



Graduate School of Development Studies

**HUMAN RESOURCE DEVELOPMENT FOR
UPSTREAM OPERATIONS IN THE OIL
INDUSTRY IN GHANA: Students views and future
prospects in the oil industry.**

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Dedication:

To Jehovah my creator: In him come my success, happiness and victory. Also to my dear parents (Op. P.K. Twumasi and Mad. Rose Takyiwaa), siblings and children, Albright, Felicity and Dave.

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List of Acronyms

Adm.	Admissions
ANU	All Nation University
App.	Applications
ARTP	Annual Recruitment and training Program
CET	Central European Time
GNPC	Ghana National Petroleum Company
HEI's	Higher Education Institutions
HRM	Human Resource Manager
KNUST	Kwame Nkrumah University of Science and Technology
LCDP	Local Content Development
MNCs	Multi National Companies
MoE	Ministry of Energy
PNDCL	Provisional National Defence Council Law
PRA	Petroleum Regulation Agency
UG	University of Ghana

Abstract

After more than three scores and two decades of oil exploration, Ghana finally struck oil in commercial quantities in its off shore oil exploration expedition in conjunction with Kosmos and Tullow Ghana oil companies in June 2007.

The many years spent to locate a pool of crude in the sedimentary basin of the Saltpond oil field affected the national plan to produce manpower for the oil industry. This then raises the interest of this paper to look into issues regarding skills that would be required to work in the oil industry and whether universities are producing students with these skills. All of these would be done by using the eyes of students because the paper focuses on students perceptions, ideas and dreams.

Students' perception with regards to why they choose to have higher education, opted for their courses, their expectations and where they would want to work in the oil industry after their courses and their fore knowledge about job conditions in the oil industry were explored together with students' perceptions about life working in the oil industry. Their views on how they see the structure of their courses and whether in their candid opinion the course structure would really lead them to achieve their objectives and areas of the courses they would like changes to be effected and why.

Findings from this paper show that, students are very handicapped in the practical aspect of their training and are much worried about their chances in contemporary competitive labour market. This is despite the fact that the literature reports a global shortage. The perceived unfavourable working conditions on the rig have raised fear and anxiety among the male students to the extent that most have decided not to pursue career on a rig. Among the female students however, a there is a noticeable desire not to pursue a career on the rig which is heavily influenced rather by socio-cultural norms than biological differences.

Multinational companies were found to have closed their doors to universities, lecturers and students and have made teaching at the oil departments in the universities to be more theoretical without practicals.

Though the nation has come out with a development policy which has been transformed into parliamentary Bill to be passed into law to guide the oil industry, it has little or no effect on the attitude of MNCs towards universities and students regarding accessing their rigs and using their facilities for practical training.

Relevance to Development Studies

Education is a key tool to the socio-economic development of every country. Education should therefore endow students with knowledge and skills that would make them functional on the job and contribute better to the growth and development of oneself and the country at large. This means giving audience to voices and views of students to understand their expectation and career ambitions as part of inputs to restructure academic curriculum would help to produce an efficient and competent labour force of high technical skills with high motivation and exuberance to effectively contribute to productivity for development.

Keywords

Employability, Higher education, Training, Transferable skills, Human capital and capability, Lifeworld, Institutional reform.

Chapter 1 Framing the Study

1.1 General Introduction

After more than three scores and two decades of oil exploration, oil was struck in Ghana in commercial quantities in its off shore oil exploration expedition in conjunction with Kosmos and Tullow Ghana oil companies in June 2007.

The news of the oil find was greeted with much ecstasy. In the capital, the Accra Daily Mail ran the headline: Thank God. Oil at last. Thank God! Church groups announced a national prayer day to give thanks. In a radio interview, the then President, John Kufuor said petrodollars would turn this country, already regarded as the success story of West Africa, into an “African Tiger”. ‘With oil as a shot in the arm, we’re going to fly.’¹

The many years however, spent to locate a pool of crude, affected the anticipation of producing manpower for the oil industry by higher educational institutions mandated by law to produce the needed manpower for socio-economic development of the country. Universities did not have any direct programme for training of manpower for the oil industry.

This then raises the interest of this paper to look into issues regarding skills that would be required to work in the oil industry and whether universities are producing students with these skills. All of these would be done by using the eyes of students because the paper intends to focus on students regarding their perceptions, ideas and dreams.

1.2 Problem Formulation and Context

Many hold the assumption that extraction of oil in Ghana could boost the economic growth by creating employment especially for the teeming unemployed youth. Raising this hope are political assurances about the potentials of the new oil industry to create employment. This has raised expectations of mostly the youth to have jobs when production begins in the last quarter of 2010. Unfortunately, skill levels tend to be low among the youth limiting the scale of local hiring because oil extraction and production is a capital intensive project which requires high skills and knowledge to productively handle the high technology employed in this industry hence the

¹ Source: <http://paguntaka.org/2007/07/30/african-oil-exploration-ghana-enters-oil-age-with-wary-eye-on-neighbours/> Accessed on 20/03/2010.

need to prepare labour with the requisite skills and knowledge to take these jobs. Educational institutions for the past years did not consider producing manpower for the oil industry as priority due to the uncertainty which surrounded future major discoveries leaving Ghana in the dark regarding skilled labour to benefit from the exploration and development of its offshore oilfields in terms of jobs notwithstanding her experience for years in the oil refinery industry.

With the oil in hand and universities coming up with oil related programmes, it is important to explore the perception of students about the oil programmes they are taken, their future anticipation and how far Government, educational institutions and oil companies are collaborating in raising the students for the manpower needs of the oil industry. Of interest to this paper is the perception of students being prepared for upstream operations² which past studies have ignored? Past studies are much focused on numbers of jobs to be created and strengthening of local business capacity to compete for contracts. It however pays to find out how students are being trained and whether they have interest at all to pursue their career in the upstream section which is the first operation that generates the chains of operations expected to create other jobs in the oil industry.

Studying students' perceptions and understanding would help in a design of well structured policy to 'guide the training to the benefit of Ghanaians' (Addo, 2008) as there has been complaints of lack of skilled labour for the rigs by officials of the Ghana Rig Workers Association at the local level.

This training would be timely not only for the local oil industry but could also benefit the global oil industry which is suffering shortage of skilled labour due to: 'ageing workforce that would retire about half of the present labour force in the next ten years with barely 15% junior recruits, the need for specialized skills, increasing workload and escalating cost' as the 'four major factors that are contributing to the skills crisis' (Booz, 2008). It is noticed that it takes not less than 3 years for a newly recruited worker to be equipped with basic skills and more than 10 years for a worker to be competent in 'many professional disciplines' (ibid.). The global manpower shortage in the oil industry again, calls for oil producing countries to take keen interest to invest in education in order to equip local hands with the technique and skills for oil companies.

² Exploration, production and processing of crude oil and natural gas.

1.3 Research Objectives and Questions

1.3.1 Major Objective

The primary aim of this paper is to study: students' responses and perception of oil programmes as well as their expectations and knowledge of working conditions on a rig. To achieve this, the paper would try to understand the environment students are in. Currently this environment is the universities which are undergoing reforms and which to some extent is influenced by government and MNCs policies hence these aspects would be given some attention.

1.3.2 Main Research Question

The main question this study seeks to answer is: *How are students responding to oil programmes introduced in university and what are their perceptions about the programmes and career opportunities in the oil industry?*

1.3.3 Sub-Questions

- Is the training preparing students with skills in diverse manners to work in the various layers of the oil industry or in only one?
- How do institutions (government and industry) help in this training?

1.4 Justification of the Study

Globalization has made possible the easy transfer of knowledge and skills and for that matter people to cross borders to other geographical areas to take up jobs. This has increased the intensity of competition for skills and knowledge in the labour market.

In the contemporary labour market, recruitment is blind to country of origin, and place of birth. What matters is experience, competence, efficiency and creativity.

This research therefore will serve as a guiding tool;

- For educational institutions to have access and insight of interest and perception of students about oil related programmes as part of inputs to restructure their academic curriculum to produce efficient and competent labour force of high technical skills to withstand global competition for the oil industry in Ghana and elsewhere.
- This research may also contribute to advertising the training deficit in the oil industry and implore policy makers to formulate policies and invest in the development of human capital and capability for the oil industry.

- The paper would also help oil companies to understand the expectations of students and career ambitions.

1.5 Research Methodology and Limitations of the Study

This section presents the methodology employed in the research. This consists of the design, data sampling and analytical technique. The research employed collection of both primary and secondary data.

The research adopted a primary data collection where three areas—schools, oil companies and government were the main targets. For the schools, Kwame Nkrumah University of Science and Technology (KNUST), University of Ghana (UG), All Nations University (ANU) were used for collecting data. For the oil companies, Tullow Oil Ghana and its production partners and Ghana National Petroleum Company (GNPC) were targeted and the Ministry of Energy represented government. Though Tullow oil Ghana and its production partners were targeted for information, they did not open their doors to the researcher. In all, responses from sixty six respondents constitute the primary data. Regarding the secondary data, relevant literatures were reviewed and the paper also drew on Local Content Programme document designed by the Ministry of Energy.

1.5.1 Study Sites and Rationale for Choice

The field work for this research took place in the months of July and August 2010. Interviews, focus group discussions (FGD) and semi structured questionnaires were used to gather the research data. To begin with, even though there are many tertiary institutions running oil related courses in one way or the other, the researcher set a bench mark to guide the selection of universities to visit. Universities with at least two years into running oil courses were selected to be able to access students' experiences and perceptions of the course they are taking. Using these criteria, it was found, KNUST has been producing chemical engineers, mechanical engineers and electrical engineers for the past three decades and has introduced Petrochemical Engineering course in 2004. UG has been running MSc Geoscience for the past two years and ANU has also introduced oil and gas engineering for the past two years.

On the part of the oil companies Tullow Oil Ghana and its production partners were selected ahead of others like Kosmos and Anadako because it is only Tullow oil that has put in place measures to start commercial production of oil by November, 2010 hence making it important for the research in terms of estimates of production and the labour force that would be needed to produce at their initial level and then extrapolate it to future production with the assumption that all their wells will be functional in the next five to ten years.

The Ministry of Energy was selected ahead of other ministries like Ministry of Manpower and Social Welfare and Ministry of Education because the oil industry is being operated under the Ministry of Energy in conjunction with GNPC who are mandated by law to design the frame work for local content development. The Ghana National Petroleum Corporation is a national company mandated by law to promote the exploration and development of the petroleum resources of Ghana (GNPC Act, 1983 section 2(2)).

1.5.2 Procedure for Selecting Respondents

The procedure for selection of students differed from university to university. While as the researcher went to meet KNUST and UG in recess, ANU was in session. Different strategies were used to access the students on vacation. The technique employed to gather data were: face to face semi structured interviews, telephone interviews, focus group discussions and semi structured questionnaire via electronic mails. With the students on recess, administration of the questionnaires were made possible via e-mails and interviews via cell phones with the help of the various heads of department providing the e-mail addresses and cell phone numbers of class representatives. Out of the 35 respondents the researcher had from the two universities on recess, only four were met directly and interviewed, seven were through telephone interviews and 24 via emails by adopting the snowball method.

The snowball method was used for KNUST students, the class representative was first reached on phone and confirmed his email via which the questionnaire was made available to him. He was then asked to direct the researcher to other student/students and these students also continue the connection to others. The snowball method was considered appropriate and convenient under the circumstance, because students could easily get email addresses of their colleagues. Telephone interviews were used for eleven students of UG since they were also on field collecting data and did not want additional load of reading questionnaire and spending time to type answers at the expense of their work. Snowball method was also used here even though four were run into at the school campus and interviewed directly.

In the third university (ANU), the researcher visited the school in an investigative way and first interacted informally with students as someone seeking for admission and asking questions on thematic areas of the research without declaring his identity. The researcher informally reached three oil and gas students and solicited for their views about the new courses in oil and gas in the school, method of teaching, content of courses, relevance of courses to the new oil industry, chances of being employed after school, their knowledge about risk on the rig, and the qualities the oil industry expects students to have

for employment consideration, whether they intend continue their career in the oil industry after school? These views of students form a major part of my primary data. In my formal interaction with students after obtaining permission from the administration, two focus groups of seven members each were organized to discuss the questions as above and compare the results to the answers that the researcher had when he informally interacted with them. The class representative and his two deputies were interviewed separately after the FGD.

Direct semi-structured interviews were used to collect data from lecturers. Three lecturers each were covered in all three schools. Since they were not many the researcher opted for face-to-face interviews. The Heads of Departments and Academic Affairs Directors for oil related courses were also interviewed using face-to-face method.

Semi structured interviews were used to collect data from HRM of MNCs specifically Ghana National Petroleum Company (GNPC) and Tullow. Data from the government was obtained from the Ministry of Energy (MoE) under whose jurisdictions are all energy issues which includes oil and gas. I worked closely with the Project Co-ordinator in charge of Local Content Development (LCD) for the petroleum industry as well as the consultant from Trinidad helping in the LCD policy design and formulation without allowing any elements of influence (trying to make the researcher believe the policy is the best in the world) to dictate the data needed for the research. The above collectively constitute my main sources of primary data for this paper.

1.5.3 Secondary Sources

Secondary data was obtained from both published and unpublished documents such as:

- Working documents of Ministry of Energy on Local Content and Local Participation in Petroleum Activities.
- Documents on Petroleum (Exploration and Production) Bill 2010 before parliament of Ghana,
- Documents on Nigeria Oil and Gas industry Content Development Bill, 2010
- Document on Trinidad and Tobago Energy Sector- Local Content and Local Participation framework.
- Course syllabi of universities.
- Finally, journals, articles, academic books, and professional web pages, were consulted.

The study will contribute to the growing body of literature in the area of how education, training and employability can be connected to develop a competent and skilful labour force for the oil industry's upstream operations.

1.5.4 Difficulties Encountered During Field Work

It was not all easy in the field, the study has some limitations. The researcher encountered serious refusals and silences mostly from the oil companies. Some of these refusals and silence were as a result of the company's policy as one Human Resource Manager (HRM) put it as:

The company has a policy of not accepting and accommodating students like you in order to keep the integrity of the company. At times what is given is not what is written and would have a very big deviation damaging the reputation of the company on the eyes of the people and the government as well. You know we are in business and we have competitors who will jump on our least shortfalls to lobby against us even though every company has its short falls. Students have objectives and they always twist facts to satisfy the objectives of their research paper for their marks and go away and not think about the cost of the facts he/she has twisted to the company (Interviewed with the HR manager of one oil company 28/07/10).

The Coordinator of LCD at the Ministry of Energy assisted the researcher to have informal discussions with some of the workers in charge of their companies' local content development.

Getting students from the Universities on recess to answer the questionnaire online was difficult. After sending the questionnaire to a sizable number of them, only a few responded, limiting the number of students the researcher intended to use and even those that answered, some deviated from the core aim of some questions and getting them to clarify their answers proved futile.

The telephone interviews would have done a lot of good but the cost involved prevented the researcher from using it to reach many more students. Resources and time limitation had effect on the ideal research and this had to be limited both in scope and in size and hence using a benchmark in the selections. The paper is limited to the labour force for the upstream operations regarding engineers, geologists and geosciences and not the entire labour force on the rig where other experts like professional caterers are also needed.

I must confess that, these difficulties and limitations have ramifications for the completeness of the data gathered for this work. Without these limitations, the quality of information used for the analysis would have made the work complete. The information in this paper therefore does not stand for the final knowledge of students' interest and perceptions of reading an oil programme

in a university and how universities, MNCs and other stakeholders could prepare for the development of human resource for the upstream operations in the oil industry but could be good material to start with.

1.6 Organization of the Paper.

With regard to the division of this paper, it is divided into the following chapters: Chapter one is gives the general introduction, problem statement, the research objectives and questions as well as the methodology adopted for the study, relevance of the study and the limitations. In chapter two some very important concepts are presented. Two of the concepts, however, i.e. institutional reform and free riding will be discussed in chapter 5. Chapter two thus reviews the concepts: Sen's capability, lifeworld and employability. Chapter three gives an overview of oil industry in Ghana, global employment trends in the oil industry and rig life. Chapter four deals with data analysis and views of students about their motivation for choosing their courses, students perception at school level and after school level. Chapter five presents the data analysis regarding how institutions (government and industry) are helping in the training of students. Finally chapter six provides a summary and conclusion of the whole paper.

Chapter 2 Understanding Human Capital and Capabilities: Theories and Key Concepts

2.1 Introduction

This chapter reviews the literature by presenting a theoretical overview and some initial definitions of key concept. The focus of this chapter is on a number of key debates. The concepts of lifeworld and employability will form the basis of the analysis of data collected for this paper. These concepts are particularly useful because they make suggestions that can be used to understand the vulnerabilities and desperate nature of students in their training, the differences between those willing to spend a relatively short time on the rigs and those willing to look at rig work as a career and the motivations for choosing those courses.

2.2 Theoretical Framework and Literature Review

2.2.1 Human Capital and Capabilities

It is believed that higher education is a process by which human capital is generated, accumulated and maintained (Sutherland, 2008:48). Becker (1964) explained human capital by saying; it is the working experience that one has in working at specific firms or working places. He argued that workers become more productive and qualified overtime thanks to "learning by doing" processes, which would result in competences and skills that are firm-specific and would not benefit other firms so much.

Contending this argument raises a question of whether education is meant for individuals to only acquire knowledge and skills to perform one particular function in a particular firm? Wickramasinghe and Parera (2010:230) opined, higher education is to train students by enhancing their knowledge, skills, attitudes and abilities, and to empower them as lifelong critical and reflective learners. This suggests that higher education should not be considered as acquisition of skills for employment since it reduces education to only production (wealth) without other benefits. Sometimes wealth is not necessarily the utility people seek from education even though it is useful. Supporting Aristotle, Sen agrees with the familiar argument that 'wealth is evidently not the good we are seeking; for it is merely useful and for the sake of something else' (Sen, 1990:44).

In contribution to this, Lanzi (2007:424) argued that education should not just be looked at as accumulating only the human capital because by increasing

individual skills, abilities and competencies, human capital accumulates and enlarges individual freedom by making self empowerment, civic engagement and social participation easier to achieve and thus enhancing their capabilities. It is said quality education to build human capability is influenced by teachers' curriculum vitae, teachers/students ratio, natural abilities, and facilities available for training and peer-to-peer relations (ibid.).

This capability approach of education is thought as a 'basic tool for fighting human poverties(monetary and not)by giving individuals not simply job-oriented competencies and skills, but also *life-skills* and *life-options*' (Lanzi, 2004:3) to make individuals have the urgency to act in accordance with their desires and aspirations to determine their well being because people have different ways of converting a given opportunity into a functioning (Sen,1985:25-26). The World Bank with its mandate to support weak economies to survive, has said, 'Education is a form of investment to build people's capacity to be more productive, earn more, and enjoy a higher quality of life' (World Bank, 1999:5-9).

Lanzi (2004:3) in trying to connect human capital to human capability said human capital accumulation affects individuals' well-being in two distinct ways: directly, it does increase human qualities and skills for economic production and market exchange. Indirectly, it does enlarge individuals' opportunity sets giving them new possibilities to enrich their lifes. Thus, connections between human capital accumulation processes and capabilities enlargements can be understood in the context of seeing human capital as pre-requisite for human capabilities. Acquisition of skills does not make the individual achieve what (s)he wants. Extra effort is required to have abilities, concrete skills and knowledge, without which the individuals will 'face "*opportunities for functioning's*" shortfalls independent by what legal rights, institutional policies or external and social conditions guarantee them to achieve' (Lanzi, 2004:4). Capabilities therefore increase the opportunities of the individual without restricting him/her to one particular job but allowing him/her to decide on what (s)he believes is right to do as put in the words of Gasper (2002:431-51) as 'human freedoms are not simply defined by what a person does or could do, but also by how much what (s) he does is consistent with that (s)he believes is right to do'.

Developing human capabilities can however not be achieved without pragmatic measures to guide the way students are trained. The United Nations has suggested a full interdisciplinary interaction between teachers, students, science, communities, technology developers and firms learning and knowledge acquisition anchored to local needs (Lanzi, 2004:10). Considering training within firms as option will tend to be firm specific and this would help the firm most to enjoy the services of the trainees since when trainees move out, their training would not be functional to other firms. So to the firm, it would be

important to collaborate with institutions to train students to the firm's advantage to help it gain competitive advantage with regards to human resources to create continuous talent strength (Connor and Shaw, 2008:357). Literature proves that, such development schemes for graduates have positive links to their career progression (Connor and Shaw, 2008:359).

It is therefore paramount for higher education to connect industry not only for graduates to acquire the skills that the industry need but to also make students know what is 'happening in the labour market' regarding employers needs and how universities and students could help to satisfy this need and also fulfil graduate expectations (Connor and Shaw, 2008:363; Hegarty and Johnson 2008:392). Other scholars like Hegarty and Johnson (2008:393) married the idea that 'Work-based learning would provide dynamism and realism in the school's curricular for students to have the drive for their work, cope very well with open curricula and to respond to real needs of projects. Ng and Burke (2006:480) argued about similar situation that 'co-operative education would help students to acquire essential skills by being exposed to the reality of the world of work beyond the boundaries of the campus'. Hegarty and Johnson in support said, internships and work place learning would equipped students with prior experiences of the working environment before graduation.(Hegarty and Johnson, 2008:391).

Connor and Shaw (2008:360) acknowledge that 'although many graduate schemes have merit, they do not necessarily result in satisfied graduates or command long term organisational commitment'. Graduates after having such training can still leave for other jobs where they would feel comfortable to pursue their careers. For these reasons, organisations find themselves often in a position where they are questioning the value of having a graduate development scheme at all, or what kind of scheme to have (Connor and Shaw, 2008:360)

Contemporary education is aimed at enhancing the capabilities of graduates to make them more useful and flexible in the labour market for them to be able to take different opportunities that come their way. Rae (2007:605) argued that, 'employability remains high on the agenda for higher education institutions (HEIs) in the UK, as well as other developed nations, as students become more selective in their choice of courses and institutions' in order to be more functional and competitive. There is a sound rationale for connecting enterprise and employability in the process of building human capital and capability which would be of advantage to the students and the employers because it would enhance the employment prospects of students (Stewart and Knowles, 2000:75).

The dynamism of contemporary economic environment eventually makes employers to employ people they perceive to be work-ready graduates (Harvey and Contributors, 2003:1) thus saving time and money in new graduate

employees in developing those soft skills that can be acquired through previous work experience (Cox and King, 2006:3). According to Cox and King (2006:3) work-based placements leads to more effective induction and shorter periods of job training.

There is abundant literature to support the contemporary perception about university students in terms of their choice of institution and course by being mindful of their chances of finding a job, become employable and start a career. This idea may lead students to a different career other than what they sincerely want to be (Liles and Sedney 2008) because they may have acquired the skills not out of their interest and as such cannot develop them better. This has become the order of the day. Students have increasingly realized that simply having a degree is insufficient in itself and that graduates require other attributes to be employable (Rae, 2007:609).

Why students seek to acquire higher education, their perception and expectations are at a great variance ranging from making money, satisfying the expectations of parents to seeing it as the next after high school (Liles and Sedney, 2008) to realizing their career ambitions. 'However, in today's challenging business environment the possession of subject skills alone is no longer sufficient for a new graduate in meeting employer requirements' (Wickramasinghe and Parera 2010:229). A different study done in the United Kingdom showed that undergraduates' career decisions were not influenced much by the job market, perceived needs, perceived skills and abilities of students but mainly by parents, close family, friends and acquaintances and tutors although females were significantly more likely to consider their perceived skills and abilities than males' (Miller and Raquel, 2004:3)

2.3 Conceptual Frame work

2.3.1 Lifeworld (Self Concept)

This research employs the concept of lifeworld to explore the perception of students regarding how they see, measure and give interpretation of themselves and their immediate environment.

Every individual has a way of seeing him/herself, conducting him/herself and placing value on his/her personality regarding what (s)he is capable of doing. Self concept is 'a person's self-perceptions, formed through experiences with an interpretations of one's environment' (Marsh, 1993:842). Byrne (1984:429) also put self concept as 'our attitudes, feelings and knowledge about our abilities, skills, appearance and social acceptability'

What people like and want to do and be, does not remain the same over one's life time. The idea of self is seen to be changing in accordance with what one puts premium on at a particular point in time (Lewis, 2003:225). Different

people value different things at different times due to their self. Clark (2002) in his work investigating the perceptions about well-being among the urban and rural poor in South Africa had a sea of what people consider as well being ranging from jobs, housing, education, income, family and friends, religion, health, food, good clothes, recreations and relaxation, to safety and economic security. This difference would make these people invest their time and energy in a different way in order to achieve what to him/her is well being.

The concept of self; how one want to be and conduct him/herself is influenced by factors such as; agency, family and friends relations, economic environment, social environment (culture and norms), educational attainment and physiological changes in the body (age).

At times what people do is planned and executed solely without any external influence. Thus exercising his agency to execute what (s)he believes in. Agency as defined by Erhard (1998:4) is 'the capacity of humans to ultimately decide what action to take or not to take' in other words, it is the degree of free will that is exercised by the individual. It is a naked fact that individuals have different ways of accomplishing an objective even though they may have the same vocation, knowledge and training. This makes them different in their degree of agentic capability and their ability to realize intended states of affairs in everyday world (Bruun and Langlai, 2003:39). People can therefore become the author's of their action in everyday world in a situation of maintaining self-identity.

In a real world situation, all actions and decisions of individuals do not wholly emanate from their being in accordance with what (s)he believes in but to some extent are influenced by social structure which sets parameters within which they act in a domain of obligations and expectations (Erhard, 1998:2). There are some actions members of a society are expected to take at a particular point in time in their lives. These actions are defined and protected by cultural norms and sanctions. So the social structure with its cultural norms and sanctions influences the action an individual should take. This influence of the social structure on individual's agency had its origin from history as opined by Archer (2000:121) that 'our sense of self, as part of our humanity, is prior and primitive to our sociality' and makes family socialization a prime determinant of what kinds of activities young people would engage in and why they would do so (Lewis and Shauna, 2005:3).

The functioning of the social structure is to influence the political and economic environment. Capitalism and economic restructuring has reduced social welfare and public enterprises to a devastating point that many people have lost jobs and are suffering long term erosion of stability of income and exposing families to risk. Contemporary economic policies have tightened the labour market making it difficult for young graduates to find jobs to earn income for leaving (Lewis and Shauna, 2005:5). The life world of young people

today is shifting towards one of higher stress, greater uncertainty and risk and looser connections among family, friends, and communities (ibid.).

The self concept therefore provides a location for moral agency, or choice (Lewis,2003:231) without offending or abusing other peoples right but by acting independent of one's thinking hence making self improbable to understand in one form. This then gives the person an incentive to act within the context of his 'self' ability and it is necessitated by the need of personal accountability within the moral order. It is opined that, 'people position themselves and are positioned, socially and psychologically through discursive practices' (Lewis, 2003:232). It can be argued from the above that, the idea of 'life-world' is all about the material and non-material aspects of a person's existence, including all their perceptions, memories and imaginatives; it is a virtual 'network' connecting all of their physical and social relationships with people, places and ideas in the past, present and future (Lewis, 2003:225-235).

2.3.2 Employability

The concept of employability is used to understand whether the training giving to students is providing them the general knowledge, skills and competences to widen their employment opportunities.

Employability as a concept is defined as 'a set of skills, knowledge and personal attributes that make an individual more likely to secure and be successful in their chosen occupation to the benefit of themselves and the economy' or the ability of the individual to gain employment that matches his/her educational standard (Moreland 2006:1 ; Wickramasinghe and Perera, 2010: 227). These set of skills and qualities are not job specific but cut horizontally across all industries (in this context all the various operational levels) and vertically across all jobs from entry level to the most senior officer (Cotton, 1993:1).

University students are being trained to acquire skills needed by industry but literature however suggests that there is a gap between skill requirements for entry-level graduate employment and skill possessed by entry-level graduate applicants (Wickramasinghe and Perera, 2010:226). Most students for instance are not abreast with computer knowledge and this gap leaves most graduates unemployed as employers do not see their value. Students are much aware of this shortfall in their training and are eager to have more skills in their training to be more productive in different fields.

To avert this, Rae (2007:605) opined, university students, staff and industry (employers) should be allied in different ways beyond the curricula to achieve increasing employability of university graduates by soliciting for inputs and engaging employers in the design, delivery and assessment of courses, to ensure these comply with the basic requirements of industry (Wickramasinghe and Perera, 2010:230). This cooperation and collaboration between educational

institutions, students, staff and industry would grant the students and staff opportunity to gain work place experience, develop competence on the job after their degree. The question is whether this would be possible to inculcate into the academic curricula without displacing the core priority. However, Knight and Yorke (2002a:261) argued that it would be possible. Development of employability skills in students is much dependent on teachers ability to break away from; changing single courses, improving instruction, changing the formal curriculum and being salient on the whole learning environment, attending to the cognitive and ignoring self-theories, motivation and perceptions (Knight and Yorke, 2002b:4). Zinser (2003:402) also added that, for teachers to impart such a skills to students, they need to be trained themselves.

2.4 Conclusion

In this chapter the questions of how education is pivotal to building of human capital and capability to form the pool from which employers draw their source of labour has been looked at as well as the nature of how individuals take different actions depending on their personal abilities and interest to reach their various ambitions and expectations. To explain this, the concept of lifeworld was discussed where it was reviewed that political and economic environment has negatively affected one's way of conducting him/herself to the extent that life of young people today is shifting towards one of higher stress, greater uncertainty and risk and looser connections among family, friends, and communities.

Chapter 3 General Overview of the Oil Industry in Context of Rig Labour Force

3.1 Introduction

This chapter reviews literature in brief on the scope of global employment trend in the oil industry regarding its weaknesses, strengths and future growth opportunities. This will be used to situate Ghana's oil industry history from way before the discovery in commercial quantities in 2007. The chapter also discusses pre and post discovery companies and the current situation in the Jubilee Field as well as the policy framework for the local content development.

3.2 The Global Employment Trend

Historically, the global oil industry suffered a set-back in the 1980s, and 1990s, resulting in the lay-off of about 500,000 workers in order to sustain the business (Parry et al. 2007:3). Most of these workers found their way to other industries and never came back when the oil industry rebounded. The lay-offs not only affected workers, but also killed the interest of students to pursue oil related courses and for educational institutions to also establish programmes to produce labour for the oil industry. According to Parry et al. (2007:3), the number of students taking petroleum engineering in USA reduced to 1,700 in 17 universities in 2007 compared with 11,000 in 34 universities in 1993. The severity of the shortage when viewed through a workers lens, (senior scientist and engineers are the most hit) makes the whole problem very worrisome as not less than 7- 10 years is needed in practice to replace these workers (ibid.).

A Management Consultant, Booz Allen Hamilton opined that, the oil and gas industry has stretched its human resource to a breaking point and skills and labour crisis could become a critical issue, creating the potential to stall the current oil and gas boom. This has made competing for the few qualified personnel a key challenge in the oil industry³. Sprouting out of this is 'paying exorbitant salaries to lure highly skilled employees away from rival firms'⁴ posing rancour and resentment within and between companies. It is said if 'oil companies want to be successful and their people to have a successful career, then recruitment and training should be

³ Source: http://www.haztekinternational.com/Portals/0/docs/0308_OAG.pdf. Accessed on 21/10/2010

⁴ ibid

in parallel' to stop driving the costs up for each other, and thus shooting each other in the foot'(Parry et al., 2007:4).

Faced with one of the biggest periods of expansion in its history, the global oil and gas industry is already being held back by its failure to attract, recruit and retain highly skilled staff (Parry et al., 2007:6). In the report of the Petroleum Human Resource Council of Canada (2007:5), it is said that even though the upstream petroleum industry has a lot to offer potential workers, there are few opportunities to increase the overall supply of labour both in the short- and medium-term due largely to employers' demand of direct petroleum industry experience of entry level workers.

To avert this, Emran Husain (2010:1), General Manager of Training and Development, Saudi Aramco, said, his company is 'engaging more young people into schemes to prepare them for the rigors of a life in the oil industry, since Saudi Aramco draws 87% of its work force from Saudi Arabia, the company has a special relationship with students, educators and educational institutions throughout the Kingdom.'

3.2.1 Working Conditions on a Rig

The offshore oil rig is a small floating city with a size ranging from small rigs to those with platforms of football field size and derrick height like skyscrapers⁵.

While on the rig, workers are accommodated with showers, food, TV, phones and laundry facilities, but they are limited in their movement and who to interact with⁶. A job on an oil rig is a bit like a jail sentence because workers are confined to a rather restricted location for a long period of time (Loh, 2008:1). Oil rig work is mentally and physically very demanding. One has to be mentally tough, tolerant and have good self-control in order not to fight when irritated (Loh, 2008:1). According to Carnegie (2010:1) 'workers sleep four to a cabin with eight workers sharing toilet and a shower'. There is a culture of toughness and pride in being able to tolerate bad conditions to make money (Carnegie, 2010:1).

Surprisingly enough, smoking is not banned on offshore oil rigs, but smokers must be careful to smoke only in the designated areas to avoid any explosions⁷. Workers, both unskilled-roustabout (general labourers) and skilled (drillers, electrician, mechanics, cook, engineering, geologist) work long hours doing difficult and physical routine work with heavy equipment, using tools,

⁵ Source: http://www.jobmonkey.com/oilindustry/html/offshore_oil_rig_jobs.html
Accessed on 18/10/10.

⁶ *ibid.*

⁷ *ibid.*

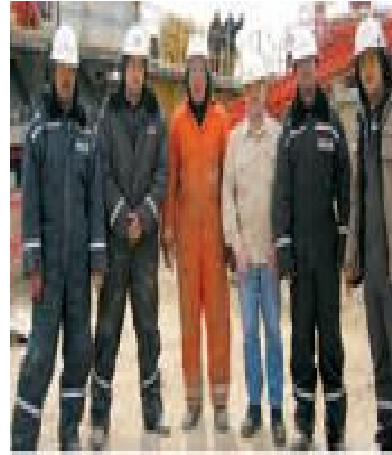
wearing a hard hat and also suffering loneliness after a 12 hours marathon shift work (Claire, 2010:1).

Figure 1: Life on a rig



Source:⁸

Figure 2: Rig Crew



Source:⁹

To be successful in the oil and gas industry one needs to be mechanically inclined, work well in a team, conscious about safety, good at following directions and be prepared to sacrifice drugs since drug screening is usually mandatory (Kiran, 2009:1). One can easily lose his/her job if one fails to show up for a crew change regardless of how good one may be¹⁰. Although it is stated in principle that, there is swift response from management to replace faulty equipment on the rig to ensure safety, it is not always the case. For instance, the recent gulf of Mexico spillage where eleven workers lost their lives was as a result of delays on the part of management to replace faulty equipment (computer system) as one worker, William is reported to have said: “the computer system had been locking up, producing what is called the blue screen of death because the computer has no data coming through. Replacement of hardware had been ordered but was not yet installed by the time of the disaster”¹¹.

⁸ <http://www.offshore-jobs.co.uk/> Accessed on 24/10/10.

⁹ <http://www.offshore-jobs.co.uk/> Accessed on 24/10/10.

¹⁰ Source : http://www.escapeartist.com/OREQ18/Offshore_Oil_Rig_Employment.html
18/10/10

¹¹ Source: (<http://www.nytimes.com/2010/07/24/us/24hearings.html?pagewanted=2>)
Accessed on 18/10/10.

The company, BP was 43 days behind schedule (ibid) when the rig exploded on 22 April, 2010 producing a horrific scene as shown in the figure 3

Figure: 3 Scene of the Gulf of Mexico rig explosion on 22 April, 2010.



Source: Kirkham 2010.

Working conditions on rigs are said to be poor. Carnegie (2010:1) used his personal experience on a rig to suggest the need for safety to be taken seriously and that the saying that oil companies take ‘safety as paramount is absolute “bullshit”. In evidence, the workers union of an oil company, Petrobras used agitation to seek for better working conditions during a remembrance day of ten colleagues they lost when the world’s largest offshore rig belonging to Petrobras of Brazil sunk in Brazil making the death toll within three years to rise to 91 in accidents (Kiran, 2009:1). The risk on rigs is very high so that many workers lose their lives. Once the accident occurs lives are lost and so it forces some of the workers to take the hard decision to try and save their lives as a survivor of Gulf of Mexico accident is quoted as saying:

I remember closing my eyes and saying a prayer, and asking God to tell my wife and my little girl that Daddy did everything he could and if, if I survive this, it’s for a reason. I made those three steps, and I pushed off the end of the rig. And I fell for what seemed like forever¹².

¹² Source: (<http://www.awesomestories.com/disasters/deepwater-horizon/life-and-death> accessed on 18/10/10.

On the plus side of working on a rig, salary and benefits are usually pretty good. An entry-level job could bring home over \$50,000 per year for just 6 months of work. Comparing this to an office clerk who only brings home \$30,000 to \$40,000 per year while working 5.5 days a week, 52 weeks a year (Calvin, 2008:1). Again employees typically enjoy long rest periods when they are not at sea.

Let's take 6 minutes walk on a drilling rig in Canada at¹³

3.3 Historical Overview of the Oil industry in Ghana before 2007

Ghana is a small country with population of about 24 million in West Africa along the coast of Gulf of Guinea which has been prospecting for oil without success since 1890 (Samuel, 2008).

In 1980, a minor discovery and subsequent production by Saltpond Oil Company led to the production of oil in quantities but this fell short of domestic demand. The Ghana National Petroleum Corporation (GNPC) Act, 1983 was enacted with a mandate to; promote the exploration and development of the petroleum resources of Ghana (section 2(2)). The Act also mandates GNPC to engage in petroleum exploration and production solely or in association with international oil company (section 2(3)). Lack of technical and financial capacity thwarted the effort of GNPC to undertake petroleum exploration on its own thus its collaboration with international oil companies such as Kosmos, Tullow, Anadarko and Sabre Oil¹⁴.

The Petroleum Agreement (PA) has three parties: the state as the owner of the petroleum deposits, GNPC as the entity with exclusive right to extract the petroleum deposits, and the oil companies whose role is to assist and participate in the production process.

3.4 GNPC and Oil Exploration Companies

GNPC collaborated with international oil companies such as Kosmos Energy and EO Group, Tullow Oil Ghana, Anadarko and Sabre Oil for extensive exploration work. In 2007, Ghana hit a commercial quantity of oil deposit in different blocks. The two blocks have been unitized as Jubilee field with estimated deposit of 800- 3000 million barrel of light crude oil with a significant quantities of associated natural gas (Adjaye,2009, MOE Policy frame

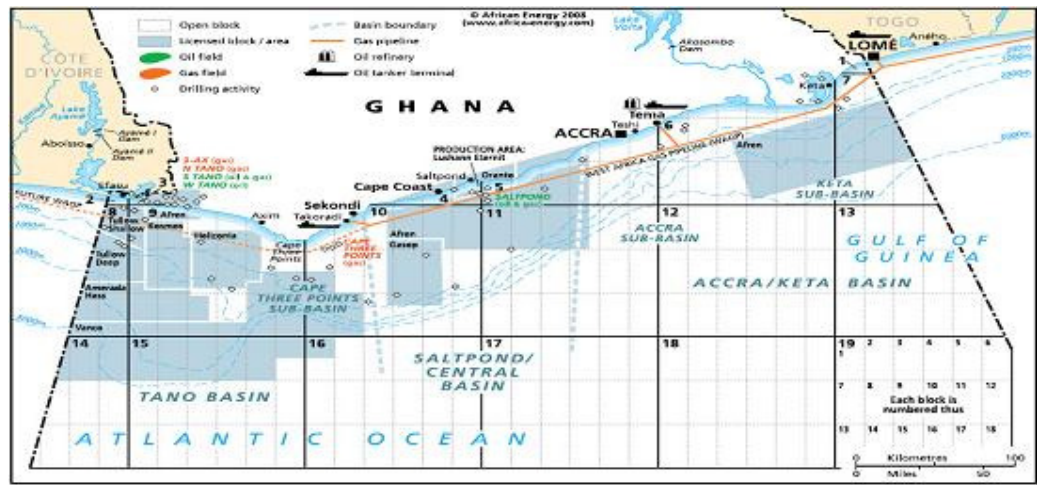
¹³<http://hubpages.com/hub/Rig-Life> Accessed on 20/11/10

¹⁴ Petroleum Bill 2010.

work document, 2010). China National Offshore Oil Corporation (CNOOC) has also come to join in the exploration prospect.

In Ghana, there are four regions of sedimentary basins: Tano-Cape Three Points Basin (Western Region), Saltpond/Central Basin (Central Region), Accra-Keta Basin (Eastern Region), and Voltaian Basin (Northern Region). Tano/CTP basin has been fully licensed.

Map: 1 shows Ghana's hydrocarbon



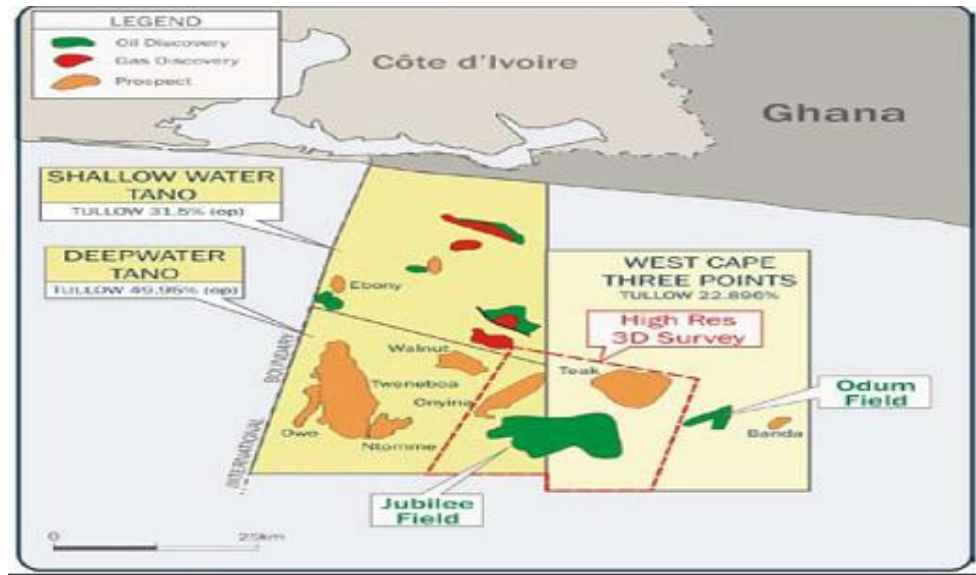
Source: Document from Ministry of Energy

3.5 Current Situation on the Exploration Fields

Currently, among all the oil companies which have made major discoveries, Tullow Oil Ghana is in advanced stage of commercial production by 2011. Tullow Oil is not into direct production but has subcontracted production to other oil field service companies such as Baker Hughes Ghana, Schlumberger, Modec and ENI (Interview, HRM GNPC 27/07/10).

Map 2 below shows the Jubilee Field which is ready for production and other fields that have been discovered.

Map 2 Jubilee field



Source: Tullow Oil Document

3.6 Local Content and Local Participation Policy Framework

The key discoveries of oil in Ghana have again called upon the government to put in place measures to control production and its associated benefits in the interest of the people of Ghana. Hence the Local Content Development Policy-LCDP by MoE to control production and marketing of oil. It is stated that, government of Ghana is committed to ‘indigenizing knowledge, expertise and technology through participation of Ghanaians in the ownership, operations, control and management to achieve at least 90% local content and local participation in all aspects of the oil and gas value chain by 2020 which is believed to lead to the creation of self- sustaining and buoyant economy’ (MoE, LCDP document).

3.7 Employment and Training of Citizens

The LCDP states that, ‘the operators in the petroleum sub-sector should ensure that opportunities are given as far as possible for the employment of Ghanaians having the requisite expertise or qualification, experience and competence required to carry out the required work in the various level of operations’(MoE, LCDP document). There should be an annual recruitment and training programme (ARTP) of MNCs to be approved by Petroleum Regulatory Agency which should contain the following elements:

- 'Fifty percent of the management staff should be Ghanaians from the start of operation and this number shall increase to at least eighty percent within five years after the start of the petroleum activities.
- That at least 30% of the core technical staff should be Ghanaians at the start and within five years the number should increase to 80% and 90% within 10 years, Other staff should be made of 100% Ghanaians'. (Interview HR Manager of GNPC, 27/07/10).

In a situation where Ghanaians are not employed for lack of training, measures should be put in place by the operator to provide such training locally or elsewhere within a reasonable time.

3.7 Gender in Oil and Gas Industry

The LCDP did not give a clear picture of how women would be involved in the oil industry. It just stated that the government, through policies would encourage participation of women in the oil and gas industry. In sharp contrast, the Chairman of the Parliamentary Select Committee on Energy and Mines backed by the lead geologist of the GNPC has advised Ghanaian women to forget about looking for jobs in the oil and gas sector because women are unsuited for the rigours of the job¹⁵.

3.8 Conclusion

The oil industry is facing a global shortage of labour especially for its upstream operations and the problem will be more serious in the next ten to twenty years when most workers might have gone on retirement. Notwithstanding the dangerous and physical nature of the rig work, employers are inclined to prioritise experience for entry level workers thus making the problem worse. Whether Ghana is going to suffer the same problem in its new oil industry depends on the institutional reforms that would be adopted to blend training with industry.

¹⁵Source:http://www.adomonline.com/index.php?option=com_content&view=article&id=3624:women-unsuited-for-work-in-oil-sector-asaga&catid=25:general&Itemid=233

Accessed on 29/10/10 .

Chapter 4 Analysis and Discussion of Findings: Views and Voices of Students

4.1 Introduction

In this chapter, the paper will look at students' perception at two levels: at school and after school. At school level, the paper will discuss what students think about the course in terms of its structure and content, the environment they are studying in and the problems they face. At the after school level, the paper will explore what in general students' chances are at the labour market and for their career.

4.2 Response and Motivation of Students to Oil Related Programmes in Universities

As earlier on argued in chapter two by Rae (2007), present-day students are more selective in their choice of courses and institutions in order to be more functional and competitive. Some literature have said that, perceptions and expectations of students are at a great variance ranging from making money, satisfying the expectations of parents, seeing it as the next after high school (Liles and Sedney,2008).

Findings from the field did not deviate much from literature. However other reasons were also found to contribute to the response of students and motivations to pursue oil related courses in universities as shown in Table 1.

Table 1: Motivation of students for oil course by gender

Motivation	Male	Female	Total
Money	22	0	22
Job	10	5	15
Desire for a new challenge	5	1	6
Satisfy family interest	2	2	4
University selection ¹⁶	2	0	2
Total	41	8	49

Source: Author's interview with students, July, 2010

It can be seen from Table 1 that, though students have the same opportunity of reading oil related course, their motivations and perceived gains are different. In this note I would borrow from Byrne (1984:429) to argue that,

¹⁶ Student was not offered his dream course but based on s(he) grade the university offered him/her a course.

what people want to have or be in order to make them feel that they are socially acceptable is different? While the men see the course to lead them into where they can earn big monies to live a life they consider worth living, the women see the course to provide them with early job after school to help them settle for other social responsibilities.

It was also found out that some students were attracted by their desire for a new challenge from traditional occupations like nursing, medicine, banking, and teaching. They believe this will make them command respect in the society and among their peers as one student interviewed is quoted as saying:

What a prestige will it be for me to be a petrochemical engineer working for one of the big oil companies either in Ghana or abroad? You will not understand the respect people accord me for being a petrochemical student so you can imagine when I finish. At times, it is not about only the money but the respect your job will command for you in the society. Look at how we worship Medical officers in Ghana here but it is not all the Doctors that are rich but the respect is there and this is what I want (22 year old student of ANU, interview 16/07/10).

It must also be noted that some of the students' decisions to pursue the oil programme, were influenced by their family (parents). Some also failed to be admitted into the programmes they had an interest to pursue. So some students find their way into the oil programme under the influence they could hardly resist. One student who was influenced by his father had this to say:

I was born and bred in Nigeria PortHacourt, seat of crude oil in the Niger Delta. Dad works for Shell as quantity surveyor and so I was introduced into it at tender age. My dad upon judging the benefits he has enjoyed by working in the oil industry pressed on me to do same. It wasn't my top priority though, I decided to obey his advice (24 year old student of ANU, interview 16/07/10).

Considering these situations, it can be argued that, even though human beings have their moral agency, their actions are sometimes influenced by their families and friends which has been part of life from generation. Archer (2000:121) pointed out that 'our sense of self, as part of our humanity, is prior and primitive to our sociality'. This depicts that 'self' is sensitive to our social structure. Sometimes family members play an important role in an individual's decision in order to maintain the identity of the family as in the case of this young student.

4.3 Perception of students about the course structure, content and their lecturers.

Wickramasinghe and Perera (2010:230) quoted that, the primary role of higher education is to train students by enhancing their knowledge, skills, attitudes and abilities, and to empower them as lifelong critical and reflective learners. Lanzi (2007:424) has argued that, quality education to build human capability is influenced by teachers' curriculum vitae, teachers/students ratio, peer-to-peer relations and facilities available for training.

As far as the course structure and content is concerned, there is no difference between the male and female students.

Some students of KNUST see their course content to be one of the best since it has stood the test of time owing to the pedigree of the university and for how long it has been running but others debunk this notion and sided with students of the other universities to point out deficiencies such as, the oil department having only three lecturers handling about twenty different courses from the first year to the final year. They opine that students cannot easily access lecturers due to their heavy schedules and that the syllabus lacks essential courses like sedimentology in a case of KNUST, swimming and sedimentology in a case of ANU. Views of some students were as below:

The course content is lacking some important things that are very relevant as far as working in the oil industry and precisely on the rig is concern. The absences of such courses do not make us have a fill of what is ahead of us. Swimming should have been part of the curriculum since in Ghana the oil site is offshore, a worker must know how to swim and also a course like sedimentology to help us to understand the formation of sedimentary rock in the sea bed from which crude oil is extracted (21 year old student of ANU, interview 16/07/10).

Another student stated:

the course content is more theoretical than practical and it makes some things too abstract and difficult to understand. The practical aspect is very much lacking (25 year old student, UG, interview 8/7/10).

As far as students' perception of their lecturers is concerned, some students doubt whether lecturers themselves are abreast with modern trends of technology and are aware of the calibre of people employers in the oil industry would like. They opined, the way lectures sometimes 'struggle' to explain some principles raises their suspicion about the lecturer's understanding of what he is teaching. It is believed that lecturers have not undergone any planned training and are relying on their old knowledge and teaching methods. This is in sharp

contrast to Zinser's (2003:4-5) argument that, for students' training to meet the standard that industry requires, lectures 'need to be trained to be abreast with up to date technology and the transferable skills that employers in the oil industry expect entry level graduates to have. Knight and Yorke also said that the ability of students to develop employable skills is dependent on their teachers ability to 'break away from changing single courses and adopting new methods which would help to produce students with employability that extends beyond skills' (Knight and Yorke, 2002a:264) and make them more useful to employers. One student fearfully said:

Some lecturers are very old and they have lost touch of contemporary trends of science (sophisticated technology) being used in oil production and find it difficult to understand the principles of operation themselves (24 year old student, interview 15/07/10).

The effect of this is killing the interest of students and makes them belittle themselves with respect to their ability in terms of the quality of knowledge and the skills they may have.

4.4 Knowledge of Students about Rig Conditions

It was found out that, students do not have any rig experience as far as their education is concerned due to the reluctance of MNCs to collaborate with universities and to accept students on internships. The knowledge students have about working conditions on the rig is gained from course lectures and literature. Students' theoretical knowledge however does not deviate much from reality with the exception of how management is concerned about the safety of workers. Some views that came up are:

Rig work is very intensive with 12hrs shift on the rig for one month. Oil is very inflammable and the only way to do the job and be sure of continuing your life is the safety way. The nature of the job would make you become stressed out by doing one particular thing repeatedly and as such one should love and be committed to the work because if by any way the laws on the rig is misapplied, you barely have to pay for that with your life but management are said to give prominence to safety measures and provide what it is to make workers safe while on the rig (20 year old student of KNUST, interview 17/07/10).

A lady student judged working condition as:

Besides the work being physical, it is also very dangerous as movement is limited restricting workers to very limited closed place full of loneliness making conditions worse than that of

prisoners walled by sea with no sight of land. In case of emergency, one has to think fast of saving his/her life and the only way is to jump off the platform with life jacket and even that, you still have to find your way on the sea. In the Gulf of Mexico case, some workers claimed they spent 10 hours floating on the high seas. Dangerous, isn't it? (22 year old lady student of UG, interview 8/07/10).

As earlier mentioned, students knowledge about the working conditions on a rig did not come from their personal experience. It is surprising to note that, none of the students from UG and ANU have ever visited a rig to give them the opportunity to compare literature with reality. KNUST students have visited an old rig owned by Saltpond Oil Production Company Ltd(SOPCL)¹⁷ for once in the four year course and for one day without spending the night there and so did not experience how rig life looks like a jail sentence because of workers confinement as said by Loh,(2008). Despite all these, students' knowledge does not fall short of the working conditions on a rig as some students reflected on the recent Gulf of Mexico explosion which resulted in the death of eleven workers.

4.5 Perception of Students about Policy Impact on their Training

Despite the voluminous policy document guiding the oil industry regarding production, revenue generation and training, students are yet to see any effect of the policy on their training. They opined, in looking at the unattended constraints like inadequate lecturers, lack of practical equipment and laboratory, lack of cooperation between MNCs and universities and lack of a clear plan to improve the capacity of lecturers, they found it difficult to believe there is indeed a policy for human capital and capability development by the government.

Students are of the view that, government's attention is more on the tax revenue than on developing human resources. Students however do not know much about the local content development policy.

4.6 Students Perception about their Chances on the Labour Market

Findings from FGD of students suggest that experience, grade, team player and ability to withstand stress are the four qualities employers would value

¹⁷ SOPCL is not one of the MNCs developing the Jubilee field but the oil company which has been producing oil in small quantities since 1980s.

most. Students are however very pessimistic about their skills and experience due to lack of opportunity to engage industry in their course work. Some are a bit doubtful about the quality of their knowledge as some think some of their lecturers' knowledge is old-fashioned. This raises their apprehension about the credentials they would have when entering the labour market. The women however sounded optimistic and considered their skills and abilities to be useful more so than the men (Miller and Raquel, 2004:3). Despite the numerous challenges they think that their ability to learn quick, work well under stress and find solutions to problems will make them competitive on the labour market.

I would like to borrow from Marsh (1993:842) to argue that, indeed every individual has a way of seeing, conducting and placing value on his/her personality, and on this, the women in my study sounded more confident than the men. So the self-perceptions of the female students about their attitude, feelings, knowledge and abilities (Byrne,1984:429) to perform on the job is more positive than the males though they are all receiving general training.

4.7 How Long Students Intend Working on a Rig in the Oil Industry (Career Route)

Surprisingly the response to this question deviates much from the expectation of the researcher because from the look of the course structure, students are mainly being prepared to work on the rig nevertheless; they can be trained to work in other sectors in the oil industry.

Table: 2 Career Routes of Students by Gender.

Students/No. of years	0 - 5	6 - 10	11 - 20	More than 20 yrs
Male Students	13	11	6	11
Female Students	6	1	1	0
Total	19	12	7	11

Source: Author's own construction from field data. July, 2010

From Table 4.2 it can be seen that, variation regarding how long one intends to work on a rig is bigger among men than among women. Whereas six (75%) of the women wouldn't like to work on a rig for more than five years, 24 (68%) of the men want to do that for various reasons. It can be seen in all that almost two-thirds of the students (63%) do not want to see themselves on the rig ten years after school. Only 18 (37%) have the dream of pursuing their career on a rig. Different reasons were assigned based on gender (in this context taking rig as career is working on the rig for more than 10 years).

As far as the women are concerned, 7 (88%) would not like a career on the rig, because they see rig work to be more physical which would require a lot of energy. Additionally, the working environment is not conducive for women as most of the workers are men and going to stay in close confinement with them for weeks would be a difficult task to carry. Most assigned social reasons such as making time to marry and helping to bring up their children. They think long absence from home as a family woman would not allow them enough time to be socially responsible. One is quoted as saying:

Long absence from home would really not help for my children to grow up the way I want as fathers or nannies would not have time to care for my children as I would do. I simply do not want to be wicked to my children (20 year lady of KNUST, interview 14/07/10).

Another female student had this to say:

If you have ever read about a rig, the work there is very physical and demands a lot of energy which would have a destructive effect on the reproductive health of women and health in general. The work looks more masculine than feminine and above all, I do not have the heart to withstand the dangerous working conditions. I am planning to work in the cosmetic or chemical industry where safety is comparably higher (24 year student, UG, interview 08/07/10).

Yet other women had her reason to be:

Working on the rig for ten to twenty years means giving birth is out of your plan and as a woman in our culture; the respect you command depends on your ability to marry and give birth. Our culture is unlike the western culture, when you get between 30 – 35 years and you are not married with children, your parents, relatives, friends would be disturbing you with one question; when would you marry? You are considered as bringing a disgrace to the family for not morally conducting yourself well to get a husband. It would be very embarrassing and I don't want to suffer it (20 year student of KNUST interview 21/07/10).

However one woman representing 13% of female students, wish to pursue a career on a rig as she is determined to do what seem to be a work done by only men. As to whether she would like to marry and how society is going to judge her decision, her philosophy is different from her colleague females as she had this to say:

I am determined to achieve what seems improbable in the domain of women and to excel for international recognition. I know and I am aware of what is in there but I would make those conditions

respect my ability. I am a human and I can do it. It only wouldn't be possible when I accept to subordinate impossibility (interview).

On a question of how she is going to combine life on the rig with normal family life, she has this to say:

Frankly speaking, I look at rig work to be more flexible than the office work where one works for eight hours a day throughout the year. Within a day, how many hours do one get to spend with their so called families? but on rig, it is 6months on, 6months off and I would have more time for my family than the others and above all would bring more than enough money home for the family and I think that 'lucky man' and my children would love it (26 year old student of UG, interview 08/07/10).

Culturally, a model woman is the one who always stays home and performs her domestic duties completely and timely. So it not a surprise in Ghana's settings for women to say she cannot work on a rig since it would take her away from performing their duties of keeping the house. By looking at it through an economic lens, the cultural believes keeps potential workers who would have been effective and efficient away from taking jobs that would have earning them a good income to live a good life. Before we go on to analyze these views, let us ask one question: why should the women choose the oil course in the first place knowing of their cultural obedience?

People do take decisions or act in a particular way for various reasons, some on the basis of individual differences and others as a result of social or cultural matters. Whereas one of the women see work on a rig to be very challenging and masculine, she is prepared in her mind to take up that challenge and not only taking it up but determined to excel to acquire international laurels. Some have also subjected themselves to cultural values and have conditioned their mind to accept what in sincerity she wouldn't do. It is seen here that the cultural influence on women is economically very destructive. It prevents many women in their quest to observe it from taking certain action that could have empowered them economically. The decision for the women not to take up rig work is more attributed to gender construction than biological difference and the imbalance of this influence goes on for the men to even ridicule the women to force them to succumb to cultural demands. This attitude of the women is in agreement with Archer (2000:121) who writes that 'our sense of self, as part of our humanity, is prior and primitive to our sociality'. Lewis and Shauna add that 'family socialization [is] a prime determinant of what kinds of activities young people would engage in and why they would do so' (2005:3).

Although there is no direct force on women to act, the acceptance of the cultural values and how they want society to respect them gives them an

incentive to act within the context of their 'self' ability which is necessitated by the need of personal accountability within the moral order making self a virtual 'network' connecting all of one's physical and social relationships with people, ideas in present and future (Lewis, 2003:225-235).

On the other hand, the men's reasons for their decision not to pursue a career on a rig are two; disinterest and fear. From the table 2, about 24 (60%) of the male students would not like to take rig work as a career but would like to work in the oil industry for a few years after university. However four of the twentyfour students would not like to work in the oil industry at all. Two of these come from those whose parents influence their course selection and the other two happen to be those who found their way into the oil programme because the universities refuse their first and second choice of courses they intended to pursue. One had this to say:

First I cannot imagine myself leaving in that loneliness with limited movement. Also the fixed routine lifestyle, I really like to innovate and also act differently and better. Lastly the forever thought of danger and the trend of danger relief mechanisms available such as jumping off a 30ft high rig into a 70ft deep water and float to survive is ridiculous. I would not like to gamble with my dear life (21 years old male student of KNUST, interview 19/07/10).

One of those whose parents influenced their choice of course said:

I read this course for my father because he forced me into it. I wanted to read either medicine or pharmacy which I qualify to do. It has always been my dream to work in the health sector but my father wouldn't just listen to me. I was by then 17 years and couldn't have sponsored myself if I decide to do otherwise. Now I am 21 years and old enough to decide for myself what I want and where I should work. Yes, you can force a horse to a riverside but you cannot force it to drink. He cannot force me to sacrifice my life because I can make money there and take good care of him when he is old. What when I die before his retiring age? I am simply not for oil work and my lecturers are aware of this (21 year old KNUST student, interview 17/07/10).

Parents and school administrations sometimes forget that, higher education is there to build and improve skills and knowledge of students around their interest. Higher education should help students to prepare their own careers which they are absolute owners rather than choosing careers for them because grades only shows the academic strength but not the emotional, moral and social strengths which also have influence on ones career (Stewart and Knowles, 2001:98).

Since the interest of students is sometimes flopped, it makes it difficult for students to realize their full and natural potentials as some students may be

compelled to pursue a career in the course imposed on them at university; their output would be a bit questionable and fall short of their credentials. Thus it is very destructive to overshadow the agency of students regarding their interest because our attitudes, feelings and knowledge about our abilities, skills (Byrne, 1984:429) are different and make us to value different things at different times and one is likely to do well in what (s)he values best.

Majority of the students (83%) have intention of working for the first five to ten years to make money and run away to places of less risk either within the oil industry or outside. One student is quoted as:

I did not really know about the conditions on the rig beforehand. I got to know of the risky nature of the work in my course work and it is challenging my decision of wanting to be a rig worker for long. I have decided to work for some few years, accumulate some money and leave for a better place in terms of safeness because the job market out there is very tough but when I get the chance to work here, it would enrich my curriculum vitae (CV) and brightened my chances somewhere as I look for that opportunity.(25 year old student of ANU interview 16/07/10)

One can argue from above that, instinctively the will to work on a rig is there but it is the scepticism about the safety of their lives that has influence their decision to stay on rig for a short time. Perhaps fear of what they have heard about the working conditions has influenced their decision. This fear could have been reduced if they had had the chance to be on the rig for at least one week to survey the environment and try their hands on something. Sometimes the capacity of humans to ultimately decide what action to take or not to take (Erhard, 1998:4) is heavily influence by the physical environment. It is a naked fact that individuals have different ways of accomplishing an objective even though they may have the same vocation, knowledge and training. That is why some students upon observing the dangers associated with rig work have decided to decline it and others think they can be there for a short time to make what would make them meet their expectations.

Notwithstanding this, some men who want to pursue a career on a rig see rig work to be the only place one can easily make it big using little time because the number of working days and off days are equal in a year yet they stand a chance of making not less than \$40,000 a year which their colleagues in the public service and other private sectors cannot make even half of

Figure: 4 Oil and money.



Source:¹⁸

To them the stress they are going through in school is enough to make them withstand what is on the rig and besides their interest is only in the money so they are prepared to take up the challenge to succeed in life. For example one of them said:

The work is tedious, physical and mentally demanding with a lot of self denials, it equally pays and I am bent on pursuing my career on a rig. For death everyone would one day one time die. Those who die in car accidents, plane crashes, were they on a rig? I am looking at what I am going to make but not the conditions. Nowhere is juicy regarding working conditions in this our time. I am a man and not coward (24 year old student of ANU, interview 16/07/10).

The interest of a student for a programme is very important because it would be a carry on attribute and would affect his performance on the job (Ricket et al. 2007). From the findings of this paper, students who have the intention to pursue a career on a rig are mostly those who were not influenced by parents or university selection but have chosen the course based on their personal interest and future dreams to see themselves on a rig. Where interest abounds, perceived hazards cannot overrule such a decision.

It is very worrying that, students do not want to stay long on the rig but prefer to work in the downstream¹⁹ operations even though the training is

¹⁸www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=197206&mode=enlarge

¹⁹ Refining and marketing part in oil industry.

mainly targeting upstream operations. It was realized that the sharp differences in career ambition is due largely to the deep-seated asymmetric social norms and beliefs which determine the behaviour of men and women in the society. Though universities are trying to build the capability of students for the oil industry, the journey is still long. Judging from the findings, in the next 20-30 years where Ghana would be producing at a maximum capacity regarding number of barrel per day (bpd), there will be serious labour shortage for its upstream operation if local labour is to lead production. The local labour crisis would be more severe than the globally estimated for the following reasons:

- a. most students are not willing to stay on the rig for the 7-10 years required for a new employee to acquire skills and experience to master the upstream operations in order to perform them with precision,
- b. oil companies do not have graduate training programmes to help students gain the needed experience for rig work and to also develop intimacy with students in order to change their mind sets to accept to work for many years on the rig.
- c. the next 20-30 years, most lecturers in the universities would retire considering that the average age of lecturers in the departments of oil related programmes to be 52 and the unwillingness of the young ones to go into academia.

4.7 Conclusion

This chapter has considered the importance of understanding the perceptions and motivations of students being trained as oil related engineers for Ghana's new oil industry. It also compares the possibility of a student taking a career on a rig using a gender lens. The chapter explored students motivation's to read oil related programmes and finally discussed the barriers to employable qualities of the current students under training.

Chapter 5 Analysis and Discussion of Findings: Reforms in Universities, Behaviour of MNCs and Policies of Government

5.1 Introduction

This chapter discusses the findings pertaining to the reforms of universities in response to the oil found in Ghana and challenges surrounding the introduction of the reforms. The chapter also touches on the reaction of MNCs regarding their relationship with universities, lecturers and students of oil related courses. Also in the discussion is short review of the government policies guiding the management of the oil resource as the custodian owner.

5.2 Reforms in Curricula and Motivations for the Reforms

It was observed that all the three universities have revised their academic curricula by introducing oil related programmes. KNUST is running courses such as Chemical Engineering and Petrochemical Engineering. Chemical Engineering has been one of the university's programmes for more than three decades as a science university and Petrochemical Engineering for six years. MSc Geoscience and Bachelor of Engineering (BE) Oil and Gas are oil courses which have been introduced in the 2008/2009 academic year in UG and ANU respectively.

The main objectives of the reforms in the universities do not differ much. Higher education is seen to serve a multifaceted purpose by providing knowledge and skills to students to build human capability for the socio-economic development of the country. Discovery of oil threw a challenge to universities to design courses to meet these challenges hence the introductions of the oil related courses (interview with Academic Affairs Director, ANU, Koforidua on 19/09/10) but as to whether the response corresponds to labour requirement of MNCs, shall be discussed later in this paper.

5.3 Response of Students to New Courses Introduced in Universities

The response of students across the universities is high because students see the new oil industry as very promising looking at other new discoveries that have been made after the Jubilee field. For example, it was found out that demand for the oil programmes are increasing beyond the capacity of the universities especially with the Government assisted universities as said: 'Our numbers increase faster than the rate at which facilities available could

accommodate them leaving most qualified applicants behind' (interview Director for Academic Affairs, KNUST, 13/07/10). The enrolment of students is as in Table 3

Table: 3 Students enrolment.

Schools/ Year	2008/2009		2009/2010		2010/2011	
	App.	Adm	App.	Adm	App.	Adm
KNUST	159	50	275	70	340	59
UG	20	14	31	14	60	28
ANU	30	14	105	45	102	56

Source: Deans of Faculty of Oil and Gas Department, KNUST, UG, ANU

It can be observed that the number of students who express interest to read oil engineering courses has increased tremendously. It can be seen that, there is a high number of applicants that wants to be admitted into the oil engineering department every year but the lack of facilities has placed limitation on the number of qualified applicants than can be admitted and only about 30% are admitted. Comparing students number in KNUST and ANU who are all running undergraduate courses, students prefer to go to KNUST because it has the name and the pedigree which students want to associate with as said by Rae (2007) that, 'students become more selective in their choice of courses and institutions in order to be more functional and competitive' leaving KNUST with the heat of big numbers of applicants for the petrochemical engineering programme. This is evident in a statement below:

In our strategic plan, we envisage increasing students' numbers to about 10% in the next five years. We expect the entire student population to reach 40,000 so every year we would increase the number by 10% especially the oil programmes (Director of Academic Affairs, KNUST interview 13/07/10).

The question here is, what then is necessitating the increase in enrolment? Have MNCs shown any interest in their courses and students? Again these questions would be answered in this chapter under section 5.4.

5.4 Who Designs the Course Structure and What is the Content?

This paper found out that before universities come up with a new programme, they observe some protocol. First the design of the course is done by lecturers

in the faculty which is to introduce the new programme in consultation with GNPC and other stakeholders by using a benchmark. They look at the design and practices elsewhere to develop the course outline. A proposal is then sent to the concerned faculty-board for consideration. If the faculty-board is satisfied, the proposal is forwarded to the planning and resources department of the university that will look at the programme in content and context to find out whether the faculty has the requisite capacity to take up such a programme. If it does, the proposal is forwarded to the academic board of the University for Consideration and approval.

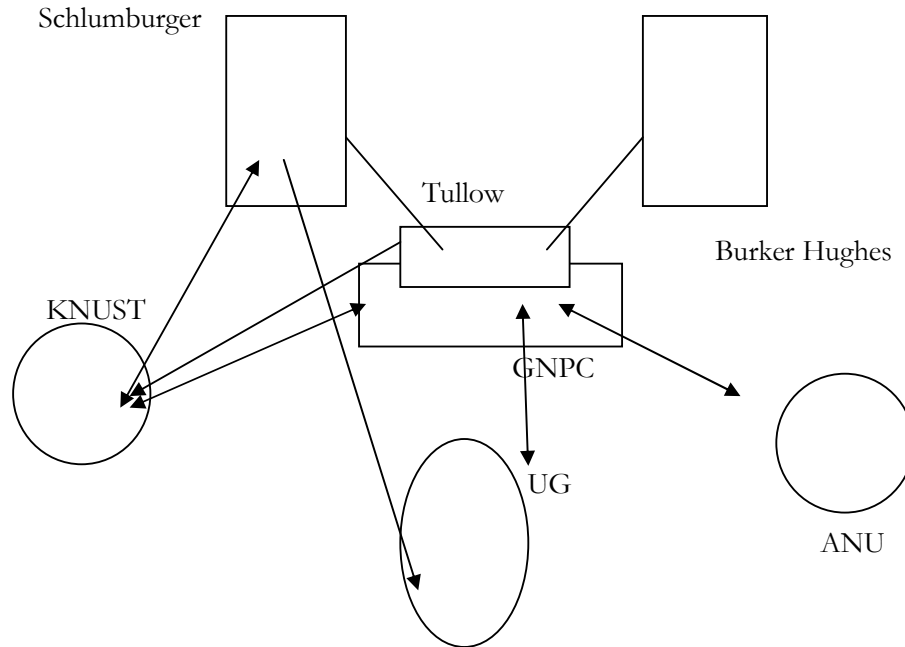
Secondly, the university council having accepted to introduce such a programme submits the proposal to the National Council for Tertiary Education (NCT) for its perusal, retention and comments. After careful scrutiny of the justification to confirm that the programme is indeed needed for socio-economic development of the country, approval is given. This is then forwarded to National Accreditation Board (NAB) for the final approval.

The course content for the schools does not differ much as most are common with semantics in naming. Examples of few courses taught are; introduction to petroleum engineering, engineering mechanics, fluid mechanics, drilling engineering, well logging, pipeline engineering, applied geophysics and mineral exploration, well testing, petroleum geology, petroleum refining and petrochemical processing, basic thermodynamic and heat transfer (course syllabi of KNUST, UG, ANU).

The differences arise in their approach to how the content of the course structure is designed to incorporate other elements like personal skills and computer skills. Whereas in one university, the course covers computer and information processing, communication skills, individual and group presentations to help students develop self-confidence, and other transferable qualities, one has “Time with the Holy Spirit” in the curriculum with explanation that, closeness of one to the Holy Spirit will make him/her faithful, trustworthy, committed to duty, responsible and a good decision maker. The third does not have any clear element that connotes development of personal skills. The university administrators believe the incorporation of personal skills development in the curricular does not disrupt it from achieving its core objectives. In a similar situation Knight and Yorke wrote about higher education in UK and came out with similar findings(2002a:261). It is rather believe that personal skills development is would be a plus to capability development of students and enhance their ability to work well with others, be organized, self-motivated and critical thinkers which are very important to employers as they seek to employ new workers. Such skills permit a freshly appointed graduate to make an immediate contribution to a business (Roger, 2002:457; Wye and Lim, 2009:95).

5.5 Linkage and cooperation between universities and industry.

Figure: 5 Network between universities among themselves and industry



Source: Author's finding from field, July, 2010.

Figure 5 above shows the graphical representation of the network between universities and oil companies and also the inter-university network. It can be seen that there is absolutely no network between the three universities running the oil programmes in Ghana.

The challenges posed by non-cooperation between the three universities seem to be more serious than between universities and MNCs. The existence of a network between universities could have won them some advantages regarding using together the little facilities available to them. For example, ANU is lacking a lecturer to teach survey, and also lacks facility for swimming but KNUST has many of such lecturers and a big swimming facility. In the same vein, KNUST petrochemical engineering curricula do not cover sedimentology because none of the lecturers could handle it but in UG, there are two sedimentology professors at the geoscience department who could have been used as visiting professors in KNUST. If network between universities were to exist, it could have helped to reduce the deficit in facilities for training in the universities. The weak cooperation between KNUST and UG is due to long standing rivalry as they happen to be the two most top and big government universities.

In yet another development shown in Fig 5.1, there is no strong and positive collaboration between universities and MNCs. KNUST, however, has

managed to develop some weak connections with three of the oil companies ready for production as shown in the Figure 5 above but this has still not put KNUST into any better position to connect students and staff for knowledge and experience to be shared. The connection here is the donations²⁰ KNUST receivedd from Schlumberger and Tullow. GNPC have signed a MoU with KNUST for students to take internship programmes and also use their facilities when needed, GNPC as a national company does not owe a rig for students to access but some workers of GNPC at times go to teach in KNUST.

UG has also benefited similar donation from Schlumberger yet none of the universities can point to any MNC as their main partner. Oil companies do not accept even lecturers on their rigs let alone students. This is a big challenge to the universities, lecturers and their students as there is no legislation in place to help them overcome it.

Now what this paper seeks to understand is, why is industry dragging its feet when it comes to sharing of experience regarding accepting students and lecturers on their rigs for practical training and internships? Afterall knowledge and training given to students is more or less industry specific (petrochemical engineering, oil and gas engineering, geoscience). It is therefore in the interest of industry to cooperate so why they are not cooperating?

On one hand I do understand why the MNCs are very hesitant in collaborating with the universities. Perhaps none wants to invest for others to enjoy. On the other hand, the paper finds it extremely difficult to understand it in the sense that, in the global labour market, there is shortage in the supply of rig workers (Parry et al. 2007:3) and in such a situation, it is economically difficult to swallow why rig owners would love to sit on the fence while students are being trained to take up rig work.

Let us try to find answers to this question about the attitude of industry towards universities: could it also be that industry considers it is cheaper not to cooperate because they have plans not to source for labour in the Ghanaian labour market but get them somewhere from the worldmarket and so do not want to waste time and money on Ghana universities? Or is it that firms just want to play hide and seek with others hoping other firms would do the work and after the training try to use high benefit to lure the students to work with them? As Rajeev stated, 'Rationally self-interested individuals or firms will not act to achieve a group's interests' (2004:3). If it is this practice that is determining the reluctance of MNCs to cooperate with universities, then all would lose at the end because none is paying for the cost for quality training

²⁰ Schlumberger donated computer software for data processing worth 2.5 million dollars. Tullow donated equipment for marking of scripts.

for one to think it would benefit at the end as is said by Furusawa and Konishi (2010:1). From the above analogy, it would not be wrong to suspect the problem of free riding to be the cause. Let us then consider this concept and see whether it could help us to understand the behaviour of the MNCs.

5.6 Free Riding.

This research explored the concept of free riding in order to understand the reasons behind MNCs attitude towards the universities which are training students in oil related courses.

The concept of free riding (FR) has many faces and in this context it refers to a situation where a firm benefits from the actions and efforts of another without paying or sharing the costs. Thus they are actors who consume more than their fair share of a resource or fail to partake in the provision of a public good (Andreas, 2010; Kidwell et. al., 2007:525).

Free riding problem is normally experienced in an environment where firms and individuals spot a loophole and take that opportunity to reduce their cost. It is argued that 'Rationally self-interested firms will not act to achieve a group's interests', because of the free-rider problem (Rajeev, 2004:3). The free riders themselves are affected by their actions because they assume the other is doing and could enjoy without paying part of the cost (Furusawa and Konishi, 2010:1). The consequence at the end is all losing (Pasour, 1981:454).

Under normal circumstances, the benefit of public good extends beyond the contributing members. This then serve as an incentive for some contributing members to hold back their contribution and still enjoy the benefits. FR generally grows as the contribution group expands (Friedrich and Werner, 1981:689).

The destructive effect of free riding in an economy 'provides a rationale for state intervention to achieve "Pareto optimal redistribution"' because each potential donor is said to have an incentive to hold down his contribution and to "free ride" on the redistribution from other members' (Pasour, 1981:455). Accordingly, each potential donor might agree to contribute only on the condition that other potential donors also contribute (Pasour, 1981:455) and the effect can only be reduced if a fixed amount is collected from earmarked groups which would immune them from payment deviations and hence preventing any possible FRP (Furusawa and Konishi, 2010:2).

From what has been outlined, one cannot rule out free riding in this case. If this attitude of MNCs is due to FR, then it is unfortunate. What may be missing then is a clear intervention from the government to deter MNCs from developing that interest. Let us take a small theoretical tool to assess the problem having painted the picture of MNCs not cooperating with universities and not even allowing the researcher in. Let us consider these discourses:

- Free riding – could it be that the MNCs think they do not have to contribute to attain a public good and still benefit from it? In as much as I do agree in principle that, it is the government that has to make sure her labour force on the labour market is well trained and not the firms, the government in this case does not own a rig to be used in training. Moreover the skills and competence built are industry specific hence it contradicts logic for MNCs to sit on the fence while universities struggle to train students with the specific skills and competencies. Especially at this time when the supply at global labour market for rig workers is suffering a dip (Parry et al. 2007:3). If in any case these students would end up with the MNCs, they would have to spend much money again to train them to upgrade their skills and confidence so why are MNCs sitting on the fence and not corporating to train students? In as much as I do not have a direct answer to this question, I do not understand it either. Could it be lack of strong government interventions?
- Let us then look into government institutional reforms or policies which may form the basis of interventions.

5.7 Institutional Reforms

This research uses institutional reforms as a concept to investigate the vulnerabilities of the universities in attempting to meet the demands of the labour market for rig workers and to also measure the strength of legislations governing the oil industry. This section acknowledges that institutional reforms are required to govern every economy since institutions constitute the ‘rule of the game’ (North, 1990:5). According to North (1990:5), ‘institutions are customarily identified as the “rules of the game” comprising of formal rules such as constitutions, statutory laws, and contracts as well as informal rules such as social norms’. From a legal perspective, laws are made to be obeyed by the members of the system the laws are guiding and not to be “white elephants” in shelves. To buttress this, Masahiko argued that ‘if institutions are nothing more than codified laws, fiats, organizations and other such deliberate human devices, why can’t badly-performing economies mimic “good” institutions and implement them?’ (2005:1). Even though codification matters in institutions, compliance is another thing that should not be taken for granted in making laws. Compliance to laws is dependent on how acceptable the laws are to the people it is directly affecting. The institution’s validity should be very sensitive and robust to deter people from going against it. To ensure this validity, strong organization such as the courts and social sanctions are needed to enforce them (Masahiko, 2005:5). Masahiko then contextualized institution as;

An institution is self-sustaining, salient patterns of social interactions, as represented by meaningful rules that every agent knows and incorporated as agents' shared beliefs about the ways how the game is to be played (2005:7).

What then is in the 1983 law, or 'rule of the game' of Ghana's Petroleum Act or in the LCDP that needs to be changed or reformed?

First the point in the LCDP that the government is committed to developing the capacity of Ghanaians to international standard by supporting training and technical institutions to develop the requisite capacities with MNCs without a well defined road map. Secondly, on the rights and obligations of contractors and sub contractors, the PEPB is proposing the transfer to the GNPC of technological know-how and skills related to petroleum operations by the MNCs *but* that the provision shall not be interpreted to disable the contractor from protecting its competitive position in the petroleum industry (LCDP Document MOE, emphasis added). This '*but*' clause is shooting the country in the foot and could be the source of the 'difficult' to explain reluctance of MNCs to cooperate with universities to train students.

5.8 Impact of Policies Put Forward to Safeguard Local Content Development

This LCD took cognizance of policies in countries like Nigeria, Angola, Trinidad and Tobago (TaT) and Norway, all of which spell out how, when and why education should be supported as we shall see in the case of TaT later.

Conspicuously missing currently in the Bill before the parliament is how education is going to be supported by both government and the oil companies to build local human capital and capability. A leeway has been created in the PEPB that, a contractor or subcontractor shall ensure that opportunities are given as *far as possible* to employment of citizens who have the *requisite expertise or qualifications*. Considering the deficit of practical training in Ghanaian universities, it makes local students less competitive to students from countries with developed facilities. If the citizens are not given the chance to do, learn and improve, there is absolutely no opportunity to become competitive because they would lack the requisite expertise and by implication of the PEPB, the MNCs have a leeway to hire expatriates by hiding under the pretence that Ghanaians do not qualify. What worsens the situation is yet the clause that, transfer to the GNPC of technological know-how and skills, shall not be interpreted to disable the contractor from protecting its competitive position in the petroleum industry. Protecting MNCs competitive position is by reducing cost and hence not showing any interest in spending time and money to cooperate with universities to airlift students to and from the rig, feeding them on the rig, providing insurance for them, risking their rig to

inexperienced students or offer scholarships for further training abroad. Besides all these, stringent punishment for those who would like to test the validity of the laws is not clear in the PEPB.

However in a different context, in Trinidad and Tobago, the local content and local participation policy document stipulates that before a company is given a certificate for oil exploration or production, the company contributes into a capacity fund and signs a MoU with universities preparing labour for the oil industry. This is a non-negotiable condition. This made companies to share cost of training equally (Pasour, 1981:455). It is therefore not surprising that, Trinidad and Tobago oil companies and universities have a good rapport and their local content target is achieved because universities have been made part of the enforcement agents to raise a red flag if MNCs do not cooperate well with them in terms of giving internships to students, sharing experiences and allowing lecturers and students to access their rigs for practical work. Trinidad and Tobago have been able to manipulate the oil industry and immune the country from all possibilities of free riding as suggested by Furusawa and Konishi (2010:2) that 'the effect of FR can only be reduced if a fixed amount or allocation is collected from earmarked groups'.

From the above discussion, it is clear that the reasons why MNCs are hesitant to cooperate with universities are quite difficult to establish. Unfortunately the paper was not able to explore deep into the motives of MNCs regarding their source of labour when commercial production starts due to the time limit for the paper and the difficulty getting the MNCs to open their doors for interactions and questions.

5.9 Conclusion

The paper found out that the non-cooperative attitude of MNCs could not be associated with free riding but hesitance due to weak policies of government which has provided the chance for MNCs reluctance to collaborate with institutions. This has made the universities together with their lecturers and students very vulnerable in giving practical training to students.

Chapter 6 Summary of Findings and Conclusion

This study concentrated on the response of students to oil programmes introduced in universities and their perceptions about these programmes and career opportunities. The paper also answers some questions about reforms going on in the universities and how government and MNCs policies are impacting on the training of students.

In trying to analyze the findings in the context of the thematic items, the paper drew on lifeworld and employability concepts to judge how students see and value themselves in respect of the training and skills acquired and their chances on the labour market. It was realized that students' responses to the new oil related courses in universities is in sharp contrast to the situation in American where universities and students turned away from oil programmes (Peter et al., 2006).

Students' motivation for oil programmes ranges from money, job, desire for a new challenge, and family influence to university selection. The motivation is more widely spread among the men than women. While most of the men are attracted by high chances of making money, the women see the new oil industry as an avenue to provide them with early jobs to settle them for other social and cultural obligations such as marrying and giving birth.

As far as students' perceptions of their lecturers are concerned, some expressed misgivings about their some lecturers authority over the courses they are teaching. Owing to the old age of some of the lecturers, students wonder whether they are abreast with modern trend of technology. The lack of clear training plan to upgrade lecturers' skills and capacity is a major concern of students. They believe the lecturers are relying on their old knowledge and teaching methods which they doubt could help them to have employable skills that contemporary labour market demands. It is argued by Zinser (2003:402) that 'the ability of students to develop employable skills is dependent on teachers ability to adopting new methods'.

The absence of adequate practical training as well as courses like swimming and sedimentology in some schools are seen as a shortfall in the course structure and content leaving students to be very handicapped as far as rig experience in their education is concerned.

This paper therefore argued and agreed with most of the students that, the existence of the aforementioned problems would have a destructive effect on the credentials of students hence their employability. The women however sounded optimistic on the grounds that, they see their training so far to be useful to employers in the oil industry despite the numerous challenges.

Perceived dangerous rig conditions have raised the anxiety and fear especially in the men to pursue their career on a rig despite their initial interest at the time of choosing the course. The women's decline to pursue career on a rig is largely due to cultural influence than fear of the working conditions and biological difference. Their sense of self is inclined to their sociality and hence influencing the actions they should take to be accepted or respected in the society as said by Archer(2000:121). This means what we do to achieve our well being is largely influenced by our culture. Lewis and Shauna (2005:3) in a similar vein believed that, 'family socialization is a prime determinant of what kinds of activities young people would engage in and why they would do so'. But our study has shown that women are influenced more by culture than men.

It must also be added that, government and MNCs policies do not favour training of quality local labour force for the oil industry because the reluctance of MNCs to engage lecturers and students to share experience and to avail their facilities for practical work is having serious repercussion on students training where government policies do not obligate MNCs to positively collaborate with universities. Worse of it all, the universities among themselves have a lot to share to enhance the quality of training being given to students but lack of collaboration and network among themselves deprive them of these benefits.

If Ghana as a country and the Ghanaian government wants to ensure that the oil found in Ghana's soil would benefit the people, not only should that be done through revenue but it should also create employment opportunities to the people. This can only be possible if the people are given quality education and training in order to gain the kind of knowledge, skills, competencies and personal skills that would make them competitive to take up the employment opportunities associated with the oil industry. This does not come automatically but can apparently be done if the Ghanaian government intervenes very strongly through an Act of parliament to force the MNCs to open their doors to the universities for the training of Ghanaian students. Therefore the loopholes in the existing Petroleum extraction and production bill before parliament if not improve would be a shoot in the foot of Ghana and would make Ghana's hope of achieving 80 – 90% local content development and participation in her oil industry by the year 2020 a mirage.

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Appendices

Appendix A : Interview schedules.

A. Questions for Universities Administration:

- What responsive measures have been put in place by universities to meet the human resource needs of the oil companies?
- What are the historical and institutional contexts of the reforms?
- How has the reforms been designed and what were the roles of different actors in the design of the reforms?
- What is the response of students in terms of their interest to offer these programmes?
- How is the response of the MNCs to these new courses you have introduced?
- what training are you given to the students regarding their chances in the oil industry?
- Constraints of the reforms and how the effect is being handled.

B. Questions to students:

- What are the Perceptions of students about the course they are taking with respect to course content, future prospects and life working on the rig?
- What prompted you to read petrochemical engineering course in the University
- Where do you hope to see yourself in the 10 years after school?
- How do you judge yourself with respect to your skills and requirement of the oil industry for employment?

- Mention three qualities that you think your employers would expect you to have before they employ you.
- what do you know about a rig and the working conditions?
- For how long do you intend working on the rig
- What do you hope to achieve by working in the oil industry?
- In what ways is the course or faculty serving as a conveyer belt from school to the job market
- You have taken this course for quite some time now, are there aspect of the course you have come across that is obsolete and would want change? Explain.
- What company(s) corporate with your institution to avail their rig to students' visit
- What condition(s) on the rig have you observe would be difficult to cope with?
- Do you think life on oil rig can be combine with normal family life?

C. Questions to Oil Companies (GNPC, Tullow Ghana, Schlumberger, Burker Hughes) and Government.

- What professionals /technical hand do you need for upstream operations(Exploration and exploitation)?
- What is the qualification of entry level employees for the upstream operations?
- How are you contributing to building these skills?
- where are you going to source for labour?
- How often you allow students and lecturers on your rig?
- How is Ghana ready for it's commercial oil production regarding supply of human capital for the upstream operations?

- What role is the government playing to facilitate collaboration between training providers and industry to promote demand driven curriculum development and placement, and national internship programs.