. This agrees with the literature review of multinational projects in China which has seen creation of jobs and increases of income to the citizens. According to World Bank (2011), the Chinese economy has been growing by double digits for the past two decades and this has seen creation of jobs among its people.

As per the second objective which sought to examine the influence of displacement and compensation by Base Titanium Company on the welfare of the people of Kwale County, from the responses, 63.64% of the respondents felt that the Base activities in the area



displaced people without proper and due required procedures that in turn made them feel that they were involuntarily displaced, 36.36% felt that the relocations were well organized and no one forced the locals out of their homes or houses for the periods the issue was undertaken. Studies by Australian Aid and World Bank (2012) have shown that there are reasons as to why communities have to be cautious about the earth robbery industry due to its displacement accompaniment. In the report, up to 2 million world animals and insects are displaced in 3 months due to the activities related to robbing the earth through activities like mining and quarrying while 1.1million people are displaced annually across the globe. These people and animals are either moved out of their homes due to the effects feared that could reach them as a result of emissions from the industry or as a result of the natural habitat being identified for use in scavenging the said minerals. This has also been true with what has been found in Kwale County as per the Chi-Square tests.

As per the third objective that sought to investigate the influence of education by Base Titanium Company on the welfare of the people of Kwale County responses were as follows; Base Titanium has been facilitating educational training support for schools around attracted, 11 respondents who strongly disagreed, 11 disagreed, 27 weekly agreed, 29 agreed, while the remaining 32 strongly agreed with the factor. On the final idea that read, School buildings has been erected/ facilitated by Base in almost the whole county, attracted 10 respondents who strongly disagreed, 16 disagreed, 19 weekly agreed, 28 agreed, while the remaining 37 strongly agreed with the statement. Flor (2006) cited by Republic of Kenya (2013) in their study, they established that education helps to alleviate poverty by affecting labour productivity and through other paths of social benefit. They added that, lack of organizational capacity is a main barrier that is related to poverty. Therefore education contribution to community development must be locally controlled, practical, applied problem posing and focused on functional specialization. In this realization, Tiomin Company that was adopted by the Base Titanium in Kwale County, in the years 2007, 2009 and 2010 started programs in Kwale County that aimed at changing the educational levels of the local community. According to the information in the Base website in Kenya and that from the Kwale county educational board shows that base has built 3 secondary schools in the last 2 years (Bomu in

Likoni, Gombato Sec. School at Kombani and Base titanium sec. school headed by Mwalimu Mwachome). They have supported various school projects like building of dormitories at Msambweni sec. school and classrooms at Kwale seminary, Kichaka Shimba, Mwamzandi etc., distributing learning materials and sanitary towels to Kingwede, Ngozi girls, Kinondo and many more. This agreed with the literature review in India on the relationship between human capital and economic development whereby education is considered important because it widely distributes the conditions conducive to development (Mathu, 1993, World Bank, 1997; 2010).

In relation to the last objective that sought to find out the influence of pollution caused by Base Titanium Company on the welfare of the people of Kwale County, 8 respondents strongly disagreed with the idea that Radioactivity pollution has not been addressed effectively, 10 disagreed, 29 weekly agreed, 35 agreed, while the rest 28 strongly agreed with this factor. On the issue that read, Air pollution is a major challenge to the people of Nguluku in Kwale attracted 8 respondents who strongly disagreed, 5 disagreed, 31 weekly agreed, 34 agreed, while the remaining 32 strongly agreed with the factor. According to Mwenzwa, & Onduru (2010), the worst recipients of world robbery earth industries, is pollution. According to literature review, pollution has been cited as the worst environmental effect of mining in China, Venezuela and Croatia. According to the World Bank (2012), China has for 9 years now experienced over the 80% normal solar insolation due to overdependence on mining and over mining that has left the toxic levels beyond environmental and nature's controls. The same has been experienced in Chile, Haiti and SA.

According to Elizabeth and Remi (2011), Large-scale mining has the potential to contribute significantly to air pollution, especially in the operation phase. All activities during the ore extraction, processing, handling and transport depend on equipment, generators, processes and materials that generate hazardous air pollutants such as particulate matter, heavy metals, carbon monoxide, sulfur dioxide and nitrogen oxides. Community members who took part in different focus group discussions held in Nguluku pointed out that dust is the biggest environmental challenge.

## **5.4 Conclusion**

In conclusion to the first objective, the study shows that there has been a positive influence by the Base Titanium project in Kwale County on creation of labour and employment. Respondents felt that since Base Titanium came into the Nguluku area of Kwale County, the local energetic women, youths and men have been offered permanent, casual or other alternative places of workings. During the construction of the Project, it employed close to 2400 workers, with half of these coming from Kwale County. Base Titanium Company has created all the levels of jobs for the locals especially the women starting from the menial jobs, skilled jobs and professional jobs; thus changing their final outlook and their poor living standards.

As per the second objective which sought to examine the influence of displacement and compensation by Base Titanium Company on the welfare of the people of Kwale County. Respondents felt that the Base activities in the area displaced people without proper and due required procedures that in turn made them feel that they were involuntarily displaced.

As per the third objective that sought to investigate the influence of education by Base Titanium Company on the welfare of the people of Kwale County shows that there is a positive influence by the project. Base Titanium has been facilitating educational training support for schools. It has built 3 secondary schools in the last 2 years (Bomu in Likoni, Gombato Sec. School at Kombani and Base titanium sec. school headed by Mwalimu Mwachome), have supported various school projects like building of dormitories at Msambweni sec. school and classrooms at Kwale seminary, Kichaka Shimba, Mwamzandi etc., distributing learning materials and sanitary towels to Kingwede, Ngozi girls, Kinondo and many more. This then shows that the project has played education in the county positively.

In relation to the last objective that sought to find out the influence of pollution caused by Base Titanium Company on the welfare of the people of Kwale County, the study has shown that there has been pollution caused by the mining activities in the County. The project has

contributed significantly to air pollution, especially in the operation phase. All activities during the ore extraction, processing, handling and transport depend on equipment, generators, processes and materials that generate hazardous air pollutants such as particulate matter, heavy metals, carbon monoxide, sulfur dioxide and nitrogen oxides. Community members who took part in different focus group discussions held in Nguluku pointed out that dust is the biggest environmental challenge. Also, soil erosion is one of the environmental degradation occurred due to titanium mining activities. More damage is observed due to the open-cast mining , strip mining, method to be used, which involves clearing all vegetation, stripping and stockpiling the topsoil and lead to soil erosion.

### **5.5 Recommendations**

Based on the findings of the study that has come from the respondents in the field and the literature review, the researcher recommends that the multinational corporations should be strengthened in the country and the jobs they create should be shared in a given percentage just like Malaysia has done to its people. The ministries involved like those of industrialization, mining and the devolution committees should encourage such companies and should come up with proper jobs sharing formula so as to benefit the locals and the nation at large.

The study also recommends that both the county government and the national government should come up with strategies that involve various activities that should attract more stakeholders like the NGOs, FBOs, CBOs, the local educational supporting organisations, the politicians and local leaders to encourage the multinational companies like Base in investing in educational activities across the country and in Kwale county in particular that is greatly affected by the shortage of educated personalities. The schools should be encouraged to prepare and shape students in courses that will later on help them involve and direct their energies into the activities of multinational companies like Base Titanium both locally and nationally.

The study continues to recommend that the communities that were relocated from the area around the sand harvesting company should be moved to better places like Msambweni,

Ramisi, Vanga and other vast lands like Godo. Also, the water situation in the area must be improved by building more boreholes and wells for the locals at the Nguluku area and the air pollution should be controlled by building more dust arresters. Proper EIA should be done to ascertain whether there are future hidden pollution dangers associated with the project in the area and strict measures be taken. This way, the lives of the locals will be protected.

Finally, the researcher recommends that the compensation figures and the situation of the locals in areas to where they were relocated be checked on. Some residents were allocated little money that is not currently measuring up to the current land rates. Those ones who moved to towns like Likoni and whose lives are getting difficult there should be followed up and their situation be improved. Also, those who feel that the areas they were moved to are not convenient should be checked on and then be facilitated to relocate to areas

#### **5.5 Suggestions for Further Research**

- i. This study was carried out in one Multinational company in the county. A similar study could be carried out in the other in the county like KISCOL.
- ii. A research can be done to access the influence of multinational companies in the welfare of the locals in the whole country besides that done in other counties.
- iii. Finally, a study can be done to examine the negative influence of Base Titanium to the natural ecosystem and its general effect to the lives of the people of Kwale County.

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## APPENDICES

### APPENDIX 1

#### Letter of transmittal

Christine Chelagat  
P.O Box 95076-80104  
MOMBASA  
February 27<sup>th</sup> 2015

To Whom It May Concern

#### **Re: Academic Research**

My name is Christine Chelagat, a master's student in project planning management at the University of Nairobi, Mombasa campus.

It is a requirement to undertake a research on particular area of interest. In line with my studies, I am conducting research on an attempt to assess the influence of multinational projects on the welfare of the community; a case study of base titanium project in Kwale county.

This research will use a questionnaire to collect information in order to understand the situation as it is in the subject under review. It is for this reason that I kindly request for your assistance in offering your consent for the interview as well as giving honest responses to the interview questions.

I am looking forward to your cooperation.

Thank you

Christine Chelagat (Miss)

## APPENDIX 2

### QUESTIONNAIRE

#### SECTION A: Background Information for Respondents (Tick where appropriate (√))

- Your gender

Male       Female

- Your age (in years)

Below 20    Between 20-29    Between 30-39    Between 40-49

50 plus

- Level of education

K.C.S.E    Diploma    Bachelor's Degree    Master's Degree    Others

- Working experience (for employees only)

Below 2 years    2 – 5 years    6 – 10 years    11 – 20 years

21 – 30 years    31 years and above

#### SECTION B: General Questionnaire as per the Objectives

##### Labour and Employment Questions

5. Do you support that Base has increased the number of jobs for the locals since it came into birth in Kwale County?

Yes                            No

6. Below are a number of issues concerning jobs creation by Base in the county. Rate your degree of agreement or disagreement in relation to the factors. Indicate your position using a scale of: **Strongly disagree = 1, Disagree = 2, Weekly agree =3, Agree =4 Strongly Agree =5**

Situation	1	2	3	4	5
Base has greatly increased the number of Non-Skilled Jobs					
Skilled Jobs have been created for locals by Base					
Management Jobs have of great importance to the locals					

7. Give your reasons for your position in 6 above

.....  
.....

**Displacement and Compensation Questions**

8. Do you think that Base displaced people from their homes involuntarily?

Yes ( ) No ( )

9. Indicate your position using a scale of: Strongly Disagree = 1, Disagree = 2, Weakly Agree =3, Agree =4 and Strongly Agree =5 in relation to the factors below

Factor	1	2	3	4	5
Base entry led to Voluntarily Relocation of the locals from Nguluku					
Forced Relocation was experienced by the locals of Nguluku					
Poor Compensation is a cry by most of the locals of the area					

**Education Questions**

10. Using a scale of 1-5, the following health factors as carried out by Base where: **Strongly Disagree = 1, Disagree = 2, Weakly Agree =3, Agree =4 and Strongly Agree =5**

Factor	1	2	3	4	5
Base has been offering Financial Support for schools in the county.					
Base has been facilitating educational Training Support for schools around.					
Schools Building has been erected/ facilitated by Base in almost the whole county.					

**Pollution Influence Questions**

11. Do you think that Base has contributed to a great deal in the pollution situation in the region?

Yes ( ) No ( ).

12. On a scale of 1 to 5, rate the extent of agreement with the following factors: **Strongly Disagree = 1, Disagree = 2, Weakly Agree =3, Agree =4 and Strongly Agree =5**

<b>Factor</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Radioactivity pollution has not been addressed effectively.					
Air pollution is a major challenge to the people of Nguluku in Kwale.					
Water Pollution is a major challenge as a result of Base entry.					
Soil Degradation is a major setback in the Nguluku area.					