

Gender Role Transformation in the Oil Mining Industry in Kenya: a Case Study of Lokichar, Turkana

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Abstract

The mining industry presents opportunities for economic development not only in Kenya but the entire world. There is hence need to involve women more to realize this development. The purpose of this paper is to analyze gender role transformation in the oil mining industry in Kenya. This paper is anchored on three theories; gender relations theory as the anchor theory, conflict theory and diffusion innovation theory. Desk review and various studies done in Kenya on Extractive Industry will inform this paper while anchoring on a recent study by the author of this paper. The study findings show that gender roles have been transformed as a result of oil mining. Additionally, oil mining has influenced changes in livelihoods for women but locals not aware of laws and policies dealing with gender in the oil mining industry. The paper recommends good will in implementation of gender policies and Affirmative Action.

Keywords: Gender, Role, Affirmative Action, Mining Industry, Extractive Industry, Gender Relations, Gender Role Transformation.

1. Introduction

1.1 Background

Africa has 30 percent of the world's mineral reserves including huge reserves of oil and gas (Berman et al., 2017). This presents Africa with a window of opportunity to exploit these resources in development and improving livelihoods. Gender roles are a critical component in measuring how advanced a community is in respect to economic changes. Policies on controlling mining industries have been associated with changes in gender gap that is extremely unbalanced in oil mining industry. Countries including South Africa, India, Nigeria and other known mining countries have enacted Acts of Parliaments, laws or frameworks to guide and control the process of mining in terms of embracing gender balance (Nadeau et al., 2013). Through focusing on improving livelihoods, gender inclusion becomes part of the overall process of empowering the local community. Improving processes such as record keeping and increased production relations knowledge together with process as well as tracking the change process by using gender-based data collection and also analysis will serve as the first measure towards establishing pro-poor aspects that will succeed at the grassroots level (Bahn, 2013). With the education system entrenched into the patriarchal attitude, women were deliberately streamed into other occupations not termed as "technical" thus limiting those who could work on mines. Rules in mining industry and other highly physical occupations discouraged women workers from participating, including conditions like women having to be married to get considered, or being discharged of their duties based on divorces or pregnancies. Mpagi et al (2017) on a study on the artisanal gold mining in Uganda noted that both women and men were active participants and were involved in the core activity of drilling and digging for gold. The study alludes to the dwindling line on gender roles in mining as men and women engage in mining without factoring in gender perceptions. The case of women participating in mining describes their changing perception and willingness to adopt any work done by the other gender. The same view is shared by Bashwira et al (2014) who points out that women have adopted the traditionally-perceived men's roles in mining than men have adopted the women's perceived roles. Extensive researches have depicted how women have been aggressive in their involvement in the mining sector with the main goal of challenging the hegemonic notion that mining is meant for men (Eveline & Booth 2002; Mercier & Gier 2006; Lahiri-Dutt & Robinson 2008; Lahiri-Dutt & Macintyre, 2006; Moretti, 2006). Male dominance in mining industry across the world is adequately documented.

For example, in the Ugandan Coltan mines, women represent less than 5 percent of the labour force (Ngendanzo, 2012). In Kenya, the Mining Bill 2014 lacks gendered aspects while the Kenyan Constitution, 2010, Article 27 (8) supports for Affirmative Action, which requires the government to legislate and take other measures in ensuring that at least one-third of the appointed or elected members are from either gender. Consistent to this view is Dessler (2005), who opine that Affirmative Action entails measures established to eliminate the existing impacts of discrimination in the past; Affirmative Action in the oil mining sector is a move that will ensure more women get to participate and are adequately represented in the oil mining sector. With the coming of oil industries, Turkanas now engage in alternative livelihood for example working in oil industries, business, farming and charcoal burning. Remittances from family and relatives, merry go rounds and currently Saving and Credit Co-Operative (SACCOs) are playing a critical role in their lives. Additionally, due to loss of cattle, men and women are currently involved in diversified income generating activities and are moving from the traditional role of pastoralism (Barrow and Mogaka, 2007).

1.1 Problem Statement

According to Mususi (2015) about 30% of the African population is poor, most of who are women. The mining activities are thus mostly done by poor persons among them women. The mining sector is a key pillar of wealth among countries world over, and women make a tremendous contribution of the world's work force. Mining has empowered women by giving them an opportunity to improve their livelihoods through enterprise development even though various studies have reported that this sector is male dominated (Dlamini, 2018). Turkana County of Northern Kenya is predominantly a pastoralist community. Power structures in the community are predominantly patriarchal. Land related disputes and negotiations for example are dealt with by a council of elders comprised of men only. Women and youth are seldom involved in these meetings (Omolo, 2014). Additionally, the Mining Bill (2014) acknowledges use of natural resources for national development; it fails to highlight its gendered effects particularly on resource extraction and management of natural resources. As it stands, women are disadvantaged since they have been excluded from this value chain and their involvement in benefiting from available opportunities is limited (Ndzwayiba, 2017). The discovery of oil in Turkana County, therefore, calls for a better understanding of the challenges impacting each gender. It has been noted that in the mining industry men are more advantaged due to the nature of work and compensation while costs, such as social disruption, and environmental degradation mainly affect women (Omia, 2015; Ndzwayiba, 2017; and Dlamini, 2018). It is therefore important to evaluate the transformation in gender roles in the lens of the challenges/ changes that oil mining has impacted on this sector.

Kenya has enacted legislations geared toward ensuring gender equality including the third-gender rule that requires either gender to have at least a third of their representation in employment and other government positions. Oil mining is a current development venture in Kenya and it has been under researched more so aspects of gender. It is in the light of this that this paper evaluates changes in gender roles and livelihood brought about by oil mining and also assesses ways of empowering men and women in gender role transformation in the same sector. There is a gap in existing knowledge that is necessary for informed decision making to ensure gender participation and empowerment in the process of oil mining in the region by understanding the challenges that negate this process. This has also been elevated by limited research that are gendered in the oil mining in Kenya. The study provides scientific findings thus contributing to evidence on how oil mining can lead to social and economic empowerment including poverty reduction. Thus, the general objective of this paper is to analyze the transformation of gender roles in the oil mining industry. Specifically the paper sought to;

- i. Assess challenges caused by oil mining affecting transformation of gender roles
- ii. Evaluate changes in gender roles for men and women.
- iii. Evaluate changes of livelihood for both genders due to oil mining.
- iv. Assess ways of empowering men and women in gender role transformation in the oil mining sector.

2. Theoretical and Literature Review

2.1 Literature Review

2.1.1 Livelihoods and Gender in Oil Mining

Several studies have shown that oil mining leads to changes in the livelihoods for the locals and other players. Oil mining is associated with increased opportunities for businesses and employment as well as challenges to the local community. Lahiri-Dutt and Mahy (2016) pointed that studies of mining and gender have consistently focused on the negative effects of mining on women's wellbeing and livelihoods, beginning with the lack of employment opportunities in mining for women and their being forced to find employment in socially humiliating and unprotected positions such as prostitution. These studies often describe the loss of agricultural land and livelihood resources for those people living at subsistence level, and the decreased ability of women to work on remaining land due to male absenteeism.

Detrimental environmental effects often fall more heavily on women with few documented detrimental effects on men (Mayes & Pini, 2010). Increase in employment opportunities and access to trainings was associated with changed livelihoods of the locals in the mining towns. Those who have experienced positive changes due to oil mining were those with higher education, better economic power and adequate experiencing (Knobblock, 2013). It was further felt that specific to women, there were increased economic opportunities, more jobs in the mines, and businesses including catering. The youthful women were particularly associated with the increased changes to their economic status.

2.1.2 General Changes in Gender Roles Due To Mining Activities

Studies have positively identified changes in gender roles as influenced by mining activities. Lahiri-Dutt and Mahy (2015) identified the area of Sangatta in Indonesia to have been sparsely populated as well as “completely undeveloped zone.” The area was only accessible through the river, using boats and or helicopters for the oil exploring companies. The area changed significantly with large number of migrants coming to the area searching for employment, signifying the start of urbanization. Mining projects led to expansion of the area into a district with government offices and thus attracting many development projects. The oil mining firm keeps the villagers in anticipation of great developments like road projects, health facilities, and other development related projects (Buxton, 2012). Many studies have identified several economic effects like increasing cost of living associated with changes in prices of goods (Bryant & Jaworski, 2012). Purchasing power of the locals can either be boosted if they increase the amount of income they earn from the mining activities. Similarly, if the locals are not employed to earn some income, then they will have a reduced purchasing power that will translate to a high cost of living. Women are mostly the custodians of the old customs as experienced in most cultures and when rapid transformations such as the ones caused by mining are likely to put women at a disadvantage (Nygren, 2013). Men were associated with the most economic gains from mining activities but were also subjected to most of the negative social outcomes including squandering the cash in drugs, alcohol, prostitution, and adding other girlfriends or wives (Stenbacka, 2011).

2.1.3 Oil Mining and Gender Equality

Some of the suggested economic empowerent programs for women include bettering women to compete efficiently in the new market economy, and also ensuring the market has structures that suits women (Knobblock, 2013). Studies have also identified resistance by the local communities where tools like gender sensitization seminars and workshops become part of the solution to such challenges (Laplonge, 2014). Trainings using “gender role plays” and also engaging women in leadership and strong communication ability were also quoted to be key tools of creating sensitization among the community in the form of embracing both women and men working in mines. The image presented by mining sector is that of “masculinity” where women feel sidelined. Mining companies should work to provide a competitive ground where women feel appreciated and embraced as other gender of men (Ely & Meyerson, 2010). An image of gender tolerance should also be presented in the mining companies where women are embraced in many departments including exploitation, management and logistics. The role women play at the family and community level should be recognized at the company level through appreciating them with maternity leaves and periods for handling children and family matters. Subjects or courses like Gender and Development (GAD) need to be introduced into company level management where both men and women are taught the approaches of mainstreaming gender in oil mining activities (Knobblock, 2013).

In-company gender audits were also recommended to expose how women were performing in relation to men within the mining roles. Such audits need to be followed by a set of gender equity and diversity policies and principles while including all other organization staff. Community development initiatives, interventions and projects are often run by mining engineers with less awareness of social, cultural and economic welfare issues than project management (Jakobsson & King, 2011). Kenya has legislations that include the one third gender rule as instilled in the Constitution of Kenya 2010. It allows not more than one gender to hold more than two-thirds of gender roles in an employment positions in both public and private sector. Since the Kenyan status of oil mining has not been in existence for long, actions towards promoting gender diversity through campaigns involving gender empowerments in mining sector partly target issues like safety, security of female workers, and sexual harassment that are commonly targeted to women in strenuous jobs like mining. Other aspect of focus of gender mainstreaming in the Kenyan mining sector is the gender-based attitudes and the patriarchial culture/societal beliefs that hinder women from participating in oil mining sector (Ahmad & Lahiri-Dutt, 2007).

2.2 Theoretical Review

Three theories have informed this study; the gender relations theory, conflict theory and diffusions of innovation theory. The gender relations theory predicts that all activities carried out in the society must conform to the social roles and interactions of men and women (Johansson, & Ringblom, 2017).

The theory holds that a role is the expected behaviour that is connected to a certain status. Roles must be in line with social norms, shared rules that guide the behaviour of people in various circumstances. Social norms define the responsibilities and freedoms; it enables people to have a certain level of flexibility in their roles. As compared to the male counterparts, for instance, females are likely to occupy status within and beyond their homes which are associated with little power, less prestige and limited pay or no pay (Dominelli, 2017). Proponents of gender relations theory, such as Messerschmidt et al. (2018) argue that women have been relegated to performing reproductive and undervalued roles within the households. This theory explains the observed labor patterns between males and females in the society and its association of these roles with social status/ privileges in the society while alluding to cultural transmission of roles across generations more so in the mining sector in Lokichar. The gender relations theory has been important in explaining the societal norms and practices toward gender division of labor in the society (Booth & Erskine, 2016).

According to Burrell (2017) the conflict theory assumes that the fact that the society always competes over scarce resources affects social relationships. Among the areas where conflict theory has been applicable, include explanation of oppression of women by men, and non-economic conflicts in regions such as Turkana County. The theory was useful in explaining the cultural conflicts between men and women as influenced by culture. According to Evans and Aceves (2016) diffusion entails communicating innovations to the members of social system through given channels over years. Based on the definition, it is evident that the main components of diffusion of innovation include time, communication channels, social systems, and innovation. This theory fits well to the Turkana context as the coming of oil industry has brought many changes in the lives of the people of Turkana who were initially pastoralists. With industrialization and urbanization this has somehow led to changes in gender roles and livelihood. All the three theories help us in understanding gender transformation in the oil mining sector in Lokichar. More so how gender roles have been transformed by oil mining and cultural values in this area.

2.3Hypothesis Testing

The following hypothesis were tested;

- i. H_0 : Gender roles have not been transformed as a result of oil mining in Lokichar.
 H_1 : Gender roles have been transformed as a result of oil mining in Lokichar.
- ii. H_0 : Oil mining has not influenced change in livelihood for women and men in Lokichar community.
 H_1 : Oil mining has influenced change of livelihood for women and men in Lokichar community.

3. Research Methodology

This paper capitalizes on the findings from other studies and from a recent study by the authors which adopted the use of a descriptive survey design. Lokichar was selected as the study site because of the Oil mining activity in the area. The active labour force aged between 15 years to 64 years was the target population. Lokichar has an approximate population of 2,000 people (Turkana County Government, 2016). Out of the population, the Active labour force is approximated at 67.5% which is 1350 people, comprising both males and females. The calculation to find out the sample size for this paper assumed a confidence level of 95%. The paper adopted the following formula to compute the size of the sample (Creative Research Systems, 2012).

$$\text{Sample Size} = \frac{\frac{Z^2 \times P(1-P)}{\epsilon^2}}{1 + \left(\frac{Z^2 \times P(1-P)}{\epsilon^2 N} \right)}$$

The Z-score (Z) used was 1.96, with a margin of error (e) of 0.05. Distribution (P) was 0.5, and the population size represented by N. Given the Population size (N) as 1350, the following was calculated;

$n=299.05$ which is rounded off to the nearest whole number and thus; $n= 300$

The sample size for the study was 300 people. The study adopted Systematic random sampling in selecting the main respondents for interviewing in the survey. A listing of the population of 1350 people was prepared from which men and women were separated. Random numbers were generated for this listing, that is, from 1 to 1350. Considering systematic random sampling, Sampling fraction = Actual Sample Size /Total Population. This implied that the sampling fraction for this study was $300/1350= 0.22$. From this, every third person (homestead) from the starting point was interviewed beginning with the first person. This was done until the whole population was interviewed. Purposive sampling was used for focus group discussion and key informant interviews. Six key informant interviews were conducted and one focus group comprising of young men, young women elderly men and elderly women was done. With this regard Questionnaires, Key informant interviews and Focus Group Discussion guides were adopted as tools. Hypotheses were also tested. Chi Square test was used and Tabulation and charts were presented to show a comparison between the various categories.

4. Research Findings

4.1 Challenges/ Changes caused by oil mining affecting transformation of gender roles

The study established that the male respondents suggested the challenge of loss of land at 57.1% and health hazards at 42.9% as the major challenges caused by oil mining while their female counterparts were at 55.3% and 25.5 % respectively. Other changes mentioned by both gender were displacement at 35.7%, Loss of livelihood at 1.3%, degradation of environment at 21.3, limited access to food and water at 10.7%, changes in livelihood at 7% and immorality and sexual transmitted diseases at 5.3%. Looking at the differences across gender the study established that the females mentioned challenges like immorality/ sexually transmitted diseases (8.5%), limited access to water. Food and firewood ((17%) and loss of livelihood (2.1%) which was not mentioned by their male counterparts. Similarly, other studies note that in the mining industry men are more advantaged due to the nature of work and compensation while costs, such as social disruption, and environmental degradation mainly affect women (Omia, 2015; Ndzwayiba, 2017; and Dlamini, 2018). Some of the positive changes identified include availability of jobs, increasing incomes and changing livelihoods for the locals. Some other changes witnessed included development of the local areas where schools, dispensaries and roads. One of the respondents indicated that, "There were job creations especially for the VLOs (village liaison officers) and CLOs (community liaison officers). There was also physical development where there was construction of infrastructure like tarmacading of roads, building of two classrooms (one at Muharal and another at Lomokmal schools), one dispensary, and one dormitory at Uhuru High School." In terms of education, there were bursaries given for secondary schools and colleges thus improving education levels of the locals. It was also noted that a Memorandum of Understanding (MoU) was signed to allow the workers to return to work from the one-month strike with 5% going to the community. The assistant chief who has served as the acting chief since 2007, stated, "The locals want the 5% was to be channeled to development, with 1% for personal consumption, 1% for bursary for education, 1% for health of the people, 1% for the health of livestock and 1% for food production."

Some of the negative changes identified by the key informants include increased prostitution as the administrator of the healthcare facility indicated, "There was increase in prostitution (sex working)." There are also increased displacements of people (local community) with the loss being lack of grazing lands. There has been an increased rate of insecurity with attacks and potential risks on the tracks transporting oil. On the psychological front, majority of the locals who have lost jobs have slipped into depression owing to the fact that they lost their livelihoods, and the money they got did not get into good use but was wasted since they believed that the jobs would continue for their lifetime (Elmhirst, Siscawati, Basnett, & Ekowati, 2017). The area chief supported by the facility administrator and two other key informants pointed out that there was increase in crimes as well as diseases. A study by Macdonald (2003) on the impacts of oil production on the local people points out that there are mixed results since there are positive and negative effects. For instance, there were instances of environmental contamination with oil spills, destruction of oil during excavation, and pollution through production of poisonous gases and other substances. The findings further relate to the diffusion for innovation theory where upon the discovery of oil, sociocultural factors had to change to feature the influx of immigrants.

4.2 Changes in gender roles for men and women brought by oil mining

4.2.1 Traditional Roles for Men

The study identified traditional roles for both men and women of the Lokichar community before the entry of Oil Company in the area. Traditional roles of men included herding the cattle, sheep and goats, protecting the homes, hunting and providing for their families. The FGD members also quoted that men were tasked with helping women where necessary to ensure their wives were not overwhelmed with the work they were doing. Men were also tasked with maintaining boundaries and ensuring there is peace and harmony within the community boundaries. Men also played important roles in community including circulating information gathered from the elders. It was a duty of the senior men to go and have elders' meeting to collect outside information then share it with their wives to help in making decisions. One of the respondents stated that, "Through having information, men were able to give directions and solutions to the issues affecting the community including the decisions to move animals to newer grazing lands."

4.2.2 Changed Roles for Men

The study also sought to seek the whether there were changed roles for men. It is expected that with new opportunities, people were likely to change and adapt new roles, making changes to the traditional roles perceived to be for men and for women. A key informant mentioned that upon joining the oil mining company, the males were engaged as engineers, machine operators, drivers, plumbers, field workers, storekeepers, security officers, cleaners and cooks. Others were engaged as supervisorors and managers. Some chose to do businesses that served those in the mining company.

Men have been traditionally associated with manual work that needs to be accorded extra energy that make women feel sidelined. The focus group discussion (FGD) pointed out that men had changed to performing women-perceived chores including washing clothes, cooking and serving foods to the employees at Tullow Oil Company. It was observed that technical jobs required educated people and thus irrespective of gender, qualified persons were likely to be taken.

4.2.3 Traditional Roles for Women

Turkana women were charged with taking care of the homes and the children, doing household chores such as cleaning and cooking, collecting firewood, fetching water among other roles. Women in Turkana were traditionally tasked with making animals' kraals. They also needed to dig seasonal water boreholes. Maintaining cleanliness at the homesteads was also women's affair. A key informant argued that women were managers of the households as they implemented the household works. Women also delegate works to other members of the family. They also do construct houses and repair them.

4.2.4 Changed Roles for Women

The study conducted by the authors further sought to establish whether there were changed roles for Women. One of the key informants indicated that, "Women are driving big lorries but I have not yet witnessed any woman operating machines" in support of the fact that women have started doing the traditionally men chores. Women have also secured security jobs working as security guards manning gates of the oil mines, a work description traditionally spared for men. There were new jobs that women also joined making the change from the traditionally strict community to adapt to new changes. One of the respondents indicated, "There are women who are community liaison officer (CLO's) who create awareness to the community on what to be done." Women also started doing businesses where traditionally they were home attenders, indicating a shift from the traditionalism to modernism.

One key informant indicated that women were able to participate in land negotiations but they were voiceless since the decisions were made somewhere else before being imposed on them. One of the respondents in FGD indicated, "Women can do what men do especially for single women who are forced to, due to their nature of needs, take care of their children and meet basic needs. Men do work together with women in order to achieve common goal of life. It was also observed that, "People working with Tullow Oil Company assume all roles regardless of gender as long as they have important skills of assuming the assigned roles." One of the challenges identified for women getting employment at the oil mining companies was the compromising needs for sexual favors by the senior people in management. All the six key informants indicated, "One is required to give some favors before they are employed especially women exchange sexual favors for jobs." Another one mentioned that it was not just sexual favors but also money. The findings on changes on gender roles support a study by Scanlan (2015), women were disadvantaged in getting employment especially in marginalized communities where illiteracy levels were high.

4.2.5 Hypothesis Testing on Transformation of Gender Roles

The hypothesis for testing whether there was any gender transformation among the locals was tested using the chi-square tests to establish the p-value of the results. The summary of the results are shown on table 4.26;

$$\begin{aligned} H_0: & \text{Gender roles have not been transformed as a result of oil mining in Lokichar.} \\ H_1: & \text{Gender roles have been transformed as a result of oil mining in Lokichar.} \end{aligned}$$

To ascertain the association above, a chi-square test was done to determine whether the respondents involvement in oil mining had transformed their gender roles. The tests were carried out with a confidence level of 95% ($\alpha=0.05$). The summary of the cross tabulations and the chi-square are depicted on tables 4.1;

Table 4.1 Cross Tabulation and Chi Square Test Results for Traditional transformation of Gender Roles vs Gender

Have traditional gender roles changed	Respondent gender				Total	
	Male		Female			
	N	%	N	%	N	%
Yes	52	47.3	109	61.9	161	56.3
No	58	52.7	67	38.1	125	43.7
Totals	110	100.0	176	100.0	286	100.0
Chi-Square Tests						
Statistics		Value		Df	Asymp. Sig. (2-sided)	
Pearson Chi-Square		5.845a		1	0.016	

A chi-square of 5.845 with degree of freedom = 1 and the p-value (Asymp. Sig) = 0.016 was obtained. The difference between the two values shows that gender roles have been transformed as a result of mining.

Therefore, we rejected the null hypothesis and accepted the alternative hypothesis that Gender roles have been transformed as a result of oil mining in Lokichar. More women are predicted to take up more skilled and semi-skilled roles in the oil company just like the male companions. The findings of the study were similar to the findings by Fatusin, Afolabi, and Adetula, (2010) who pointed out that community where a large-scale project was based, and where locals were able to participate, there was a significant change on the livelihood of the locals. The community was likely to benefit from large scale projects due to investments in the local areas, benefits from the corporate social responsibilities (CSRs) from the companies, and businesses growing and increasing income for the locals.

4.3 Changes of livelihood for both genders due to oil mining

Through the traditional lens of culturally-accepted roles, it is expected that the gender roles would remain the same, with women sticking to their traditional roles and men the same. With the introduction of oil mining companies in Lokichar, there are likelihood of having changes in the traditional livelihoods into new livelihoods as dictated by the availability of new job opportunities. It was observed that over 47.3% (for males) and 61.9% (for females) of the respondents believed that oil mining in Lokichar has changed the traditional livelihoods of men while 43.7% disagreed. The percentage can be related to increased income among the locals, performing businesses, and increased employment opportunities among the locals. From the key informants and the FGD, it was observed that men got more opportunities than women thus having some significant changes in their livelihoods. One of the key informant indicated that men had a tendency to share increased income with other women, with options like marrying another woman, or having concubines. The theory of gender relations as well as conflict theory were applicable with the changes in the traditional roles. The new roles adopted by men were likely to cause a conflict between different genders.

4.3.1 Changes in Traditional Livelihoods for Women

Traditional livelihoods have been associated with the traditional roles for women that centered on managing the homesteads and ensuring the family had enough to eat. It was observed that the respondents associated women with less economic activities in the traditional arrangement of gender roles. The study found that around 47.3% (males) and 67.5% (females) of the respondents had experienced changes on traditional livelihoods for women. Women were seen to have experienced changes in their livelihoods due to the changes in their incomes and the employment opportunities arising from the oil mining in Lokichar. The changes in livelihoods were as a result of women being employed into the oil mining firms where they were able to substitute their incomes from the traditional roles. The FGD members also suggested that women had experienced changes in their livelihoods since they were able to get employed and earn from the proceeds from the oil mining. The findings also relate to the diffusion of innovations theory where women changed their traditional roles to new roles where women were seen doing menial work.

4.3.2 Hypothesis testing for change in livelihoods

Chi- square test was used to test if the change in the livelihoods for men and women brought about by oil mining, the null and alternative hypotheses are shown here;

H₀: Oil mining has not influenced change in livelihood for women and men in Lokichar community.
H₁: Oil mining has influenced change of livelihood for women and men in Lokichar community.

The information is depicted on table 4.2;

Table 4.2 Cross tabulations and Chi- Square Test Result on Changes in traditional livelihoods of men and women

Scale	Livelihood change for men				Totals		Livelihoods for females				Total	
	Male		Female				Male		Female			
	N	%	N	%	N	%	N	%	N	%	N	%
Yes	52	47.3	109	61.9	161	56.3	52	47.3	108	67.5	160	55.9
No	58	52.7	67	38.1	125	43.7	58	52.7	68	53.9	126	44.1
Totals	110	100.0	176	100.0	286	100.0	110	100.0	176	100.0	286	100.0

Chi- Square Tests												
Statistics		Value		Df	Asymp. Sig. (2-sided)			Exact Sig. (2-sided)				
Pearson Chi-Square		5.912a		1	0.015			0.02				

From the findings shown on table 4.2, the null hypothesis was rejected ($p\text{-value} = 0.015$, significance level = 0.05) and conclude that Oil mining has influenced change of livelihood for women in Lokichar community. The findings can be supported by the FGD members and the key informant interviews who observed that there was a sharp change in the first phase of 2010 to 2013 where those employed were able to have changes in their earnings leading to changes in the form of houses they had, and others opening businesses at the local town of Lokichar.

All the key informants also supported the assertion that there were significant changes in their livelihoods courtesy of oil mining in Lokichar. The study confirmed the findings by Lozeva, and Marinova, (2010) who argued that women were beneficiaries of oil mining activities, whether they were working in the mines, or their husbands were employed in mines or they were benefiting indirectly from the money coming from mining.

4.4 Ways of empowering men and women in gender role transformation in the oil mining sector

The study was also expected to identify approaches on how to increase participation among the respondents and the locals in Lokichar, Turkana County. Through participation, it becomes easy for the locals to be empowered and to increase their capacity to improve livelihoods and empower both genders. The study also sought to identify ways in which men and women had been empowered through participation. The aspects that were considered in the study were the available laws and policies that were applied to ensure participation of women and men in oil mining activities.

4.4.1 Law and/or Policy Dealing with Gender in Oil Mining

Laws and policies dealing with gender in oil mining have the capacity to determine the level and context to which women and men can be empowered. Policies help in guiding companies in having both men and women participate in many opportunities created for empowering the locals. The study asked the respondents whether they were aware of any law or policy that deals with gender in the oil mining sector in Kenya. The respondents were mostly referring to the gender rule, popular in Kenya for ensuring there is gender balance in all public positions. The responses are captured in table 4.3 as depicted,

Table 4.3 Aware of Laws and Policies dealing with gender in oil mining in Kenya

Aware of laws and policies on gender	Respondent gender				Total	
	Male		Female			
	N	%	N	%	N	%
Yes	24	24.0	56	35.0	80	30.8
No	76	76.0	104	65.0	180	69.2
Totals	100	100.0	160	100.0	260	100.0

When asked if they are aware of any law or policy that deals with gender issues in the oil mining sector in Kenya, only 24% (males) and 35% (females) of the respondents were aware while 76% (males) and 65% (females) were not aware of any policy or law concerning gender issues in the oil mining sector. It was interesting to note that there were over 69.2% of the respondents who were not aware of any policy or law on gender empowerment. It indicates that the majority of the locals in Lokichar are not aware of any policy to deal with their empowerment, and especially women as they formed the majority of the 69%. The findings in this study reflected similar findings by Akintola and Chikoko, (2016) who indicated that majority of the marginalized areas were lagging behind in having information, especially of opportunities for their socioeconomic and cultural empowerment.

4.4.2 Practical mechanisms for improving women's capacity to cope with mining effects

Members suggested several platforms and mechanisms to implement gender policies. One of the key informant opined that, "*There is need to engage women in capacity building platforms like training on skills that they can use to empower themselves. Activities like workshops and seminars are recommended.*" The observation was supported by four other Key informants who also indicated that women needed to be taken out for benchmarking with other women groups and establishment to experience the feeling of empowerment. Women taken for exposure trips are likely to embrace leadership roles in the community. Women also need to be exposed to media to see other women who are empowered. "*Women need to be included in management functions like being in school committees and assigning them roles for the purpose of building their capacity,*" one of the respondent indicated.

5. Recommendations and Conclusion

5.1 Conclusions

Oil Mining has brought with it changes; that there was transformation in gender roles with men taking roles that were previously perceived to be women roles and women were taking jobs that were previously termed as men roles. The established policies on gender lack good will and implementation despite of them being excellent in promoting gender equality in the oil mining sector.

5.2 Recommendations

The paper presents the following recommendations. It was recommends that the oil mining companies spend resources including time and finances on training the locals to improve their capacities to participate in oil mining processes.

Seminars, workshops and capacity building forums to help improve the participation of women, and men in economic activities within the oil mining sector in Lokichar. Additionally, gender roles could be changed through the locals picking the available job opportunities with the oil mining. Forums should be created to educate the locals that picking any job opportunity was beneficial to the society. The locals should not to dwell on the cultural perceptions of the traditional roles and how the society looks at the workers executing roles perceived not to be theirs. Consequently, due to high illiteracy levels among the locals, focusing on education for the locals would help them achieve better employment opportunities irrespective of the roles they acquire. Finally, there is also need for oil companies and government in general implementing set policies and conducting regular gender audits. More emphasis should be placed on goodwill to implement the policies.

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