The Cradle of Knowledge: African Journal of Educational and Social Science Research
AJESSR - ISSN 2304-2885-p, 2617-7315-e
Volume 10, Issue 1, 2022
P.O. Box 555 (00202) Nairobi. Kenya
editor@serek.or.ke

SOCIETY OF EDUCATIONAL RESEARCH AND EVALUATION IN KENYA

Gender Equality in the Oil Mining Sector: An Interaction with Socio Demographic Factors in Lokichar, Turkana Kenya

Caroline Khasoha Shikuku[*], *Prof. Edward Mburugu & Dr. Joseph Kabiru.*
University of Nairobi, Kenya
[*]*Corresponding author: Email: c.shikuku@yahoo.com or caroshikuku17@gmail.com*
emburugu@uonbi.ac.ke; jkabiru@uonbi.ac.ke

Abstract
The extraction and processing of minerals presents an opportunity for women's economic empowerment. The paper capitalizes on the authors recent study "Change in Gender Roles as a Factor in Gender Participation and Empowerment in The Oil Mining Industry: A Case of Lokichar, Kenya" whose main objective was to establish the changes in gender roles and participation as influenced by oil mining in Lokichar in Turkana County. The paper anchors on interaction with Socio Demographic factors. The null hypothesis; there is no relationship between equal hiring and equal opportunity for men and women to work in mining activities was tested. The target group was the active labour force (direct and indirect) aged between 15 to 64 years. The study adopted both qualitative and quantitative approaches to data collection. Cross tabulation was generated on the responses to show the differences based on the gender and Chi-square used to test the hypotheses and establish whether there were changes in gender roles and empowerment. Major findings indicate that there is a relationship between equal hiring and gender equality. The socio demographic indicators findings are discussed in depth. This descriptive study therefore intended to enlighten stakeholders (i.e. government and oil companies) to craft policies in a bid to respond to challenges in oil mining and adopt gender sensitive policies that can help to enhance workforce efficiency and enhance gender equality. The paper recommends that issues like compensation, decision making, royalty sharing, power relations should be well spelt in policies to ensure gender mainstreaming.
Key words: *Affirmative Action; Extractive Industry; Gender equality; Gender equity; Gender empowerment; Gender role; Sustainable Development; Gender Mainstreaming*

1. Introduction

Gender roles are a critical component in measuring how advanced a community is in respect to economic changes. Dlamini (2018) pointed that, women only made up to about 11% of manpower in South Africa. The same study also pointed that underground works have been exclusively for males where digging and excavation is involved. Women roles in the mining were limited to surface light works that did not involve use of heavy machinery and machine operations, with most of it being serving the workers at the mines, preparing foods, and performing light transport works. Similarly, Wasunna (2014) observes that these royalties and compensation are directed to men who culturally are the receivers of their family fortunes. This has presented itself as an obstacle in women's attempt to access and control resources and benefits of an extractive project. Cultural beliefs disempower women. This has worsened the existing state of gender inequality. This study therefore seeks to make recommendations for the mining bill revision as an attempt to liberate women from their state of marginalization by establishing ways in which oil mining has contributed to changes in gender equality.

Studies focusing on oil mining in Africa in general are limited with most emanating from Sub-Saharan Africa and few in East and Central Africa. Until recently after independence (in the late 90s), women in South Africa were legislatively prevented from jobs in mining and defense (Dlamini, 2018). Due to the legislative barriers, women had not considered roles in mining but with the changes made in the last two decades, they have increasingly changed to

adopt some managerial roles. The South African parliament has the Employment Equity Act of 1999 where section 6 addresses outlawing sexual discrimination for job seekers. Since the mining industry was slowly implementing the Affirmative Actions towards employing women, the Mineral and Petroleum Resources Development Act of 2002 was set to impose penalties for the employers who did not meet the targets, including failing to renew their mining licenses. Policies on controlling mining industries have been associated with changes in gender gap that is extremely un-balanced in oil mining industry. Countries including South Africa, India, Nigeria and other known mining coun-tries 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). India has provided the Mineral Policy where states can cus-tomize the policy to fit the nature of the industry and the locals. The Mineral Policy of 2006 has focused more on controlling illegal mining as well as completely opening up the small mining sector to engage women and other vulnerable groups (Lahiri-Dutt, 2018). In Kenya, the Mining Bill 2014 lacks gendered aspects while the Kenyan Constitution, 2010, Article 27 (8) caters for Affirmative Action, which requires the government to leg-islate 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 opines 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.

The oil, gas and mineral value chains have important opportunities and considerations for women's engagement, which are currently not being fully realized. Throughout the chain of exploration, contracting and licensing, operations and extraction, value addition, tax and royalty collection, and revenue distribution and management, women and men face different needs and opportunities (UN-Women, 2014). 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). Women are restricted from participating in decision making which is predominantly done by chiefs (mostly male) and government officials (FAO, 2017). This has a direct effect to the mining sector which is a key pillar of wealth among countries world Kenya has less than seven years in active oil mining and thus it trails others like Nigeria and South Africa in terms of employing women in mining sector (Soyapi and Kotzé (2017). 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 new development in Kenya and it has been under researched especially on aspects such as whether there is gender equity in hiring and whether women are empowered. The under-research in the area has thus led to this study which seeks to provide some scholarly information on the topic of changes in gender role as a factor in gender participation and empowerment in the wake of oil mining in Turkana County in Kenya. There is, therefore, 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 given that the gendered aspect is lacking in existing policies. The paper provides scientific findings thus contributing to the limited evidence on gender equality in the mining sector. The paper anchors in a recent study by the author whose general objective was is to establish the changes in gender roles and participation that are emerging as a result of oil mining in Lokichar in Turkana County. The paper narrows down to one specific objective; determining whether the oil mining companies promote gender equity in Lokichar while interacting with Socio demographic factors.

The research questions that guided the study included:

i. To what extent do oil mining companies promote gender equity in Lokichar?
ii. How do Socio demographic factors affect gender equality in Lokichar?
iii. What can be done to narrow down the gender equality gap in the oil mining sector?

Hypothesis

H_0: There is no relationship between equal hiring and equal opportunity for men and women to work in mining activities.

H_1: There is a relationship between equal hiring and equal opportunity for men and women to work in mining activities.

Some studies have explored the determinants of female labour force contribution so as to assess gender equality in different parts of the world. Dayioglu and Kirdar (2010) established that globally, education, location, age and number of children were key determinants of women labour force. Lahiri-Dutt (2006) observed that cultural values impact on

occupational segregation which depends on the nature of work and the country in which the job is executed. Katrim Prima Coal (KPC) is one of the mine fields in Indonesia which in his study he discovered that over half of female workers occupied formal employment and a small number of female operators working in the mines drove heavy machinery and trucks in day and night. Further, his study established that women in Indian collieries got employed as 'gin girls' but then shifted to underground work when mechanical systems that were used in lifting coal from shallow shafts got phased out. The primary function of women till the early 1990s entailed coal cut by the male counterparts. While mining industry considers women for employment, these numbers have been declining across the world. Women miners drove heavy machineries in developed economies. However, in India, women preferred "white collar" jobs in mining offices and research agencies (Lahiri -Dutt, 2000). This is a reflection that there were jobs that were set for different gender in the mining industry and that culture played a big role in determining the kinds of jobs that different gender eventually took.

Atieno (2006) demonstrated that the main drivers of female labour force participation included age and location (whether rural or urban). She further observed that young women were strong enough as compared to older women to work in oil mines. Yakubu (2010) examined the factors that determined female labour force contribution and established that education was a key labour market predictor. The young women were likely to be overwhelmed by the challenges experienced in mining leading to their quitting or opting out of participation in mining. Secondly, divorced and women with partners but not yet married had more chances of participating in labour markets as compared to their married counterparts. In addition, older women had a high likelihood to participate in the labour market. This is relevant for this study as it reflects the degree to which demographic factors are a major determinant on how different gender engage in different ventures of the mining industry.

A study on coal mining alongside Mui Basin in Kenya by CGD (2015) demonstrated that the Basin registered huge coal deposits with potential for large-scale mining and potential to introduce other development projects that could propel development and enhance employment opportunities. Majority of the participants (89.2%) indicated that they did not hear of any consultations nor did they participate in any. Another (11.8%) of the respondents pointed out that they took part in local meetings that were arranged by civil society organisations (CSOs). Further, this analysis established that men contribution in the project consultation was high (76.29%), relative to that of female, which was 23.69%. FGDs and key informants demonstrated that a skewed male engagement in consultations was as a result of their perceived role as the heads of household who took part in village meetings (Amutabi, M. and M. Lutta-Mukhebi, 2001). It was further revealed that men were involved in key decisions while women were largely ignored including widows. This is relevant to this study as it reflects the degree of entrenchment of patriarchy in the African society at large. Patriarchy is a determinant of the roles women engage in in the mining industry.

Abrahamsson et al. (2014) on a study in the Swedish mining sector noted that mining had not changed from its traditional outlook of male-dominance. The study identified that most of the employees, about 90-95%, in the blue-collar positions were men. The same scenario was experienced in India, Nigeria, South Africa and Indone-sia among other mining countries. The findings were further supported by a study by Andersson et al (2013) who opined that there was low percent of women employed in mining, contributing to about 10-20% of the total mining workforce while those women working actually in the mining processes were between 5% and 10% of the total workforce. Bryant and Jaworski (2011) focusing on Australia also pointed that the locals were not engaged in mining activities with most of the workforce being migrant workers, and few women engaged.

The study by Lahiri -Dutt (2012b) points out that protective legislations prohibiting women from working in the underground mines as well as not working at night was responsible for the low numbers of women in the coal mines. Other interrelated factors contributing to low numbers of women in mining was the model of considering women decent whose primary role was to reproduce and make homes. The other factors associated with decreased women workforce were open and hard gender discriminatory attitudes at workplaces (mines); marginalization of gender issues as well as neglect of women workers' interests and needs by mining companies and trade unions; and technological improvements that displaced women from working at night and underground mines (Andersson, 2012). Another study by Abrahamsson (2009) indicated that most of the women in India's mining industry have menial lower rung jobs as sweepers, cleaners, or attendants in mining offices. Another aspect identified on the study was how women were not the land owners or owners of mines but men, signaling one of the gender inequalities that disadvantage women economically. The Lahiri -Dutt (2013) study pointed out that women were rarely employed in the organized mining

sector in India, be it private or public mines. More women in India's mining sector were in private, small and unorganized mining with assigned roles like cleaning, stone breaking and head loading, as well as other forms of daily wage labor. Men, as opposed to women, were given safety precautions thus increasing their safety records when compared to women. Most of women in India and other developing countries were employed and assigned roles by the contractors who did not care on the safety of the women workers. Women often work beyond normal hours, they are often exposed to mercury and cyanide, they have no leave benefits or childcare facilities, and they are subject to sexual exploitation. The case of Indonesian mining sector is that women mine workers are not provided with adequately safe environment to work in and thus are prone to injuries. There are cases of many mining companies not providing childcare services to nursing mothers. Due to the non-conducive working environment for women, it has been observed that many women quit mining works after few years to pursue other interests. Men on the other hand, are provided with safety equipment and they have learnt to work in the hard and harsh conditions making them persist in the oil mining fields for many years than women. Men were also found to have better facilities than women in remote mining sites where toilets were not available making women to suffer most when needing to relieve themselves.

Theoretical Orientation on Gender Relation and Equality

Gender Relations Theory

This 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 asserts that gender roles are defined by the society largely through norms and values. Social norms define the responsibilities and freedoms; it enables people to have a certain level of flexibility in their roles. However, in times of rapid social change acceptable roles are often in a state of flux, producing uncertainty on the appropriate role of behavior. When normative behavioural roles are rigidly defined, freedom of action is compromised. This form of definitions is linked to the development of stereotypes, oversimplified conceptions that people occupying similar status share common traits. 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). The theory offers an explanation to social barriers that have prevented women and girls from being considered key players in the extractive industries. The theory is important in explaining the challenges faced by women workers in the context of oil extraction (Banerjee, & Connell, 2018).

Conflict theory

The cynical view of humanity expressed by scholars such as Thomas Hobbes and Machiavelli is attributed to the development of conflict theory. Haslam, and Tanimoune, (2016) explains that the pyramid structure best represents the conflict theory. The pyramid structure explains the dictatorship of the elites by the larger masses. The major social structures, customs, and laws in the society aim at supporting the elite, who are perceived by the society as superior. According to Burrell (2017) the conflict theory assumes that the fact that the society al-ways competes over scarce resources affects social relationships. The other assumption of the theory is that structural differences in power and reward affect the social structures in the society. The theory is instrumental in understanding conflicts that arise in terms of gender roles and also between men and women as they compete for the scarce job opportunities. The theory further helps us to understand the conflicts which have arisen and led to transformation of gender roles and also addresses the struggles each gender goes through while at home and at work.

Diffusion of Innovations Theory

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. Rogers (2003) likens diffusion as a form of communication, comprising two individuals, communication channels, and innovation. Success in diffusion of innovation is enhanced by the extent to which institutions change the attitude of individuals. Brisman, South, and White (2016) cites that most of behavioural researches ignore the time aspect of diffusion of innovation. The author further explains that the process of diffusion of innovation, rate of adoptions, and adopter categorization have a dimension of time. For this reason, inclusion of the time in diffusion of innovation illustrates the strength of research. When researching diffusion of innovations, it is crucial to include a social system because social structures influence the social system. This is a reality that is happening in Lokichar, the coming of oil mining is an innovation and the locals have their own culture and values that dictates their way of life. The social systems in this place depending on

their culture and values through the communication channels can either embrace or reject the adoption of the innovation.

3. Research Method

The paper capitalizes on a current study by the author that employed a descriptive research design. The researcher conducted the research in Turkana County. The study was specifically conducted in Lokichar location, which is in Turkana South Sub- County. The active labour force aged between 15 years to 64 years was targeted or those who have retired from the oil industry. Those actively looking for work in the oil industry also formed part of the target population for the qualitative data (Focus Group Discussion) who would provide data more so on the challenges of getting employment in the oil mining sector. 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 (GOK, 2009). The study adopts the following formula to compute the size of the sample (Creative Research Systems, 2012).

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

N = population size
e = Margin of error (percentage in decimal form)
z = z-score
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 sample size is computed as;

$$n = \frac{1.96^2 * 0.5(1-0.5)/0.05^2}{1+((1.96^2 * 0.5(1-0.5))/(0.05^2 * 1350))}$$

$$=300$$

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 for the households. The labor force population of 1350 was arrived at from the percentage given of adult population who are working in the Lokichar area which was estimated at about 67.5% (Turkana County Government, 2016). Considering the systematic random sampling procedure in this study, the Sampling interval = Total population /Actual sample size. This showed a sampling interval for this study to be 1350/300= 4.5. The population of 1350 adults aged 15-64 years was distributed in all the households in Lokichar area. Given the calculated selection interval of 4.5, it was judged convenient to work with an interval of four (4) potential respondents in the labor force population of the 1350 adults. The systematic sampling of 300 respondents required the determination of a relatively central place in Lokichar from which households could be marked out radiating in the four directions of the compass. The central place chosen was indeed the Lokichar Mixed Primary School. From the Lokichar mixed Primary School and in each direction of the compass (i.e., northwards, southwards, eastwards and westwards) every 4th household was selected and the adult household member currently working or had worked in the oil industry was identified and interviewed. Given that the sample of 300 respondents had to be drawn, the researcher ensured that 75 respondents were picked up from each of the four directions in Lokichar area.

Two levels of analysis were adopted: Univariate and Bivariate. Tabulation and charts were presented to show a comparison between the various categories. At Univariate level one variable at a time was analyzed to give out characteristic of the variable under study (Babbie, 2011). Chi Square test is common for parametric populations. Two types of chi-square exist that include the chi-square goodness of fit test and the chi-square test for independence. The goodness of fit test determines whether a sample data matches the population from which the sample was taken. The test for independence compares two variables in a contingency table and establish whether they are related. Qualitative data was transcribed into written texts through note taking and examining for significance and completeness with the goal of ascertaining its usefulness, adequacy and relevance in addressing the research questions.

4. Results and Interpretation

4.1 Gender

Women formed the largest percentage of the respondents underlining their importance in the study (GOK, 2009). The study engaged 51% of women as respondents for the questionnaires. Men, who also contribute to changes in gender roles, were 49% of the total respondents. The information is depicted in table (i) as below;

Table i Gender of the Respondents

Gender	**Frequency**	**Percent**
Male	148	49%
Female	152	51%
Total	**300**	**100.0**

Gender studies need to focus on both genders as it helps in defining the expectations and perceptions from the opposite sexes. Women formed the largest percentage of the respondents underlining their importance in the study (GOK, 2009). Recent studies in flower supports this notion that the majority gender is the female (Dolan et al; 2003 Dolan, 2005; Risgaard, 2014).

4.2 Age

Ages of the respondents were also sought to help in determining the age groups most likely to be engaged in the oil exploitation (drilling) industry in Lokichar and the likelihood of having changes in gender roles. The information is summarized in table (ii) as shown:

Table ii Age of the Respondents according to gender

Age of the respondent	**Respondent gender**				**Total**	
	Male		**Female**			
	N	%	N	%	N	%
Under 18	1	0.7%	3	2.1%	4	1.4%
Between 18-21	30	20.7%	40	26.7%	71	23.8%
Above 21	115	78.6%	108	71.2%	223	74.9%
Totals	147	100.0%	151	100.0%	298	100.0%

From the study the majority workforce (74.9%) in the oil mining sector in Lokichar was above 21 years. The least was the age bracket under 18 at 1.4%. The results indicate that the majority of the respondents were over 18 years and thus legally, they were qualified to work. Since this is the legal age to qualify working is 18 years in Kenya and the fact that the country advocates for child protection. Kabiru (2018) posits that one reason why age is an important factor in profiling workers in an industry is that it can be viewed as a proxy variable that can indicate quality of workforce in a particular industry. In his study, the active labour force mode was 25 years. In this study majority of the workforce being over 21 not only reveals how Kenya is vigilant in issues dealing with child labour but also reveals that quality of workforce is mature and understands what they are doing. It is interesting to observe that the findings of the study supports GOK (2009) that the female population in Kenya is more than that of the male. The study findings show that the age bracket of 18-21 years that the female are more than males at 26.7% as compared to 20.7%. As they get above 21 years the male are more at 78.6% as compared to female at 71.2%. This conquers with the findings from the FGD respondents who mentioned that permission to work is granted by the husband and at this age women are married. This permission they said is never granted by majority of the husbands as they prefer their wives to take care of the house chores.

4.3 Marital Status

A key Informant mentioned that gender roles are to some extent influenced by the marital status of women and men. The information on marital status of the respondents is depicted on table iii:

Table iii Marital Status of the respondents by gender

Marital Status	*Respondent gender*				*Totals*	
	Male		**Female**			
	N	**%**	**N**	**%**	**N**	**%**
Married	58	38.4	59	39.0	117	39.2
Single	84	55.5	81	53.7	165	55.2
Widowed	3	2.1	8	5.3	11	3.6
Separated	4	2.9	3	2.0	7	2.3
Totals	147	100.0	151	100.0	298	100.0

There were 38.4% of the male respondents married as compared to 39% female who were married. In addition, 53.7% of females and 55.5% of males described themselves as single. The study observed that 55.2% of the respondents were single while 39.2% were married. On the other hand, 3.6% were widowed and 2.3% were separated. Therefore, the respondents who had once been married were 5.9%. The single formed the majority of the sampled respondents at 55.2%. It was expected that locals' decisions to work in the oil mining and their perceptions were likely to be influenced by spouses' decisions as this was a view shared in all the FGD groups that the husband as the head had to give consent. This relates to the gender relations theory that asserts that the society conforms to the social roles and interactions of men and women (Johansson, & Ringblom, 2017). This explains why the singles are majority at 55.2% and majority being males at 55.5%. It is however interesting to note that of the married bracket; the female constitutes a higher percentage at 39% as compared to that of males at 38.4%. This one Key informant attributed it to the fact that women take other minor jobs at the oil mining company like hawking and supply of food so as to complement their house chores and still be able put food on the table. Such work she said does not require their presence at the mining company full time.

4.4 Education Level

Education level among the respondents and the general population in Turkana is a significant influence of the changes in gender roles. Highly educated workforce have senior positions while those with low levels of education operate low level jobs with low remuneration. The information on the education level is summarized as in table (iv).

Table iv Respondents gender by level of Education

Education Levels	*Respondent gender*				*Totals*	
	Male		**Female**			
	N	**%**	**N**	**%**	**N**	**%**
Never Attended School	43	29.3	49	32	92	30.7
Primary Education	39	26.4	40	26.5	79	26.5
Secondary Education	25	17.1	45	29.9	71	23.6
College	40	27.1	18	11.6	57	19.2
Totals	147	100.0	152	100.0	299	100.0

Females formed 29.9% of the respondents who had secondary education as compared to 17.1% of males. Also, more males at 27.1% had college education as compared to 11.6% of females. The larger percentage was of those who had never attended school making 32% for females and 29.3% for males. In total, there were 30.7% of the respondents who had never attended school, while there 26.5% of the respondents with primary level education. On the other hand, 23.6% had secondary education while only 19.2% had college education. The education level for the respondents was a critical component as it was established that a sizeable proportion of respondents in Turkana, Lokichar had never attended school, thus increasing the illiteracy levels. With a 30.7% of the respondents having never attended school, it was likely to influence opportunities in the globally competitive environment. The unusually small percentage at 19.2% of the respondents with college education and above were perceived to have had higher chances of being employed in the oil mining industry or any other formal employment directly or indirectly linked to the oil mining. A key informant (a female employee at Tullow Oil and a masters' degree holder) mentioned that it was highly likely that those with no education were likely to not get employment opportunities as compared to those with secondary and college education. Gender roles were likely to change more with the educated than with no education. Notably, almost twice the number of men (27.1%) compared to women (11.6%) had college education.

It is interesting to observe the percentage of males transiting to college is greater than that of women. A study conducted by Women in Mining Canada on the status of women in Canada's mining and exploration sector cited work culture, lack of mentors, perception of their skills and work-life conflicts as some of the key barriers to their career advancement which has a direct reflection on the level of education. It would be easy to say that it is too arduous to overcome this sort of problem making mining inherently incompatible with family life and therefore will never be attractive to those workers with a family, including women (Women in Mining Canada, February 2010). This is well explained by the conflict and the gender relations theory. According to Burrell (2017) the conflict theory assumes that the fact that the society always competes over scarce resources affects social relationships. On the other hand, 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). From the study findings this explains why there is a conflict in terms of work and home balance, as majority of the women working take up jobs that can still enable them meet their home responsibilities.

4.5 Years of involvement in Oil Mining

The study also sought to know the period of involvement for the locals in oil mining. The information for the period of involvement was summarized on table (v) as shown below.

Table v Years of Involvement and Gender

Year of involvement	*Respondent gender*				*Total*	
	Male		**Female**			
	N	**%**	**N**	**%**	**N**	**%**
1 year	24	31.9	16	25.9	40	29.3
2 years	33	43.1	28	46.6	60	44.6
3 years	14	18.1	13	22.4	27	20.0
4 and above	5	6.9	3	5.2	8	6.2
Totals	76	100.0	60	100.0	136	100.0

44.6% of the respondents who had been directly involved in oil mining had been engaged for a period of two years, 29.3% had been engaged for a year, 20.0% for three years and only 6.2% for four and more years. Overall, the respondents who had worked for the oil companies had between one and two years of involvement. The period is considered adequate to influence key processes like changes in livelihoods, and redefining roles for the locals. A key finding of this study is that the percentage of years of involvement keeps dropping for both genders but the dropout rate for the female is larger and by fourth year, it stands at 5.2%. This can highly be attributed to work and life conflict. Soyapi and Kotzé (2017) pointed that many of the problems deterring women from participating in oil mining was the women's traditional roles as the primary caregiver and the traditionally perceived woman's place as home. Similarly, study conducted by Women in Mining (UK) in 2013 established that generally, the mining industry has the lowest

number of women employed at the company boards in any industry across the world. Interestingly by year two, the females are the majority at 46.6% as compared to 43.1% for males but later drops as years advance. One of the key informants said, "Women ultimately settle to livelihood sources that align more to house chores leaving behind their male counterparts who are not actively engaged in house chores". The women then ultimately settle to a livelihood that not only gives them income but they can juggle with house work. This explains why participation of females is relatively low as compared to that of males.

Another key informant, who also doubled as the acting chief since 2007, indicated the main oil company, Tullow, had subcontracted BGB, a Chinese contractor to explore and map oil fields where some locals were involved for three years. Mahy (2012) on their study on the impacts of large corporations on the host community, pointed out that the length of stay for the corporations had an impact on the local community livelihoods. The study also indicated that locals who had served for some time had higher chances of improving their livelihoods as compared to those who had not worked at all for the oil company, and those who remained unemployed.

4.6 Testing the Hypothesis on whether Oil Company hires Males and Females Equally

The null hypothesis was tested. The hypotheses were as follows;

H_0: There is no relationship between equal hiring and equal opportunity for men and women to work in mining activities

H_1: There is a relationship between equal hiring and equal opportunity for men and women to work in mining activities

Table vi below presents the analysis.

Table vi: Cross-Tabulation and Chi Square Test for Gender and Equal Opportunity for Locals

What gender is the respondent? * Are men and women given equal opportunity to work in mining activities Cross tabulation

			Are men and women given equal opportunity to work in mining activities		Total
			Equal opportunity	Unequal opportunity	
What gender is the respondent?	Male	Count	31	111	142
		Expected Count	24.3	117.7	142.0
	Female	Count	18	126	144
		Expected Count	24.7	119.3	144.0
Total		Count	49	237	286
		Expected Count	49.0	237.0	286.0

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.385[a]	1	0.036		
Continuity Correction[b]	3.752	1	0.053		
Likelihood Ratio	4.427	1	0.035		
Fisher's Exact Test				0.042	0.026
Linear-by-Linear Association	4.369	1	0.037		
N of Valid Cases	286				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 24.33.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	0.124	0.036
	Cramer's V	0.124	0.036
N of Valid Cases		286	

Chi Square test results for equal employment for men and women

A chi-square test of independence showed that there was a significant association between equal hiring and equal opportunity for men and women to work in mining activities, X^2 (1, N=286) =4.485, p=.036. This means the null hypothesis was rejected. The Cramer's V test indicates a weak relationship between equal hiring and equal opportunity for men and women to work in mining activities at alpha=.05. The conclusion therefore is that there was a relationship between equal hiring and equal opportunity for men and women to work in mining activities in Lokichar but the relationship is weak. The reasons why there was a feeling that job hiring was not fair across different gender as mentioned by several key informants and was due to stereotypes that mining jobs are male dominated jobs, culture more so patriarchy, conflict of work and life chores and limited gender avenues of community sensitization on importance of gender equality. The findings were in relation to the expected findings where it was observed that governance factors and patriarchy were significant influencers of participation in mining, and were directly related to gender equality. Oil companies had good policies and so does the government which are geared towards equal hiring of both genders but as was anonymously agreed these policies are not implemented.

5. Conclusion and Recommendations

As mentioned earlier, the Mining Bill (2014) acknowledges use of natural resources for national development, it fails to highlight its gendered aspects particularly on resource extraction and management of natural resources despite having various instruments on gender mainstreaming. Issues like compensation, decision making, royalty sharing, power relations are not well spelt in this male dominated sector leaving room for individual interpretation. The study therefore recommends revisiting these aspects factoring gender aspects. Furthermore, the study recommends working on the legal framework, programs and policies in the management of natural wealth and the extraction of the resources to reduce the gaps for exploitation of the poor and those who are uninformed about their rights. Appropriate legal framework will positively influence women rights especially in oil mining as their engagement in official roles (or employment) among the oil mining companies and improve it thus positively impacting their socioeconomic statuses. In addition, the study therefore recommends that the locals of Lokichar, and the entire Turkana residents be informed on the existing policies and laws that guide on gender empowerment through information sharing more so community sensitization forums.

It is important for oil companies to conduct gender audits should for this will allow them to incorporate gender mainstreaming in all aspects and lives of the employees. Similarly, more emphasis should be placed on goodwill in implementation of gender policies and this can be followed by monitoring and evaluation and ensuring Quality Assurance in the aspect of gender policy implementation in the oil mining sector. By performing gender audits, more recommendations can be gathered from both genders and this will close the gap of gender empowerment. The oil mining sector will benefit from this as implementation of Affirmative Action Policies will be greatly improved realizing more economic development and gender empowerment. The study therefore recommends revisiting the policies related to mining and ensuring that each aspect is captured in terms of gender aspects. This will ensure the Mining Bill, The Constitution of Kenya and other Affirmative Action policies realize the benefits that will be gained from embracing gender in all its actions. Issues like compensation, decision making, royalty sharing, power relations should be well spelled in the mining Bill so that they are clear and not ambiguous. Additionally, these policies should capture the element of promoting work life balance so that women can be able to take care of their babies without compromising their work and worrying about the welfare of the babies.

6. References

Abrahamsson L, Johansson J & Johansson B (2014). "Work Culture, Safety, Skills and Gender Issues in a Changing Mining Context". Paper (and keynote) at the conference *Safety, Skills & Sustainability in Mining,* Johannesburg, 26 September 2013

Abrahamsson, L (2009). "Organizational gender aspects". Delrapportfrånprojektet*A baseline study of socio-economic effects of Northland Resources ore establishment in northern Sweden and Finland.* Projektrapport, Institutionenförarbetsvetenskap, Luleåtekniskauniversitet, 46 sid.

Amutabi, M. and Lutta-Mukhebi, M. (2001). Gender and Mining in Kenya: The Case of the Mukibira Mines in the Vihiga District, Jenda: A Journal of Culture and African Women's Studies 1 (2): 1–23.

Atieno, R. (2006). *Female participation in the labor market: The case of the informal sector in Kenya*. AERC Research Paper 157, (July). Babbie, E. (2010). The Practice of Social Research. 12thEdidition. USA: Wadsworth Centage Learning.

Babbie, E. (2010). The Practice of Social Research. 12th Edition. USA: Wadsworth Centage Learning.

Banerjee, P., & Connell, R. (2018). Gender theory as southern theory. In *Handbook of the sociology of gender* (pp.57-68). Springer, Cham.

Brisman, A., South, N., & White, R. (Eds.). (2016). *Environmental crime and social conflict: contemporary and emerging issues*. Routledge.

Burrell, G. (2017). The role of coal-mining towns in social theory: past, present and future. *Global Discourse*, *7*(4), 451-468.

Dayioglu, M., &Kirdar M. G. (2010). *Determinants of and Trends in Labor Force Participation of Women in Turkey*. State Planning Organization of the Republic of Turkey and World Bank, (Working Paper No. 5), 1–80.

Dessler, G. (2005). Human Resource Management, Upper Saddle River, N.J: Prentice Hall

Dlamini, T. (2018). Gender in the Mining Industry. *Review of African Political Economy.* Retrieved from http://roa.pe.net/2016/02/10/gender-in-the-mining-industry/

Dolan, C. & Sutherland, K. (2003). "Gender and Employment in the Kenya Horticulture Value Chain. " Globalisation and Poverty Discussion Paper, 8.

Dolan. C. (2005) "Fields of Obligation: Rooting Ethical Sourcing in Kenyan Horticulture. "Journal of Consumer Culture. 5 (3), 365-389.

Dominelli, L. (2017). Globalisation and Gender Relations in Social Work. In *Countering Discrimination in Social Work* (pp. 15-32). Routledge.

Evans, J. A., &Aceves, P. (2016). Machine translation: mining text for social theory. *Annual Review of Sociology*, *42*, 21-50.

Haslam, P. A., & Tanimoune, N. A. (2016). The determinants of social conflict in the Latin American mining sector: new evidence with quantitative data. *World Development*, *78*, 401-419.

Johansson, M., & Ringblom, L. (2017). The Business Case of Gender Equality in Swedish Forestry and Mining Restricting or Enabling Organizational Change. *Gender, Work & Organization*, *24*(6), 628-642.

Kabiru, J. (2018). The Social Structure of Cut Flower Industry: A Comparative Survey of Workers Welfare in Kenya. PHD Thesis 2018. Department of Sociology and Social Work. Nairobi: University of Nairobi.

Lahiri-Dutt, K (2012b). The Shifting Gender of Coal: Feminist Musings on Women's Work in Indian Collieries", South Asia, *Journal of South Asian Studies,* 35:2, 456-476.

Lahiri-Dutt, K (2013). "Gender (plays) in Tanjung Bara mining camp in Eastern Kalimantan, Indonesia". *Gender, Place and Culture,* 2013, Vol. 20, No. 8, 979–998.

Lahiri-Dutt, K. (2006). Globalization and Women's Work in the Mine Pits in East Kalimantan, Indonesia. In KuntalaLahiri-Dutt and Martha Macintyre (ed.), *Women Miners in Developing Countries: Pit Women and Others*, Ashgate Publishing Ltd, England, pp. 349-369.

Lahiri-Dutt, K., & Macintyre, M. (2006). Introduction: Where life is in the pits (and elsewhere) and gendered. In KuntalaLahiri-Dutt and Martha Macintyre (ed.), *Women Miners in Developing Countries: Pit Women and Others*, Ashgate Publishing Ltd, England, pp. 1-22.

Mahy, P. K. (2012). Gender equality and corporate social responsibility in mining: An investigation of the potential

Mining Bill (2014). http://www.cickenya.org/index.php/legislation/item/329-the-mining-bill-2013.

Omolo, M. W. (2014). *Gender, Value Chain and Women Participation in the Emerging Extractive Industry in Kenya.*

Risgaard, L. & Gibbon, P. (2014) Labour Management on contemporary Kenyan Cut Flower Farm; Foundations of an Industrial – Civic Compromise." Journal of Agrarian Change, 14(2), 260-285.

Rogers, E. M. (2003). *Diffusion of Innovations* (5th ed.). New York: Free Press.

Soyapi, C., & Kotzé, L. J. (2017). Environmental justice and slow violence: Marikana and the post-apartheid South African mining industry in context. *VRÜ Verfassung und Recht in Übersee*, *49*(4), 393-415.

The Government of Kenya, (2014). *Mining Bill*. Nairobi: Government Printers

Turkana County Government, (2016). Information about Turkana County. Retrieved from http://www.turkana.go.ke/

UN Women. (2014). "Gender Equality in the Extractives Industries in Africa." www.hsrc.ac.za/uploads/pageContent/6090/UN%20Women%20Policy%20Brief_Gender%20Equality% 20in%20Extractive%20Industries_14%20July%202014.pdf.

Wasunna, M. (2014, June 18). *Thamani – From Mine to Market | Women & Gender in Kenya's Extractives Sector; Why it Matters*. Retrieved April 29, 2016, from http://thamani.co/gender/women-why-it-matters.

Yakubu, Y. A. (2010). *Factors influencing female labour force participation in South Africa in 2008*, 11(November),85-104