OIL AND GAS SECTOR
CORRUPTION VULNERABILITY ANALYSIS
**PREFACE**

Over a few years, significant gas reserves have been discovered in Tanzania. This discoveries offer a window of opportunity to build up the country’s capability to accelerate socio-economic transformation and realize the national goal to become a middle-income country by 2025. Given its great potential, the oil and gas sector is expected to contribute to rapid socio-economic development of Tanzania through revenues for the government’s development budget; domestication of the supply chain by involving Tanzanian entrepreneurs to provide various services; power generation and development of gas-related industries.

Natural gas is a finite resource. Its exploitation must be prudently managed to benefit the present and future generations. Gas exploitation, development, and production activities are a risky, technological, and capital-intensive investment. Given the limited financial, technological and human capital we have, Tanzania has little choice but to invite international Oil companies to operate through negotiated profit sharing agreements in running the industry. Proper governance of the sector, without which the country can face significant challenges in many areas, is of vital importance.

The Corruption vulnerability assessment in Gas sector was carried out to provide information to the Prevention and Combating of Corruption Bureau, the Government and the public on the vulnerable areas in the sector and provide recommendations to curb the vice. We consider the findings of this study to be of great useful for developing ant corruption programmes in maintaining good governance in the oil and gas subsector.

The Prevention and Combating of Corruption Bureau (PCCB) would like to express its sincere gratitude to DFID who substantially supported this study. We thank the Ministry of Energy, Minerals, and TPDC for their collaboration and support they provided in this research. Their information led to the completion of this report. PCCB is grateful to respective Universities, Colleges, and Vocation Training Centers for their support and valuable comments. We also thank the Tanzania Private Sector Foundation, Oil, and Gas Companies, Civil Societies and all other stakeholders who in way or another contributed to the success of this study.

Dr. Edward Hoseah,
Director General,
Prevention and Combating of Corruption Bureau (PCCB).
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREFACE</td>
<td>i</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>iii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>vi</td>
</tr>
<tr>
<td>EXECUTIVE SUMMARY</td>
<td>vii</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>xv</td>
</tr>
<tr>
<td>CHAPTER ONE</td>
<td>1</td>
</tr>
<tr>
<td>1.0 INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Statement of the Problem</td>
<td>2</td>
</tr>
<tr>
<td>1.2 Objectives</td>
<td>3</td>
</tr>
<tr>
<td>CHAPTER TWO</td>
<td>4</td>
</tr>
<tr>
<td>2.0 OVERVIEW OF OIL AND GAS INDUSTRY IN TANZANIA</td>
<td>4</td>
</tr>
<tr>
<td>2.1 Oil and Gas Exploration Activities in Tanzania</td>
<td>4</td>
</tr>
<tr>
<td>2.2 Governance of the Oil and Gas Sector</td>
<td>5</td>
</tr>
<tr>
<td>2.1.1 Policy, Legal and Regulatory Framework:</td>
<td>5</td>
</tr>
<tr>
<td>2.1.2 Institutional Framework</td>
<td>11</td>
</tr>
<tr>
<td>2.3 Local Content and Human Resources Development</td>
<td>12</td>
</tr>
<tr>
<td>2.4 Oil and Gas Industry Transparency</td>
<td>13</td>
</tr>
<tr>
<td>CHAPTER THREE</td>
<td>14</td>
</tr>
<tr>
<td>3.0 STUDY METHODOLOGY</td>
<td>14</td>
</tr>
<tr>
<td>3.1 Study Area</td>
<td>14</td>
</tr>
<tr>
<td>3.2 Study Population</td>
<td>14</td>
</tr>
<tr>
<td>3.3 Sample of the Study</td>
<td>14</td>
</tr>
<tr>
<td>3.4 Data collection methods</td>
<td>15</td>
</tr>
<tr>
<td>3.5 Data Analysis</td>
<td>15</td>
</tr>
</tbody>
</table>
CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Legal Framework
   4.1.1 Legal Contradictions
   4.1.2 Discretionary Powers
   4.1.3 Overlapping Powers
   4.1.4 Financial Management

4.2 Institutional Arrangements

4.3 Human Resources Development Initiatives for Oil and Gas Industry in Tanzania
   4.3.1 Key Elements to Human Resource Development

4.4 Local Suppliers and Local Communities Awareness on Oil and Gas Industry
   4.4.1 Local Suppliers’ Awareness on Oil and Gas Industry
   4.4.2 Local Community Awareness on Oil and Gas Industry

4.5 Local Content and Local Participation in Tanzanian Oil and Gas Industry

4.6 Challenges Facing Oil and Gas Sector in Tanzania
   4.6.1 Transparency in Accrued Gas Revenue
   4.6.2 Procurements
   4.6.3 Healthy, Safety and Environment
   4.6.3 Managing People’s Expectations

5.0 RECOMMENDATIONS AND CONCLUSIONS

5.1 Recommendations
5.2 Conclusions

REFERENCES
LIST OF TABLES

Table 1: Response on training institutions linkages with MEM and IOC 25
Table 2: Response on oil and gas industry competence awareness by training institutions 27
Table 3: Response on Training Institutions Capacity to Train Oil and Gas Professionals 29
Table 4: Response on training institution access to the oil and gas technology 31
Table 5: Local oil and gas professionals enrolled in universities and colleges 32
Table 6: Response on awareness of local communities on oil and gas industry 35

LIST OF FIGURES

Figure 1: Ghanaian tripartite model for oil and gas sector 22
Figure 2: Tanzanian tripartite model for oil and gas sector 22
EXECUTIVE SUMMARY

Tanzania is a blessed country endowed with abundant natural resources ranging from oil and gas, minerals, wildlife, fertile land, forests, water bodies to name a few. The availability of these resources alone to a particular country is far from being sufficient from improving living standards, eradicating diseases and encouraging tranquility and political stability. Across the world, especially in developing countries, some countries endowed with vast natural resources have been encountered with the plight of having poor management of natural resources. Others have gone even further as some of them found themselves plunged into fragile economy, deep political turbulence and even civilian war as the result of. Unfortunately, in reversing the trend it could take a good number of years in a bid to heal the rift between the contenders. Unequivocally, natural resources often provide fertile ground for corruption. The risk of corruption cuts across natural resource sectors - from non-renewable resources such as oil, gas, minerals and metals, to renewable resources such as forests, fisheries and land. There are, however, important variations in the challenges presented by these sectors and the manner in which corruption in relation to them can be addressed. This highlighted background calls attention to the need for good and practical management of natural resources before things shouldn’t go off at a tangent.

Gas discovery in Tanzania has attracted several international oil and gas companies, to invest in Tanzania in gas exploration, development, and production. Currently, 29 offshore/onshore oil and gas production sharing contracts have been signed, 81 wells have been drilled and 50.5 trillion cubic feet of gas have been discovered (MEM, 2014), and the figure is likely to increase as exploration activities heap on. The industry is highly envisaged to be contributing towards ranking the country, Tanzania among middle income earners across the globe. In realizing the full potentials of these discoveries economically, the industry must be well watched over and corruption is to be sensibly discouraged. Based on the National five year Development Plan (2011/12 – 2015/16), it is expected that the post-2015 economy in Tanzania will be heavily driven by naturals resources through responsible exploration of natural gas, coal, uranium and other non renewable resources (URT, 2013).
However, even here in Tanzania despite the confidence on the use of natural resources to accelerate economic growth, there are concerns that the country may not achieve the dignified goals if the available resources are ripped off by corrupt and unscrupulous officials. Some scholars have argued that corruption is a hallmark in the sector and if it goes rampant then the resources would be just as good as a “curse”.

The adverse effects of high levels of corruption are largely anti-development. Empirical evidence suggests that countries rich in natural resources are less likely to have democratic political systems and faster economic development due to several factors, including corruption. Corruption is likely to undermine the ability of the government to provide quality services to its citizens.

In order to be able to provide impartial recommendations to curb corruption in this new emerging sector, PCCB conducted a study on governance of Tanzania oil and gas sector. The study conducted corruption vulnerability analysis in governance of oil and gas sector in Tanzania. In particular, it examined local initiative in developing human resource capacity, legal and institutional framework, local community awareness, involvement and participation in oil and gas sector and lastly, proposed workable measures to plug holes identified within the sector.

Ten regions, namely Arusha, Dar es Salaam, Dodoma, Morogoro, Pwani, Mwanza, Kilimanjaro, Lindi, Mbeya, and Mtwara were covered in this study. Moreover, in order to explore human resource developments, higher learning institutions and vocational training centers were covered. Ministry of Energy and Minerals (MEM) and the Tanzania Petroleum Development Cooperation (TPDC) were also covered. Data was collected through interviews, survey, and direct observations for eliciting primary data from the respondents. Documentary sources such as relevant reports, policies, publications, and Production Sharing Agreements (PSAs) were reviewed to complement information extracted from the primary sources.
1.0 MAIN FINDINGS

1.1 LEGAL AND INSTITUTIONAL FRAMEWORK

Tanzania is sanctified with a huge and attractive valuable resources industry. The duty of protecting them is vested to the People of United Republic of Tanzania for national benefits.

The main Legislation applicable to the industry is the Petroleum (Exploration and Production) Act, No. 27 of 1980 which was established mainly to provide for Administration, issuing of exploration licences, surface right, dispute resolution, financing petroleum operation and making regulation. The sector is also supported by other laws which include the Constitution of United Republic of Tanzania of 1977 as amended, Petroleum Act 2008, Income Tax Act 2004, Environmental Management Act 2004, Occupational, Safety and Health Act 2003, Public Corporation Act No.77 of 1969, Public Private Partnership Act,(2010), the Model Production Sharing Agreement and other cross cutting laws. Main policies governing the sector include the National Energy Policy (2003), and the Natural Gas Policy (2013) and the Petroleum Policy (2014).

Review of the sector legal framework has revealed that relevant legislations meant to regulate the oil and gas sector were not updated and harmonized to fully cover the Gas Sector. Moreover, the existing laws were found to have the following weaknesses: contradictions in definition of terms used in the sector; wider discretionary power given to the Minister responsible with petroleum affairs; overlapping powers in regulation of the sector; and lack of clear guidance on revenue management.

On the institutional framework, this study found that Tanzanian tripartite Model Production Sharing Agreement (MPSA) lacks a regulatory institution which makes the Tanzania Petroleum Development Corporation (TPDC) a player and a referee at the same time (i.e. TPDC is the operator and regulator in the oil and gas sector) leading to conflicts of interest (self dealing) and corruption and thus affecting its efficiency. It was further revealed that under the current model most activities are housed within TPDC leading to less opportunity for outside scrutiny and consequently creating greater opportunity for conflicts of interest and mismanagement.
1.2 HUMAN RESOURCES DEVELOPMENT INITIATIVES FOR OIL AND GAS INDUSTRY IN TANZANIA

Having competent human resources is an important aspect in corruption prevention. Despite Tanzania’s efforts to attract investors in the gas operations, this study has revealed that local initiatives to develop competent human resources are uncoordinated as a result of poor communication on the needs of the industry between the Ministry of Energy and Minerals and other stakeholders responsible for conducting trainings; low awareness of the required skills; poor access to technology and low capacity of training institution to offer trainings on Oil and Gas professionals.

It was further revealed that MEM has started implementing its marshal plan which aims at realizing about 200 oil and gas professionals by the year 2015. However, there is low emphasis on non technical courses like accounting, law, auditing and the like, which are also important in proper governance of the sector.

1.3 LOCAL SUPPLIERS AND LOCAL COMMUNITIES AWARENESS ON OIL AND GAS INDUSTRY

This study revealed that local firms lack understanding of the sector opportunities, and how to upgrade their businesses to be competitive. This has led to low incorporation of SMEs into the oil and gas supply chain. It was further revealed the general perception of International companies is that Tanzanian local suppliers do not have the capacity to operate in the gas sector, and as a result, the few local suppliers who managed to connect with IOCs were given small scale contracts which do not enable local business to expand their levels of capacity in the sector.

In good governance, participation is an important feature. However, in this study, local communities in oil and gas operations areas were found to have low awareness of the operations in their areas. They were neither informed nor involved in petroleum exploration and development activities.
1.4 CHALLENGES FACING THE SECTOR

The following issues were identified as challenges that pose corruption loopholes for the sector:

1.4.1 Transparency

Access to information is a fundamental right in activities that may positively benefit or negatively impact individuals, communities and society as a whole. Thus, transparency in the form of provision of adequate information to people enables them to take advantage of opportunities and scrutinize the Government’s management of the resources and hold it accountable for any lapse.

The results of this study show low transparency in terms of accessibility of information by oil and gas stakeholders, this includes transparency of the Production Sharing Agreements (PSAs) entered between the International Oil Companies and the Government. Many respondents reported difficulties in accessing information about bidding and awards procedures, oil and gas projects and their operations; quantity, quality and value of resource discovered; revenue accrued from the projects; investment and employment opportunities in the industry; operation costs, revenues and economic benefits to Tanzanians.

1.4.2 Procurement

Procurement is one of the areas affected by corruption in many sectors. After procurement procedures, the Government signs contract with company (or group of companies) on how much of the resource extracted from the country will be shared (PSAs). It has been revealed that most activities in the Gas industry use international standards and international mode of procurement which most of Tanzanian are not conversant with. In this case, the Public Procurements Act of 2011 has great challenge to match with international standards. Poor management of procurement procedures and contracts is likely to result in an increase of the costs involved (cost oil) and hence reducing the profit to be realized.
1.4.3 Managing People Expectations

The discovery of Gas in the country has raised people’s expectation on the opportunities and revenue to be accrued from the industry. However, there is still a long way to go before realizing the benefits. In southern regions (Lindi and Mtwara) of the country, there are already signs of impatience and therefore managing expectations is of great importance not only for the oil and gas companies themselves, but also, for the economic and political environment.

1.4.4 Healthy, Safety and Environment

Oil and Gas operations are normally associated with potential challenges to the environment and living creatures due to the use of sophisticated technology and the use of dangerous chemicals during drilling and other operations. Some smart mitigation measures unfolded by the undertaken of Environmental Impact Assessment (EIA) must be taken on board in managing proper health, safety and environmental standards. Environmental hazards could be due to dangers of oil spills, accidents, fire and water pollutions, yet, the Tanzania Environmental laws do not cope well with the new industry in an effective fashion. Lack of environmental standards and weak regulatory framework, poor involvement and enforcement of environmental management regulations by local authorities/government, and lack of financial capacity to conduct independent environmental impact studies for all development stages are among the challenges that make the sector vulnerable to health, safety and environmental hazards.

RECOMMENDATIONS

The following are the main recommendations from this study:

i. Parcel out regulatory functions to independent regulatory agency and enable the Ministry of Energy and Minerals to deal with policy issues;

ii. Invest in Capacity building within the Government, Gas Industry and Training Institutions

iii. Harmonize and update existing legislation of oil and gas sector to meet current demand
iv. Enact oil and gas industry specific policy and legal instruments such as Gas laws, oil and gas revenue management and ethics codes of conduct;

v. Increase transparency through designing mechanisms that will enable and strengthen Parliamentarians to debate and ratify oil and gas contracts and put in place strategies that will require public disclosure of all oil and gas agreements and revenue;

vi. Create awareness and sensitize the Local Government authorities and communities on matters related to local oil and gas exploration, development and production.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BG</td>
<td>British Gas</td>
</tr>
<tr>
<td>CEOs</td>
<td>Chief Executive Officers</td>
</tr>
<tr>
<td>CSR</td>
<td>Corporate social responsibility</td>
</tr>
<tr>
<td>DMRI</td>
<td>Dodoma Mineral Research Institute</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
</tr>
<tr>
<td>EITI</td>
<td>Extractive Industries Transparency Initiatives</td>
</tr>
<tr>
<td>EMA</td>
<td>Environmental Management Act</td>
</tr>
<tr>
<td>EWURA</td>
<td>Energy and Water Utilities Regulatory Authority</td>
</tr>
<tr>
<td>FDI</td>
<td>Foreign Direct Investment</td>
</tr>
<tr>
<td>FPSO</td>
<td>Floating Production Storage and Offloading</td>
</tr>
<tr>
<td>GRA</td>
<td>Ghana Revenue Authority</td>
</tr>
<tr>
<td>GNT</td>
<td>Government Negotiation Team</td>
</tr>
<tr>
<td>IOCs</td>
<td>International Oil companies</td>
</tr>
<tr>
<td>ITA</td>
<td>Income Tax Act</td>
</tr>
<tr>
<td>MEM</td>
<td>Ministry of Energy and Minerals</td>
</tr>
<tr>
<td>MPSA</td>
<td>Model Production Sharing Agreement</td>
</tr>
<tr>
<td>MUST</td>
<td>Mbeya University of Science and Technology</td>
</tr>
<tr>
<td>NEMC</td>
<td>National Environment Management Council</td>
</tr>
<tr>
<td>NM-IST</td>
<td>Nelson Mandela Institute of Science and Technology</td>
</tr>
<tr>
<td>PCCB</td>
<td>Prevention and Combating of Corruption Bureau</td>
</tr>
<tr>
<td>PSA</td>
<td>Production Sharing Agreement</td>
</tr>
<tr>
<td>SMEs</td>
<td>Small and Medium-scale Enterprises</td>
</tr>
<tr>
<td>TEITI</td>
<td>Tanzania Extractive Industries Transparency Initiatives</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Name</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>TPDC</td>
<td>Tanzania Petroleum Development Corporation</td>
</tr>
<tr>
<td>TPSF</td>
<td>Tanzania Private Sector Foundation</td>
</tr>
<tr>
<td>TRA</td>
<td>Tanzania Revenue Authority</td>
</tr>
<tr>
<td>Tcf</td>
<td>Trillion cubic feet</td>
</tr>
<tr>
<td>UDOM</td>
<td>University of Dodoma</td>
</tr>
<tr>
<td>URT</td>
<td>United Republic of Tanzania</td>
</tr>
<tr>
<td>VETA</td>
<td>Vocational Education Training Authority</td>
</tr>
<tr>
<td>VTC</td>
<td>Vocational Training Centre</td>
</tr>
</tbody>
</table>
CHAPTER ONE
INTRODUCTION
CHAPTER ONE

1.0 INTRODUCTION

Since independence, oil and gas industry is growing and has become of geostrategic importance in terms of energy reserves in our country. New gas discoveries have been made and new initiatives for promoting better resource governance are being implemented. Gas discovery in Tanzania has attracted the arrival of many international oil and gas companies, particularly in the southern part of the country. Currently 29 offshore/onshore oil and gas production sharing contracts have been signed, 81 wells have been drilled and 50.5 trillion cubic feet of gas have been discovered (MEM, 2014).

While prospects for the energy industry look excellent, legal and institutional arrangement, development of human resources and local involvement in oil and gas are among the challenges that would probably make the industry susceptible and vulnerable to corrupt practices. Development of consistent institutional framework; building capacity of local human resources and adequate involvement of local community as a way to fight corruption has been an issue of concern for many Tanzanians.

The Government, operators and the community, if well coordinated are highly considered better tools in fighting corruption within oil and gas sector. If the Government adopts a better model or strategy to govern oil and gas sector it will make operators comply with rules and regulations set for the industry while the community will hold the government accountable and responsible for any matters against public interest. Being a new emerging oil and gas producer, Tanzania is striving to put in place a better model/strategy to govern its resource in a corruption free environment.

PCCB has critically analyzed corruption vulnerability in gas resource governance as a challenge facing the country. This study examined oil and gas sector corruption vulnerability by observing legal and institutional framework, capacity building to local human resources and involvement of local communities in oil and gas areas. The study involved oil and gas stakeholders from government institutions, training institutions and local communities from different regions of the country.
1.1 Statement of the Problem

Tanzania is one of the rich countries in natural resources endowments in the World. The resources include oil and gas, woodlands, rivers, lakes, and wetlands to name a few. If these natural resources are properly managed, harnessed and taxed, no doubt the country would become a self-reliant in financing both recurrent and development (or capital) expenditure. Based on the National Five Year Development Plan (2011/12-2015/16), it is expected that the post-2015 economy in Tanzania will be heavily driven by the natural resources through responsible exploitation of natural gas, coal, uranium and other non-renewable resources. The premise is that should the government improve resource management and collection of revenue rents for re-investment in other productive sectors and effectively control corruption, by 2025 Tanzania is expected to acquire a middle-income economy status.

However, despite the optimism on the use of natural resources to accelerate economic growth, there are concerns that, the country may not achieve this goal, if the available resources including oil and gas are ripped off by corrupt people for their private benefits. In other words, corruption is likely to frustrate instead of promoting the realization of that goal. This happens when availability of large financial resources increases the opportunity for the theft of such assets by those in leadership positions. For instance, those who control the assets can use that wealth to maintain themselves in power; either through legal means (e.g. spending in political campaigns) or coercive ones (e.g. funding militias). No wonder some scholars have argued that, corruption is a hallmark of the oil and gas industry. They cynically posit that natural endowments, particularly gas and oil, amidst uncontrolled corruption, are just as good as a “curse”.

In order to be able to provide impartial recommendations to curb corruption in this new emerging sector, PCCB conducted a study on governance of oil and gas sector in Tanzania. The study employed corruption vulnerability analysis in governance of oil and gas sector in Tanzania.
1.2 Objectives

Section 7(a) and (c) of the Prevention and Combating of Corruption Act of 2007 mandates PCCB to examine the practices and procedures of public and private sector bodies and make recommendations on how corruption loopholes can be detected, prevented, eliminated or reduced. The overall objective of this study was to examine corruption vulnerability in governance of Tanzania oil and gas sector in order to provide impartial recommendations to curb corruption in this new emerging sector. The specific objectives of the study were:-

(i) To examine the governance of the oil and gas industry,

(ii) To examine the local initiative in developing Local Human Resource in oil and gas industry,

(iii) To examine local community involvement and participation in Oil and Gas industry value chain.

(iv) To recommend on ways to plug in corruption loopholes in the sector
2.0 OVERVIEW OF OIL AND GAS INDUSTRY IN TANZANIA

This chapter presents an overview of oil and gas industry in Tanzania with emphasis on the following aspects: (i) the exploration activities in Tanzania (ii) legal framework and institutional arrangement (iii) local content and human resources development and (vi) transparency in oil and gas industry.

2.1 Oil and Gas Exploration Activities in Tanzania

The history of oil and gas exploration in Tanzania dates back to 1952 where multinational petroleum companies, BP and Shell were awarded concessions along the coast, including large islands of Mafia, Pemba and Unguja. Extensive geological work was conducted by these companies and a number of wells confirmed the presence of seal, reservoir and source rocks in stratigraphic column.

However, most drilling activities in Tanzania took place between 1980 and 1991 after the enactment of the Petroleum Exploration and Production Act in 1980. These included delineation of the Songosongo Gas Field and Gas discoveries at Mnazi Bay by AGIP in 1982; two wildcats at Kimbiji; acquiring seismic data by TPDC; drilling two wells in Rukwa Rift basin and drilling works in Mafia were conducted by Shells.

Several studies were conducted and efforts were made by authorities to achieve fiscal and technical agreements for the development of Songosongo gas field and in 2000 TPDC launched exploration activities in Tanzania that resulted into potential natural gas discoveries in various parts of the country that include Songosongo Island, Mnazi Bay, Mkuranga and Kiliwani North. A number of multinational oil and gas companies are now involved in this new economic activity whereby fourth Petroleum licensing round took place in the country in October, 2013 through open bid of 7 blocks offshore and by June 2014, the country had total discovery of 50.5 Tcf (MEM, 2014)
2.2 Governance of the Oil and Gas Sector

Governance is the process of decision-making and the process by which decisions are implemented (or not implemented). This process involves several actors, both formal and informal. In the governance of the Oil and Gas sector, actors include but not limited to the Government, Multinational Oil and Gas companies, the sector regulators, civil societies, research institutions, training institution, media, the private sector, and the citizens. Mode of Governance of the Petroleum sector depends on the way rules of the game are made, that is, the policy, legal and institutional set up.

The section 2.2.1 below gives a brief description of the main instruments used to govern the sector in Tanzania.

2.1.1 Policy, Legal and Regulatory Framework:

(b) Policy

During the period 1985 to date, Tanzania has taken major reforms in political, social, economic, and monetary policies to enable international oil companies to invest, explore, and develop the petroleum sector. The National Energy Policy of 1992 as revised in 2003 operated under this framework. The overall objective of this policy is to provide inputs into the development process of the country through establishment of an efficient production, procurement, transportation, distribution and end use system in an environmentally sound manner and with due regard to gender issues. The Energy Policy is directed at petroleum product substitution by exploiting indigenous resources (coal, natural gas, hydropower, and biomass). The major shortfall of this policy is non-declaration of strategies to regulate exploration activities and governance of petroleum exploration and development. The said policy has little contribution to development of the mushrooming exploration activities in Tanzania.

In 2013, Tanzania enacted the Natural gas Policy whose main objective is to provide guidance for the development of the natural gas resource to ensure that its benefits are maximized and contribute to the transformation of the Tanzanian economy. This policy provides guidance in mid and downstream gas operations in the country and it has been promised that upstream activities will be guided by a separate Policy document to be developed later.
This Policy, mandates the Government, among other activities, to participate strategically through its National companies (or through PPP) to develop and operate major infrastructure. Although this policy is still new, it does not ensure state and local ownership of the gas business as its fundamental issues and policy statements are limited to regulating and directing mid and downstream issues leaving out upstream activities.

Other policies that are fundamental in managing oil and gas operations in the country are the National Environment Policy of 1997, National Investment Policy of 1996 and the National Trade Policy of 1998.

(b) Legal Framework


It is a trite principle of law that ownership of Petroleum in Tanzania is vested to the state. On the same fortitude, Tanzania Petroleum Development Corporation is issued with exploration license paving room for entering into Production Sharing Agreement (PSA) with oil companies. All petroleum operations are conducted in accordance with good oilfield practices that include but not limited to observation of safety, health, and welfare of persons as well as avoidance of damage to reservoir.
Below is a brief description of the relevant laws governing oil and gas sector.

(i) **The Petroleum (Exploration and Production) Act 1980 (PEPA):**

This is the main law that regulates petroleum exploration and production in Tanzania. Under this Act, ownership of petroleum resources and control are vested in the State. The Act provides framework for application, award, modification, cancellation and relinquishment of licenses and defines administrative powers and terms under which exploration and development will be carried out. The Act gives authority to the Minister to grant licenses and to make regulations, and the Commissioner for Petroleum Affairs to administer petroleum activities. The Minister responsible for Petroleum may subject to any conditions which he may impose to the instrument of authority; authorize TPDC to conduct on behalf of the Government petroleum investigations and negotiations of contracts. Obligations of the parties holding exploration and production licenses are also defined, such that, a licensee is obliged to fulfill all technical requirements according to agreed work program, furnish funds for agreed minimum expenditure and train and employ Tanzania nationals. Licensee is also obliged to conduct Petroleum operations in accordance with good oil field practices, avoid damage to reservoir, observe safety, health and welfare of persons and submit data, reports and information to the Minister.

In the event of any dispute, the law stipulates the mode of resolving the dispute through the Commissioner whose appeal may be lodged to the High Court of Tanzania. It is further set-out that the holder of the license shall pay royalty in respect of the obtained petroleum failure of which is sanctioned by the Minister and its recovery is enforceable under the court of law.

Without prejudice to the above position the legal framework which governs petroleum proceedings is an old instrument that does not specifically address the Gas sub sector and the process by which licenses are awarded is not dealt with in details by this Act. It has survived by the period of nationalization and the transition period of statist neoliberalism of which the latter requires changes from the former. That said, the current law needs an immediate review and changes in line of the Gas Policy (2014) and the Local Content Policy of Tanzania for Oil and Gas Industry (2014) so as to meet the current demand. Various spheres of influence need an immediate attention for the better exploration, development, and production of petroleum in Tanzania.
(ii) **Petroleum Act, 2008**

The Petroleum Act, 2008 provides a framework for administration and regulation of the Petroleum Downstream Activities; downstream Operating Licenses; approval of works for the construction of petroleum installations; Petroleum supply operations, importation, exportation, transportation, transformation, storage, whole sale and distribution of petroleum and petroleum products in a liberalized market and to provide for related matters. This Act also provides Minister’s administrative and supervisory powers (Section 4) to advise the Government on petroleum supply policy matters and supply strategies, coordinate all legislative and regulatory proposals relating to petroleum supply, prepare a petroleum emergency supply plan and ensure sufficient strategic reserves of petroleum and petroleum products as required by the market, and cause to be conducted studies necessary for administrative and management purposes in respect of the petroleum supply. However, this Act deals with supply operation and other activities concerning petroleum but not responsible for exploration of Petroleum.

(iii) **Environment Management Act, 2004:**

The Act regulates all environmental matters, including Oil and gas sector. This act requires Environment Impact Assessment (EIA) to be undertaken prior to operations commencement. The National Environment Management Council is mandated to ensure environmental compliance and enforcement and to conduct research and awareness programs. This Act requires sectors to manage environmental issues in their respective sectors.

(iv) **Energy and Water Utilities Regulatory Authority Act of 2001**

The Energy and Water Utilization Regulatory Authority Act (EWURA) of 2001 has empowered EWURA to execute functions of the regulatory body for energy and water sectors. Functions of the EWURA include regulation of downstream energy and water activities including transmission and distribution of petroleum.
(v) **Petroleum Conservation Act, 1981**

This Act provides for regulation of the importation, transportation, storage, distribution, sale and use of petroleum and petroleum products. This act is for regulation of mid and downstream activities, functions that looks similar to those provided by Petroleum Act, 2008 and EWURA, 2001.

(vi) **Model Production Sharing Agreement (MPSA 2008)**

Tanzania’s Model PSA, made under s. 14 of the Petroleum exploration and Production Act, serves as the basic document for negotiations between foreign oil companies, the Government and TPDC. It sets out the terms under which exploration and production can take place. The terms of the PSA’s form the basis of the licenses and are negotiable. The legislative framework offers considerable flexibility to the Government in negotiating acceptable terms with oil companies. The MPSA forms the basis of tripartite Agreement (Government, TPDC and the Company) and defines all parties’ rights and obligations. However, this instrument lacks binding mechanism to require transparency and ratification by the parliament.

(vii) **Income Tax Act of 2004**

Revenue management is an important aspect in the governance of Oil and Gas in any country. Currently, there is no specific tax regime for gas industry in Tanzania, and hence the general Income Tax Act, 2004 is applied for management of revenue in this sector together with relevant tax provisions as stated in the Production Sharing Agreements (PSAs). In 2013, amendments were made to the Income Tax Act to cater for petroleum operations in the country. The amendments include definitions of ‘petroleum agreement’ to include a PSA and ‘contract area’ to refer to an area that is subject to a PSA; to ring-fence petroleum operations carried out by one and the same person in different petroleum areas and to cater for the determination of allowable deductions for each petroleum contract area to be treated separately; and to allow for the deduction of unrelieved losses in the case of losses incurred on petroleum operations only in calculating the person’s income derived from the contract area (Strong, 2013).
Other statutes for revenue management include Value Added Tax, 1997, the East African Community Customs Management Act, 2004 and the Stamp duty Act, 1972. These laws serve the industry parallel to specific petroleum laws sections. Most of these laws were enacted prior to discovery of commercial quantities of gas.

However, management of petroleum revenue which include establishment of special petroleum account, prohibitions, transparency, accountability, management of reserve accounts and allocation of funds accrued from gas sector are left unaddressed.

2.1.2 Institutional Framework

Under the current institutional set up, the Ministry of Energy and Minerals is the Policy and Law maker and is mandated to administer all exploration and exploitation of mineral resources including petroleum and gas. It is the Minister on behalf of the United Republic of Tanzania therefore who is vested with mandate to issue licenses to that effect as well as issuing regulations for governing the process. Regulation of Oil and Gas operations is done by the Ministry and the Energy and Water Utilities Regulatory Authority (EWURA) whereby, the Commissioner for Energy and Petroleum affairs in the Ministry regulates the petroleum upstream activities while the petroleum downstream activities are regulated by EWURA.

On the other hand, TPDC acts as a National Oil Company and is responsible for sector development, i.e. promoting and monitoring the exploration for oil and gas, develop and produce oil and gas, conduct research and development of oil and gas industry in the country, manage the exploration and production data, advice the government on petroleum related issues, and market and sell natural gas under PSA arrangement. Currently, TPDC has formed two subsidiary companies, namely, GASCO and PETROTAN, to oversee the gas development and strategic reserve of petroleum respectively.

All taxes administrations are done by the Tanzania Revenue Authority (TRA). To accommodate the new Oil and Gas sector, an international taxation unit has been set up at TRA to deal with technical issues of international nature including the issue of transfer pricing.
Other key regulatory institutions responsible for health and environmental management are National Environment Management Council (NEMC) and the Occupation, Safety and Health Authority (OSHA). Other institutions include the Tanzania Bureau of Standards (TBS) which oversees standards for compliance; and Tanzania Minerals Audit Agency (TMAA) responsible for mining activity related financial audits.

### 2.3 Local Content and Human Resources Development

Local human resource development is a key element for country developments in any sector. It is considered part of local contents that ensure locally produced goods and services are rendered to the industry to create more economic empowerment (Nwosu et al, 2007). Tanzanian oil and gas sector use sets of sector specific approaches through PSA which are in line with the liberalized labor market, socio-economic realities of the contemporary world which requires citizens to compete for jobs in employment on the basis of their skills and work experience or their own ingenuity.

The process is governed by the Petroleum Act of 1980 that provides effective use of local human resource by license applicants in the petroleum exploration sector through section 20.1 and 36. Also article 18 of Product Sharing Agreement (PSA) address maximum use of Tanzanian service companies, establish appropriate tender procedures that give effect to local content, use of local businesses, financing and employment of Tanzanian nationals (Article 17). It further encourage building capacity of local enterprises and gives equal treatment to local enterprises by ensuring access to all tender invitations and including local value added in tender evaluation criteria. Effective training programs by IOCs are also emphasized to build local employees capacity to participate in oil and gas operations (Article 19 of the PSA). This might be on-the-job training in the petroleum operations in the United Republic of Tanzania, local universities or overseas.

### 2.4 Oil and Gas Industry Transparency

Transparency is a characteristic of governments, companies, organizations and individuals that are open in the clear disclosure of information, rules, plans, processes and actions (TI, 2009). Lack of transparency in petroleum governance normally results into failure of sustainable economy of oil producing country, community must be well informed and take advantages
of the subsequent benefit of the industry (Ariweriokuma, 2009). Tanzania oil and gas sector like other extractive industries, its transparency is monitored by TEITI whereby companies engaging in the extraction of oil and gas are obliged to publicize revenues they pay to the Government. Additionally, local communities receive oil and gas sector information through their respective local authority, media, meetings, group discussion with officials from MEM and TPDC and emerging social media. However, Companies do not publicize what they earn from their projects and thus create a one sided accountability.
3.0 STUDY METHODOLOGY

This chapter presents the methodology employed in conducting the study. It includes the description of the study area, study population, sample of the study, data collection methods and data analysis.

3.1 Study Area

The study was conducted in the following regions: Arusha, Dar es Salaam, Dodoma, Kilimanjaro, Lindi, Mbeya, Morogoro, Mwanza, Pwani and Mtwara. The study also covered a study visit in Ghana with an objective of learning the approaches that Ghana uses to prevent corruption in oil and gas sector through systems strengthening.

3.2 Study Population

The targeted population were CEOs from Ministry of Energy and Minerals, 20 Universities, 18 Colleges and 22 Vocational Training Centers (VTC), local community and leaders from 15 districts in three regions of Pwani, Lindi and Mtwara where oil and gas operations are active. The study also managed to meet CEOs and officers of various directorates of the Ghanaian Ministry of Petroleum and Energy, Ghana National Oil Corporation, Petroleum Commission, Ghana Revenue Authority (GRA) and the rig on the *Kwame Nkrumah MV21* Floating Production Storage and Offloading (FPSO) vessel at the Jubilee Field.

3.3 Sample of the Study

A total of 460 respondents from Universities, Colleges, Vocational training Institutions, Ministry of Energy and Minerals and local community were interviewed. The respondents were either randomly selected (local community members living in areas where Oil and Gas operations/projects are active – Pwani, Mtwara and Lindi) or purposively selected (CEOs and Officers from Ministries, IOCs and Institutions responsible for administration of the sector).
3.4 Data collection methods
In order to obtain the relevant data and information concerning the problem under research, several methods of data collection were employed. Interview, survey, and observation methods were used to collect primary data. Documentary method was used to collect secondary data and it involved the review of reports, policy, laws and Model Production Sharing Agreement (MPSA).

3.5 Data Analysis
Quantitative data were analysed using Statistical Package for Social Science (SPSS) and qualitative data were analysed through content analysis and observation made. Quantitative results were presented in tables showing frequency and percentages.
4.0 RESULTS AND DISCUSSION

This chapter presents the results of the study relating to the following:
(i) legal framework (ii) institutional arrangement (iii) human resource
development initiatives (iv) local suppliers and local communities’ awareness
(v) local content and local participation and (vi) risk areas and challenges
facing the oil and gas industry.

4.1 Legal Framework

This study, among other objectives, aimed at examining corruption
vulnerability in oil and gas sector by reviewing the present laws to assess
their efficiency in corruption prevention and proposing for an adequate legal
framework that might ensure sustainability of the sector. This is important
because the country will not realize potential benefits if the said sector is
not properly managed such that loopholes for corruption practices remain
unchecked.

Documentary reviews and consultations suggest that Tanzania laws are
inadequate for the proper running of the industry to the benefit of our
country, the results of which we have been witnessing several amendments
made by the parliament just to attain the intended goal both economically,
politically and socially. Despite efforts by the Government of Tanzania,
stakeholders and the parliament to bring the laws into a promising state,
still the same rose a number of contradictions which sounds mitigation
corner for corruption to fraudulent government officials and investors.

This part focuses in analyzing some legal contradictions, inconsistency,
overlapping and discretion powers to implementing authorities as stumbling
blocks to sustainable development of the oil and Gas sector.
4.1.1 Legal Contradictions

Contradicting laws in oil and gas sector are considered a vulnerable area to corruption that gives officials and IOCs room for not complying with the requirements. Definitions provided in the laws are very crucial in avoiding confusion among stakeholders and preventing them from using definitions that suite their needs. Confusing and unclear definitions create an opportunity for loopholes and non-compliance. This study noted that Petroleum (Exploration and Production) Act of 1980 (PEPA) contradict with Petroleum Act of 1980 and therefore create opportunities for overlapping and conflicting provisions.

For instance, these two Acts provide different definitions for “petroleum” which are not consistent although they all address the same products. In their definitions, PEPA does not include “condensate” as petroleum – but “condensate” is defined as “petroleum” in the Petroleum Act of 2008, likewise PEPA recognize petroleum as “naturally occurring.”

Another terminology whose definitions create ambiguity is the term “standard”. This has been defined differently between the Petroleum Act and the Energy and Water Utilities Regulatory Act. In the Petroleum Act 2008, the word “standard” was given the meaning similar to section 2 of the Tanzania Bureau of Standards Act but in the Energy and Water Utilities Regulatory Act “standard” includes standards relating to the content applied in the electricity supply, water and sewerage, petroleum and natural gas distribution. Different definitions on the same item might weaken government position when pursuing litigation against a company for violation of relevant laws and hence creating rooms for corruption and grafts to stakeholders and scrupulous officials.

Moreover, Petroleum Act and Petroleum Conservation Act lack consistency that creates corruption vulnerability in defining the term “Persons” which is not defined in the Petroleum Act while in Petroleum Conservation Act the words persons, corporations and companies are defined as different things. Such inconsistence could create assumption that companies and corporations are not “persons” under the Petroleum Act and Petroleum Conservation Act.
4.1.2 Discretionary Powers

The main piece of legislation governing the sector, the Petroleum Exploration and Production Act (PEPA), 1980, gives too much power to the Minister responsible with petroleum affairs to grant licenses as any application including application for license must be made to the Minister. The Minister is mandated to create or eliminate requirements for exploration licensees with minimal (or no) constraints and may enter into an agreement with any person with respect to the grant of a license and any associated conditions or requirements. Some requirements for a grantee include submission of an adequate program with respect to work and expenditure for the ensuing year. However, this requirement is also subject to the Minister’s discretion; a program is considered adequate if it meets the requirements of any agreement the Minister entered into with the licensee. It is likely for the Minister to abuse the power given to him.

Furthermore, PEPA also grants the minister responsible for petroleum affair power to create or eliminate requirements for exploration licensees under Sections 14 and 17. This include health, environmental, and safety standards where the minister is empowered to define and enforce requirements, this does not only weaken the standard but also the use of the word “may” in section 94.1c allows the Minister to opt out this requirement since it is not binding. This may results into inconsistent standards and creates opportunities for self-enrichment and corruption.

Additionally, Petroleum Act gives the Minister responsible for petroleum affair a broad supervisory role under Sections 4a, 4b, 4d. To avoid such corruption loop holes laws should not relay on the Minister’s discretion, they must require companies wishing to engage in exploration to abide in established health, environmental, and labor standards neglecting minister’s capacity to waive or amend these requirements. When laws provide sources of authority excessive discretion, they place regulation of the industry in the hands of private sector participants and government officials. This discretion allows for inconsistent standards and creates opportunities for self-enrichment and corruption. The powers of the Minister are too enormous and inviolable on license issuing thus a need for an independent body to work hand in hand with the Minister who will be a chairperson in the course of dealing.
4.1.3 Overlapping Powers

Overlapping laws and power is another corruption vulnerability area if not well addressed. However, that can be eradicated by ensuring that each laws enacted give a clear clarification of the roles of the users and the intended outcome. It is in this juncture the statutory harmonization is being considered very important.

This study revealed that the existing laws confer control over the sale of petroleum to two different entities. Under the Petroleum Conservation Act, the Minister responsible for petroleum matters is given powers to regulate and control the distribution and sale of petroleum, while under the Petroleum Act of 2008, prices for petroleum and petroleum products throughout the supply chain are governed by the rules of supply and demand subject to the provisions of the Energy and Water Utilities Regulatory Authority Act and the Fair Competition Act.

Moreover, the Environmental Management Act set more overlapping power where section 31(2) states that “every sector Ministry shall carry out its function and duties in connection with the environment as prescribed in any law provided that such law does not conflict with the provisions of this Act. However the same law creates several regulatory bodies such as the National Environment Management Council which is mandated to render advice and technical support, where possible, to entities engaged in national resources management by enforcing and ensure compliance of the national environmental quality standards. This again is considered a corruption loopholes as authorities and agencies established in the ministry could give standards as proposed by the Minister responsible for petroleum thus bring conflict with EMA’s standards. It is thus recommended to have one agency or authority vested with that role.

4.1.4 Financial Management

On revenue management, the Petroleum exploration and production Act has some confusion on division of financial responsibility since it gives more powers to the Commissioner. By virtue of his position, the Commissioner is less knowledgeable and has limited capacity to evaluate and monitor financial and fiscal matters (ESRF, 2009). It is therefore suggested to harmonize all financial matters in this sector and stipulate clearly the role of TRA in this sector.
Moreover, research findings revealed that revenue accrued from oil and gas sector are treated under similar laws like any fund generated from any other sources (Income Tax Act 2004). The sector lacks specific revenue management legislation thus difficult for implementing its development plans. It is recommended to have in place the Petroleum & Gas Tax Act and Petroleum & Gas Revenue Management Act that will enable the government to do economic assessment and properly decide for budget allocation to develop the entire sector to meet the National goals.

Despite contradiction, overlapping and inconsistence, the gas sector lacks industry specific laws that provide fully coverage of the sector. It is thus argued that laws must be harmonized plainly in order for the relevant authority to create a comprehensive and cohesive regulatory framework aimed at strengthening existing laws and avoid confusion. The intended Regulations should give permanent solutions for eradications of opportunities for graft, corruption, and bribery. They are to be consistent, ease to interpret, effective, and enforceable to properly protect the National interest.

4.2 Institutional Arrangements

Enhanced institutional framework is among the key factor considered in fighting corruption in oil and gas industry. Effective administration, regulation, monitoring and compliance during exploration, development and production of oil and gas need well arranged and coordinated institutions. This study found that Tanzania oil and gas institutional framework responsible for administration and regulation are not well placed and arranged hence vulnerable to corruption. The study revealed that both commercial and regulatory roles are housed in TPDC; this may lead to conflict of interest, mismanagement and corruption due to bureaucracy. As shown in fig. 2, Tanzanian tripartite Model Production Sharing Agreement (MPSA) lacks independent regulatory institution as it is in other countries models like the Ghanaian model (see fig. 1).
The absence of independent regulatory institution in the Tanzanian tripartite model makes the Tanzania Petroleum Development Corporation (TPDC) a player and a referee at the same time. TPDC assumes multiple roles as operator and regulator leading to potential conflicts of interest (self dealing) that in future might result into corruption loopholes as the sector grows.

The study also revealed that potential conflicts are likely to occur in licensing review process as TPDC is a participant in applications through carried interest and is also heavily involved in the review and due diligence process. These bring urgent need to establish an independent authority that will take over regulatory responsibilities previously preserved for TPDC in the upstream oil and gas sector. The authority should be charged with allocation of licenses, evaluation and granting of work permits and monitoring the upstream and midstream of oil and gas sector at large.
This will improve government ability to monitor and benchmark both TPDC, IOCs and other players in the sector, TPDC will strictly concentrate on carrying out its extensive commercial operations in the country and abroad and the Ministry of Energy and Minerals shall strictly deal with policy issues by setting goals for the sector, making plans to achieve set goals and oversee the crucial licensing process.

This study also revealed inadequacy capacity of institutions responsible for administering, regulating and monitoring the oil and gas industry. The institutions are under resourced, uncoordinated, less competent and lack financial supports. All these create corruption vulnerability in the sector through high workload and poor monitoring of oil and gas projects. AUPEC (2008) revealed similar situation and assumed TPDC capacity to participate in Joint Operations under the Model PSA to be weak.

A comprehensive institutional framework that accommodates checks and balances while considering capacity building has to be established so as to allow the country to enjoy among others the following advantages:

**First**; TPDC will be able to focus more exclusively on its commercial activities, enhancing its operational performance and increasing the short and long-term financial returns to the state.

**Second**; the creation of autonomous regulatory bodies will improve the ability of the government to monitor and benchmark both the National Oil Company (i.e. TPDC) and other players in the sector, thereby improving performance.

**Third**; conflicts of interest in which TPDC could use its regulatory or policy powers to privilege itself against competitors or to privilege its commercial interests over the revenue-generation goals of the state will be potentially reduced.

**Fourth**; the state’s assertion of independent control over hydro-carbon policy and regulations will be stronger and prevent TPDC from capturing other state institutions (including political ones). This will keep it away from becoming a distorting and destabilizing “state within a state” (Stiglitz, 2007; Natural Resource Charter, 2010; and ESRF, 2009).
Human Resources Development Initiatives for Oil and Gas Industry in Tanzania

This section presents findings on local initiatives for developing human resources in oil and gas industry as a factor for natural resources sustainable development. Human resources with skills, knowledge and attitude of oil and gas industry are considered tools in fighting corruption. This can only be achieved if stakeholders can work together; have the required capacity, training institutions are awareness of what need to be done and assurance of availability of industry technology.

4.3.1 Key Elements to Human Resource Development

This part presents findings about key elements to develop Human resources for oil and gas industry. These are: (i) communication between training institutions and Ministry of Energy and Minerals and International Oil Companies (IOCs) (ii) training institutions’ capacity to train on oil and gas, (iii) access to oil and gas technology by training institutions, (iv) training institutions awareness of competency required to train on oil and gas and (v) available skills.

4.3.1.1 Communication between Training Institutions

Communication between training stakeholders in oil and gas industry is vital elements in producing human capital that comply with the required skills codes of conduct and integrity. Communication in this study was considered as a very important linkage among stakeholders. Competent human resources enriched with skills, knowledge and attitude on oil and gas industry are less likely to be compromised hence considered another effective tool in fighting corruption. The study wanted to establish if communication gap exists and how it can be plugged in. Findings show that there is weak communication between training institutions, Ministry of Energy and Minerals and International Oil Companies (IOCs) on what to be trained to meet the demand of the Sector. On average, 54.4% of the respondents asserted that training institutions in Tanzania are not linked to the Ministry of Energy and Minerals as well as to the IOCs and hence lacked the necessary oil and gas sector information.

As indicated in table 1, respondents reported weak communication between training institutions and the Ministry of Energy and Minerals (52.6%), between training institutions and International Oil Companies
(57.9%) and between training institutions and other Training Institutions worldwide (52.6%). However, public institutions were found to have formal communication with the Ministry of Energy and Minerals and were more informed compared to private training institutions.

Table 1: Response on training institutions linkages with MEM and IOC

<table>
<thead>
<tr>
<th>Linkage</th>
<th>Percentages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not Linked</td>
</tr>
<tr>
<td>Ministry of Energy and Mineral</td>
<td>52.6</td>
</tr>
<tr>
<td>International Oil Companies</td>
<td>57.9</td>
</tr>
<tr>
<td>Other Training Institutions</td>
<td>52.6</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>54.4</strong></td>
</tr>
</tbody>
</table>

When further asked if they had communication with companies as a means to disseminate oil and gas industry requirements, only 2% of the respondents mainly from Vocational Training Centers in Lindi and Mtwara agreed that they were contacted by companies to supply professionals from their institutions. This may also imply that only a few IOCs are currently interested in recruiting nationals from VCT.

Existing weak linkage between training institutions, Ministry of energy and minerals and International Oil Companies broadens the skills gap in Tanzanian oil and gas industry, this might results into human resources who lack industrial competency and thus become vulnerable to corruption. Experience from oil and gas producing countries show that they train local professionals to protect their country’s interest in areas of high impacts. Tanzania must use this approach in fighting corruption as well as minimizing the room for IOCs to resort to expatriates to fill most of the positions available in their companies.

Further, findings also revealed that some Oil companies like BG Tanzania and Statoil have developed a few initiatives to improve local education and trainings on oil and gas in the country. These initiatives include: scholarships to few Tanzanians at Universities of Dodoma and Dar es Salaam and facility support to Universities and Vocational Education Training Authority (VETA) in Mtwara and Lindi. However, the scale of these programs is rather small and uncoordinated. To reduce such a gap, major and new effort is needed
to increase education and training by the main stakeholders and increase collaboration and coordination among the oil and gas companies. Better results can be expected when companies act jointly with Vocational training centers and Universities.

National institution on oil and gas must be set up in Tanzania; this will act as a clearing house for information and statistical data on oil and gas in the country including the human resources gap. It will catalyze up projects to expand education and training programs which meet the demands of the industry by focusing on closing the skills gap, and later on address other challenges that face oil and gas industry.

4.3.1.2 Training Institutions’ Awareness of Competency Required to Train Oil and Gas Professionals

Knowledge, skills and attitude are considered three most important ingredients of career success. Knowledge represents the core curriculum subjects such as geology, Finance etc. Skills are acquired through a practical orientation. Attitude includes key aspects like honesty, self-confidence and cooperation and so on. It is intrinsic and involves transforming someone into positive side.

This research wanted to understand the extent in which training institutions are aware of technical skills needed to train professionals in oil and gas as one step towards producing competent human resources. The results showed that appreciable proportions of respondents (32.9%) were fully aware and 30.2% partially aware. Meanwhile, 36.9 % of them were not aware of competence required to train in oil and gas industry. As shown in table 2 below, 42.1% of the institutions were aware of skills required by the industry, 52.6% were aware of the knowledge needed by the industry and 31.6% were partially aware of the attitude of the industry.
Table 2: Response on oil and gas industry competence awareness by training institutions

<table>
<thead>
<tr>
<th>Awareness</th>
<th>Percentages (%)</th>
<th>Not Aware</th>
<th>Aware</th>
<th>Partially Aware</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information of Industry</td>
<td>21.1</td>
<td>36.8</td>
<td>42.1</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Technical skill needed</td>
<td>26.3</td>
<td>42.1</td>
<td>31.6</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Knowledge needed</td>
<td>31.6</td>
<td>52.6</td>
<td>15.8</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Attitude of industry</td>
<td>68.4</td>
<td>0.0</td>
<td>31.6</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>36.9</td>
<td>32.9</td>
<td>30.2</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

However, there were no any training institution which was fully aware of the industry attitude, they opined that attitude of any industry is normally developed through field practices by working in the oil and gas industry itself.

4.3.1.3 Training Institutions Capacity to Train Human Resources in Oil and Gas Industry

To train competent human resources in any industry needs training institutions to have human resources, technological and financial capabilities. These factors, combined with proper communication among stakeholders, training institution can produce professionals that meet industrial needs. Lack of capacity in training institutions if not properly addressed, the experts produced will lack adequate technical skills and hence easily give room for corruption to breed. Therefore, national interest will not be met; there will be low efficiency and operating cost will increase and investors will prefer to recruit non citizens.

This research revealed that an average of 72.4% of the training institutions visited lack adequate capacity to train human resources in oil and gas industry. As shown in table 3 below, training institutions specifically lack capacity in human resources capable to train students in oil and gas field (73.7%), technology to train in oil and gas (57.9%) and financial resources to support oil and gas training programs (73.7%). However 84.2% of training institutions agreed that their establishing legal instruments allow them to train in oil and gas professionals.
These results show that none of training institutions is fully capable to train oil and gas professionals and the reasons for this incapability so given were: (i) government stopped facilitating training in oil and gas industry and thus reduced students enrollment in oil and gas related courses (ii) newness of the industry in the country (iii) lack of information, (iv) lack of coordination among key stakeholders and (v) double standard treatment between public and private training institutions by the Government. Similar reason were found by CRES (2008), who reported lack of financial support to training institutions, lack of qualified teaching personnel and uncoordinated efforts as being among the factors affecting capacities of training in oil and gas industry.

Table 3: Response on Training Institutions Capacity to Train Oil and Gas Professionals

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Percentages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No capacity</td>
</tr>
<tr>
<td>Human Resources</td>
<td>73.7</td>
</tr>
<tr>
<td>Technology</td>
<td>57.9</td>
</tr>
<tr>
<td>Financial</td>
<td>73.7</td>
</tr>
<tr>
<td>Legal Instruments</td>
<td>84.2</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>72.4</strong></td>
</tr>
</tbody>
</table>

Respondents insisted on working together to create synergy and minimize the existing skill gaps. They recommended technical and vocational training to be given a priority as they will play a major role in increasing the supply of skilled workers to the industry, these recommendations looks similar to that of ADB/OECD (2008) proposed that Tanzania should fund and coordinate programs in technical vocational training in order to overcome the problem of skills shortages.

Commenting on Tanzanian education system, respondents were more concerned with low quality education from primary level to University levels; they mentioned inconsistence of curricula which give little emphasis on student to enroll into science subjects and its impact that extends to university level where few students join science courses as well as their poor performance. Combined with poor capacity of training institutions, it
is obvious that International Oil Companies will resort to expatriate in order to fulfill their labor requirement. To protect the national interest and fight corruption in this sector we recommend that the Government should create, set priorities, strengthen the education and training system and design programs (curricula) that are responsive to the oil and gas industry labor market and that focus on the skills that are scarce.

4.3.1.4 Training Institutions Access to the Technology of Oil and Gas

Training in oil and gas needs high understanding of technology and attitude of the industry. Training institutions may acquire oil and gas technology from International Oil Companies and use it to develop nationals that meet the market demands. It is from this context the study wanted to know the training institution access to oil and gas technology through international oil companies, international universities or local universities in both vertical and horizontal linkages.

Results obtained from the Ministry of Energy and Minerals respondents indicated that training institutions have access to oil and gas technology through international oil companies, and that the industry is operated in transparent manner allowing locals to acquire skill and knowledge in oil and gas as an advantage of oil and gas foreign direct investments. However, findings from training institutions revealed different results, most of them (84.2%) reported to have no access to oil and gas technology through international oil companies operating in Tanzania (table 4) and only 15.8% of them acknowledged to have partial access to technology through these companies. They further mentioned to access the technology through international universities (42.1%) and their horizontal linkages internally (21.1%).
Table 4: Response on training institution access to the oil and gas technology

<table>
<thead>
<tr>
<th>Access to Technology</th>
<th>Percentages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Access</td>
</tr>
<tr>
<td>Through IOC</td>
<td>84.2</td>
</tr>
<tr>
<td>Through International Universities</td>
<td>21.1</td>
</tr>
<tr>
<td>Through Local Universities</td>
<td>42.1</td>
</tr>
</tbody>
</table>

These results show that there is low technological spillover expected from FDI to host country (Lucas, 1988). Training institutions recommended that the government should establish effective linkages among stakeholders that will enable training institutions to access oil and gas technology so that they can produce adequate and competent local professionals to serve the oil and gas industry in a sustainable way.

4.3.1.5 Availability of Skilled Human Resources

Skills shortage is a controversial concept which is open to different interpretations, as it has been used to describe different situations in different circumstances. Corruption is mentioned to occur when demand is higher than supply in any industry, not only in Tanzania but the world as general. Sustainable management of any industry needs crucial training of local human resources with knowledge of that specific industry (Booz et al., 2007). It goes further by involving local contractors, unions and community in achieving transparency and accountability. Based on such context, this study assessed the existing number of local professionals in both Ministry of Energy and Minerals and Training institutions to have general view of existing qualified labor force to satisfy the oil and gas industry at present.

Study found difficult to obtain exactly the number of oil and gas skilled professionals available and the gap existing in the country as there is no country training needs assessment conducted to establish such demands. However, efforts are in place to improve the existing human resource demands in the sector (table 5). The ministry has marshal plan to realize about 200 oil and gas professionals by 2015.
Table 5: Local oil and gas professionals enrolled in universities and colleges

<table>
<thead>
<tr>
<th>University / Programs</th>
<th>Diploma in Petroleum Geosciences</th>
<th>Diploma in environmental Mining Management</th>
<th>BSc. Petroleum Geosciences</th>
<th>BSc. Petroleum Engineering</th>
<th>BSc. Petroleum Geology</th>
<th>PHD &amp; MSc Petroleum Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dodoma Mineral Research Institute</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dar es Salaam Institute of Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dodoma University</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Dar es salaam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tanzania-Angola-Norway Program NTNU, Trondheim (NORAD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>Foreign Universities (China, Brazil, France)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>Nelson Mandela Technical University</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>VETA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>64</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>139</strong></td>
<td><strong>39</strong></td>
<td><strong>69</strong></td>
<td><strong>99</strong></td>
<td><strong>15</strong></td>
<td><strong>65</strong></td>
</tr>
</tbody>
</table>

Source: MEM, 2013
Adding from the above table, there are also few numbers of qualified oil and gas professionals who are available at TPDC, VETA and Universities. This includes 2 technicians (TPDC), 4 Technicians (VETA Lindi), 10 BSc. Science & Engineering (TPDC), 36 MSc Science & Engineering (TPDC), 1 MSc Science (Dodoma Mineral Research), 5 PhD holders (TPDC) and 1 PhD holder at Mbeya university and Mandela Institute of Technology respectively. This study also revealed that there are many geologists available and scattered over the country from which the government could affordably use them and tune them into oil and gas professionals using little resources and save the country skills shortage in a short term.

Moreover this research found that other skills like law, accounting, auditing, and many others, which are of great importance in oil and gas management, are less considered during training programs. From this finding it is quite certain that if these skills are neglected, the country will be more strong in technical skill while remain weak in such basic knowledge that are mostly used in governance of oil and gas resources.

4.4 Local Suppliers and Local Communities Awareness on Oil and Gas Industry

4.4.1 Local Suppliers’ Awareness on Oil and Gas Industry
International Oil Companies (IOCs) operations have millions of dollars of annual procurement needs. Local suppliers (Small and Medium Enterprises – SMEs) in Tanzania can help use this business opportunities given that they are aware and capable to serve oil and gas industry. Increased local procurement can not only improve efficiency for the IOCs but also help to stimulate the local economy and deter corruption that might occur through IOCs sister Companies.

This study wanted to know if the Tanzanian local suppliers (SMEs) were aware of the opportunities available for exploitation in the oil and gas. The findings revealed low awareness on local firm’s opportunities in the industry as 95% of the SMEs reported to be unaware of the said opportunities and claimed information block has led to unsuccessful incorporation of SMEs into the oil and gas supply chain. Respondents’ uncovered key barriers to local suppliers (SMEs) participation in oil and gas in Tanzania as:-
(i) Lack of information specifically related to tendering opportunities. Respondents named this as an information block where local suppliers (SMEs) in particular do not know how to get into contracting/subcontracting industry. Local suppliers need information of opportunities available in oil and gas industry as well as its requirements to become suppliers/subcontracted or gain joint venture operations in the oil and gas value chain.

(ii) Perceived lack of capacity in Tanzanian local suppliers. The oil and gas companies perceive that Tanzanian local suppliers often lack resources to deliver quality products and/or services, experience and finance. It is true that the gap between IOCs and local suppliers’ capacity is wide and it makes their incorporation into the supply chain difficult. However, the available few local suppliers who possess the skills and capacity still find themselves unable to break the existing networks of IOCs behavior of giving contracts to international companies and sometimes giving contracts to sister companies.

(iii) Few local suppliers who managed to connect with IOCs were given small scale contracts which are short term and do not enable local business to expand their levels of capacity, knowledge and skills. If this scenario goes on local suppliers are likely to be caught in a vicious cycle where they will go on lacking capacity to win work and thereby be denied opportunities to develop capacity and skills.

This research recommends effective monitoring and enforcement of local firm’s capacity building as provided in PSAs and Petroleum Act 1980 should go in hand with the effort to put in place and effectively implement Content and Local Participation Policy and its legal instruments to cover the existing gap.

4.4.2 Local Community Awareness on Oil and Gas Industry
Fighting corruption in any sector needs transparency of that particular sector. Transparency minimizes corruption and brings about accountability to those responsible to the community. Community awareness is an important component that defines transparency of any industry; it enables people to be constructive actors in every process in the oil and gas industry.
This research wanted to know the extent to which local community in areas where oil and gas are executed are aware of the industry. Findings revealed low awareness of oil and gas sector to the community (9.4%). As shown in tables 6, local community members consulted in these areas reported low awareness on oil and gas projects (14.3%); discovered quantities (7.8%); economic benefits of Gas (24.5%); information prior to projects implementation (4.8%); employment opportunities (16.8%); complaints handling mechanism (1.2%) environmental impacts (8.3%) and ways to deal with hazardous materials (5.5%).

**Table 6: Response on awareness of local communities on oil and gas industry**

<table>
<thead>
<tr>
<th>Item</th>
<th>Aware</th>
<th>Not aware</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil and gas projects</td>
<td>14.3</td>
<td>85.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Quantity, quality and value of discoveries</td>
<td>07.8</td>
<td>92.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Economic benefits of oil and gas industry</td>
<td>24.5</td>
<td>75.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Prior information to project implementation</td>
<td>04.8</td>
<td>95.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Employment opportunities</td>
<td>16.8</td>
<td>83.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Complaints handling mechanism</td>
<td>01.2</td>
<td>98.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Revenue accrued from oil and gas industry</td>
<td>01.2</td>
<td>98.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Environmental impacts</td>
<td>08.3</td>
<td>91.7</td>
<td>100.0</td>
</tr>
<tr>
<td>How to deal with hazardous materials</td>
<td>05.5</td>
<td>94.5</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>9.4</strong></td>
<td><strong>90.6</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Local communities were also not well informed, consulted and involved in petroleum exploration, development activities and they are limited to project information as oil companies normally conclude everything in Dar es Salaam without any involvement of the communities. Such gap has created community over expectations on gas projects knowing that any petroleum activity is money making activity.

This has negative repercussions to the sector such as low involvement of Tanzanians in the oil and gas value chain, low accountability to both IOCs and Government, poor environmental impact protections, poor project and revenue management in which all of them may end up creating corruption.
loopholes within the sector. To mitigate these effects, the administration and regulation of the oil and gas industry must be conducted transparently; adequate information ought to be provided to people to enable them to scrutinize the government’s management of the resource and IOCs operations. Transparency builds community trust and thus forming realistic expectations to the people.

Early and continuing interaction with communities is important to identify and address their concerns and needs that will manage expectations and project commitments as well as social license to IOCs. Similar result observed by McGuire et al., 2009; Bellever, 2005; Weder, 2003; Najman et al., 2007, NORAD, 2010; Badgley, 2011 and Aaronson, 2008 support this finding that community awareness and access to project information strengthen relationship between communities and investors; improve business climate and enhance accountability. It further helps build capacity in the community to mitigate adverse environmental effects, deter corruption, reduce conflicts, create social license and enable the communities to realize opportunities and participate direct in the oil and gas value chain.

4.5 Local Content and Local Participation in Tanzanian Oil and Gas Industry

Local content policies aim at extending or expanding the benefits of oil and gas activities for the national economy. They attempt to give local stakeholders access to economic opportunities, be it employment, participation in supply chains or the provision of services and goods. The policies can further set targets for local employees or suppliers, preference schemes for local businesses, industry or human capital development support from the government, IOCs and other stakeholders, or giving local businesses greater access to finance. This can be a useful tool to deter corruption associated with process of acquiring working permits, importations of goods and services as well as fraudulent and money laundering of international firms.

This study sought to know if local working environment support local contents in oil and gas industry. Findings show that Tanzanian oil and gas industry has no policy and legal instruments that fully clarify and support local content and local participation. Under the Petroleum Act of 1980 and PSAs, applications for exploration and development licenses ensure transfer
of management and operation functions to Tanzanian nationals and it gives contractors preference to purchase goods and services from Tanzania. This makes maximum use of Tanzanian service companies and establishes an appropriate tender procedure that gives effect to local content requirements.

To maximize the level of usage of local goods and services, businesses, financing and employment of Tanzanian nationals, government have ensured that sub-contracts are scoped to match the capability of local enterprises and manage risk to allow their participation by giving equal treatment to local enterprises by ensuring access to all tender invitations and by including high local value added in tender evaluation criteria as well as employing Tanzanian citizens having appropriate qualifications.

However, there is no clear country plan and strategy to ensure that the objectives are achieved. It is difficult to involve Tanzanians if they lack capacity in both technical and financial areas as well as a regulator to coordinate and ensure IOC s implement what they are supposed to do as per PSAs and laws. Petroleum Act of 1980 and PSA have not offered any substantial benefits to Tanzanians as they lack plans and specific policies and legal instruments to make them implementable. To benefit from oil and gas value chain, promotion and establishment of local content policy and laws have to be taken as major priority by Tanzania Government. New policy and legal instruments have to be put in place; targets for employing local workforce and use of local suppliers have to be clearly stipulated in the policy and equally these new legislations should have to call for provisions on equal conditions and remuneration between Tanzanian and non Tanzanian personnel as well as stipulating fines for failure to meet local content and local content requirements.

Enshrining targets for local employment and procurement in laws is considered positively in hydrocarbon producers to smoothly implement local content and local participation. It becomes more effective when complemented with training programs supported by the oil and gas industry to ensure the availability of skilled local workers. Coordinated National plans and strategies are of great importance to bring all stakeholders’ onboard.

Ambiguity and lack of uniformity encourage obstacles to the goals thus hindering optimal progress in the local content and local participation
implementation. In that way, monitoring processes have to be placed under the highly dedicated and enabled institution.

4.6 Challenges Facing Oil and Gas Sector in Tanzania

This section analyses challenges facing Oil and Gas sector in Tanzania that were revealed in this study.

4.6.1 Transparency in Accrued Gas Revenue

Transparency is vital element in petroleum accrued revenue, probably the most important pillar that will ensure oil and gas revenue are well accrued and managed in sustainable manner. Concealed oil and gas revenue information will lead the industry into corrupt practices resulting into low supervision, monitoring of operation and identifying cost on the process of production of gas. It is very important to establish mechanism that will create revenue transparency from its source to the end user and how it can be audited.

Although there is no clause or provisions in laws and PSAs that prohibit release of such information, this study found that it is difficult to establish revenue accrued from gas resources and its impact to the community. The revenue collected is treated in the same basket as other collected revenue which makes it difficult in tracking and bring about accountability.

TPDC do not publicize detailed reports of revenue received from various concessions of oil and natural gas including those received by individual companies with detail of how all the revenue is earmarked to be used for various development activities (ie. Publish what you pay, what you earn and what you spend). Publishing such information will enable Tanzanian citizens to be aware of what is being paid by IOCs for each project and to hold their governments accountable for the use of oil and gas revenues, thereby increasing a government’s legitimacy and credibility.

The study recommends that, despite of the existence of Extractive Industries Transparency Initiative (EITI) in Tanzania, the Government should prepare and enact legislation that will provide for the framework of collection, allocation and management of petroleum revenue derived from upstream and midstream petroleum operations in a responsible, transparent, accountable and sustainable manner. The legislation should promote transparency and access to information; it has to lay down principles for payment, expenditure
and saving of oil and gas revenues that include expenditures and profit of oil and gas companies realized.

It should also establish the holding account at Bank Of Tanzania in which all oil and gas revenues will be deposited and managed sustainably by establishing **Annual Budget Funding Amount** (to support the annual budget of priority sectors), **Stabilization Fund** (to sustain public expenditure capacity during periods of unanticipated revenue shortfalls) and **Heritage Fund** (to provide an endowment to support the welfare of future generations after the underground oil and gas have been depleted. The fund should be independently audited.

### 4.6.2 Procurements

Under Production Sharing Agreements (PSAs), the Government signs contract with company (or group of companies) on how much of the resource extracted from the country will be shared. In this model, Tanzania Government awards the execution of exploration and production activities to the company which then, bears all risks of the explorations and development the fields as required. When successful, the company is permitted to use the money from produced gas or oil to recover capital and operational expenditures, known as “cost oil”. The remaining money is known as “profit oil”, and is shared between the government and the company as per agreed rate in the Production Sharing Contract (PSC). However, if corruption is ignored, cost oil will rise and reduce the share of government.

Companies engaged in oil and gas industries has a great chance to benefit from corruption during procurement of good and service if the government fail to regulate the processes. Price can be inflated thus rise the investments cost and reduce government share and tax to be collected. Having weak local procurement act, companies (IOCs) will prefer to use international standards to engage their corrupt sister companies to supply goods and service at ideal price. They will create limited technicality and skills during selection and there will be low transparency, conflicting interest, kickback and split of order to meet their demands. They may also include unnecessary demands that will automatically reject locals to participate thus reduce economic impact of the industry to the country.

This research recommends reviewing of the existing procurement law and regulations to suit the industry current demand properly. The law should
treat this part of economy according to its nature by being proactive and put in place anti-corruption compliance mechanism during goods and service procurement. This must involve special audit from independent established regulatory authority in case of doughty.

4.6.3 Healthy, Safety and Environment
Exploration of oil and gas has not always been done without some ecological side effects. Oil spills, damaged land, accidents and fire, incidents of air and water pollution have all been recorded at various times and places. Having experience in mining industry, environmental management is still a great challenge facing Tanzania oil and gas sector. Although Occupational Health and Safety Act, 2003 and National Environmental Management Act, 2004 are still saving this segment, the Government systems are not well coordinated to accommodate oil and gas disasters in case they happen. Institutions responsible lack resources and have low capacity. The industry is growing very fast ahead of the environmental protection mechanisms. As a result, the environment protection system works in a reactive rather than proactive approach. This might bring the country into corruption as companies need to create a good image globally.

4.6.3 Managing People’s Expectations
The perceived importance and benefits of oil and gas activities in the country have raised significant expectations in the public. Expectations are high, but there is still a long road to follow before upstream oil and gas exploitation starts to deliver results in terms of higher living standards and increased tax revenues. In southern regions (Lindi and Mtwara), there are already signs of impatience and therefore managing expectations is of great importance not only for the oil and gas companies themselves, but also, even more important for governments and political environment.

Research findings revealed that Tanzanians have higher expectations on oil and gas industry. They hope that revenues from the industry will positively change their lifestyle. These expectations ought to be well managed to avoid chaos. Oil and gas exploration, development and production are processes which involve cost and time, it is therefore important to address expectations by raising community awareness on cost of the projects and time the country will take before realizing the benefits. This will not only
create stable environment for the operations but also ensure that other economic activities are not paralyzed by oil and gas revenue dependence.

This study recommends engagement of all stakeholders including media and politicians to draw up an action plan that will address people’s expectations. Government may engage various media to disseminate information of oil and gas industry all over the country to bring common understanding.

5.0 RECOMMENDATIONS AND CONCLUSIONS

This chapter presents the recommendations and conclusions given by this study.
### 5.1 Recommendations

<table>
<thead>
<tr>
<th>No.</th>
<th>CORRUPTION LOOPHOLES</th>
<th>WEAKNESSES</th>
<th>RECOMMENDATIONS</th>
</tr>
</thead>
</table>
| 1.  | Institutional arrangement | Lack of separation of policy, regulatory and commercial functions within government’s institutions mandated to govern petroleum development | · Parcel out regulatory functions to independent regulatory agency to improve government ability to monitor and benchmark both National Oil and Gas Company (TPDC in this case) and other players thereby improving performance,  
· Establish and/or enable National Oil and Gas Company to strictly carry out extensive commercial operations both in Tanzania and abroad,  
· Ministry of energy and Minerals should strictly deal with policy issues, in collaboration with political leaders to set goals for the sector, make plans to achieve set goals and oversee the crucial licensing process. |
|     |                      | Low and challenging human capacity of teams for contract negotiations, evaluation, scrutinization and approving production costs and work plans | · Constitute a competent experienced and permanent negotiation team (GNT) that is not based on institutional representation but rather quality based.  
· Build capacity of TPDC and other institutions responsible for oil and gas governance in terms of:  
  - Well trained human resource  
  - Industrial specific training for employees  
  - Increased budget  
  - Required modern machineries and facilities |
<table>
<thead>
<tr>
<th>No.</th>
<th>CORRUPTION LOOPHOLES</th>
<th>WEAKNESSES</th>
<th>RECOMMENDATIONS</th>
</tr>
</thead>
</table>
| 2.  | Legal and regulatory framework              | Existence of conflicting, un harmonized and un updated legislations of the sector which do not meet current situation | · Harmonize and update existing legislation of oil and gas sector to meet current demand  
|     |                                             | Missing of some important industry specific legislation                      | · Enact industry specific policy and legal instruments such as Gas act laws, oil and gas revenue management laws, local content laws, Oil and gas tax regime laws, oil and gas code of conduct etc. |
|     |                                             | Lack of involvement of Parliaments in all procedure of acquiring blocks and contracting | · Develop and design legislation that will enable and strengthen Parliamentarians to debate and ratify oil and gas contracts. |
| 3.  | Low transparency and awareness              | Low transparency in the management of oil and gas revenues                    | · Prepare and enact Oil and Gas Revenue Management Act which will provide for the collection, allocation, and utilization of accrued revenue.    
<p>|     |                                             |                                                                             | · Establishment of holding account at the Bank of Tanzania for deposit and disbursement of the oil and gas revenues as well as gas trust and stabilization funds |
|     |                                             |                                                                             | · Publish reconciliation and payment reports of all revenues emanating from oil and gas industry |
|     |                                             |                                                                             | · Design and enact legislation that will back up TEITI to ensure that government and all companies disclose their payments and revenue data. |
|     |                                             |                                                                             | · Build capacity of members of parliament committee responsible for extractive industry to enable them to scrutinize and act on the audit reports relating to extractive industry |
|     |                                             | Confidentiality of oil and gas agreements                                   | · Design policy, laws and strategies that will require public disclosure of all oil and gas agreements. |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>CORRUPTION LOOPHOLES</th>
<th>WEAKNESSES</th>
<th>RECOMMENDATIONS</th>
</tr>
</thead>
</table>
|     | Local authorities and communities are not well informed, consulted and involved in oil and gas exploration, development and production activities and their associated opportunities. | · Creating national plan that will involve local authorities and community in oil and gas projects.  
· Develop and design regulations that determine how the government and companies will interact with local communities throughout oil and gas projects to address their concerns and expectations.  
· To establish petroleum information centre that will disseminate information and enable people to access oil and gas information that include opportunities available in the sector. | |
| 4.  | Inadequate human resources | Un coordinated training effort by the government, training institutions and operating industry  
Low capacity of training institution in the area of oil and gas  
Low access of information of oil and gas by training institutions | · Conduct training need assessments and Develop country training programs which will coordinate training efforts from oil and gas companies, university, colleges and vocational training institutions.  
· Build capacity of training institutions as well as establishing curriculum for training institutions that enable them to produce graduates in the field of oil and gas technical and non technical skills.  
· Create a platform where regulator, operators and training institutions can meet and exchange information on how to improve training in the area of oil and gas sector. | |
| 5.  | Use of foreign firm to provide oil and gas goods and services. | Absence of Local content and local participation legal instruments | · Enacting policy, laws and regulation that will govern building capacity involvements and participation of local contents in oil and gas industry value chain. |
5.2 Conclusions

The oil and gas is the key sector of the Tanzania economy and it is expected to play a significant role in the socio-economic development of Tanzania through its backward and forward linkage with other sector of the economy.

Despite the various efforts made by the Government to attract exploration companies, Tanzania government has not established adequate institutional and regulatory framework to govern the oil and gas sector.

Absence of oil and gas industry – specific legislation, presence of unharmonized and conflicting laws, low institutional capacity, oil and gas skill shortage and low awareness of the populace about the oil and gas sector predispose the oil and gas sector to corruption and other malpractices.

In order to manage hydrocarbon resources successfully and fight corruption in oil and gas industry, the study recommended that the country should undertake the following among others: (i) strengthen and coordinate institutions responsible for oil and gas governance; (ii) establish optimal and long term fiscal regime and/or an appropriate legal and policy framework (iii) raise awareness in order to have a highly informed public with a clear sense of ownership of the oil and gas wealth amongst the population; (iv) promote transparency and accountability through participatory approach by involving communities, civil society, local government, academic, research institutions, media, private sector and central government; (v) install an appropriate information system that describes short, medium and long term opportunities, risk and challenges associated with the oil and gas industry; and (vi) coordinate all initiatives for local manpower development programs.
REFERENCES

Books
Hend A. J. (2007): Human Capital Formation within Oil and Gas Based Industry: Manager’s perspective. The paper focus on the analysis of the decision-makers

Articles and Journals
Research and other Papers


Energy and Water Utilities Regulatory Authority Act No. 11 of 2001 (Tanzania).

Environment management Act No. 20 of 2004 (Tanzania).

Income Tax Act No. 11 of 2004 (Tanzania).

Investment Act No. 26 of 1997 (Tanzania).


Nama, A., (1983), Human Resources Development: the Case of Qatar, PhD thesis, Clarmont Graduate School, USA


Occupational, Safety and Health Act No. 5 of 2003 (Tanzania).


Petroleum (exploration and production) Act No. 27 of 1980 (Tanzania).
Petroleum Act No. 4 of 2008 (Tanzania).

Procurement Act No. 7 of 2011 (Tanzania).
Revenue Watch 92013): Oil, Gas and Mineral for Public Good, Brookings Institution, Washington, DC.
Ross, M. 2003: “Nigeria’s Oil Sector and the Poor.” Prepared for the UK Department for International Development.