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Sustainable Development and its Role in Managing Oil Projects in Basra Oil Company, Iraq

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Abstract

The oil sector is one of the most important sectors in the Iraqi economy, and therefore, all sectors linked to this chain should be made more efficient to enhance profitability and the economy. The use of the sustainability concept plays a very significant role in the success of the oil business. This research aimed to analyze the effects of project management practice on sustainable development in the oil sector concerning Basra Oil Company. The samples for the study were obtained from Rumaila Field and the researcher employed both quantitative and qualitative means to obtain information and data to check for the presence or otherwise of the impact of the selected practices. The study found that slightly more than two-thirds, (69%) of the participants possess some level of awareness of sustainable development to meet a rising social need. Only 32% of respondents are confident in how they define sustainable development, which means that it is still relevant and the people should be explained the necessity of its use in society. A minority of participants, 32% are still not very familiar with the idea of sustainable development which reveals the fact that awareness about the concept should still be created. Concerning the attitude towards government engagement in supporting sustainable development, this survey stands at 54% an indication that the perception to the governments' engagement in supporting sustainable development is gradually improving. The study indicated that largest number of respondents (87%) can speak about sustainable development as about the need to maintain environment and resources in the future. A proportion (97%) of the participants strongly stated that sustainable development is possible to balance the human needs and environmental protection. The study recommends that a campaign needs to be initiated to increase awareness of the concept, need and advantage of sustainable development. The governments and organizations should encourage people to spread the principles of sustainable developments with the help of different information platforms. In addition, governments and companies should reinforce investment in sustainability by offering compensations in the form of financial incentives and friendly taxes that will motivate companies to make the changes towards sustainable development. Moreover, governments should involve monetary support and details for innovativeness and research in sustainable development in an endeavor to come up with newer technologies and quite solutions which can effectively advance the sustainable goals. Besides, governments and organizations should also work towards funding and seeking more ways in engaging developmental research in the area so as to sustain the aggressive advance in the sustainability solutions for the future.

Keywords: *Sustainable Development, project management in the oil sector, sustainable economics, implementing sustainable, Iraq*

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1.0 Introduction

Live oil is an important commodity, which fuels the industrial, transport and service industries in the world economy. It also acted as a major source of revenue especially to oil – exporting countries. Hence the management of oil projects assumes a central position in the realization of sustainable development. Through sustainable management of oil projects, it is clear that there is potential for economic, social and even ecological success (jiad, 2018). Sustainable development has been defined as a developmental process oriented to fulfill the wants of the present generation without compromising on capacity of the next generation to meet their own needs. This philosophy is based on three main dimensions known as the sustainability tripod: To this, Castella has categorized them into four as follows: the social dimension that aims at attaining economic growth with social justice; the economic dimension that strives to attain economic growth and development and fairly distribute the same to members of the society. Sustainability management proposes the importance of rational use of resources and innovation of sustainable technologies.

The environmental dimension discusses the concerns of environmental equilibrium, conservation of species and focuses on the impacts of economic activities on social wellbeing and conservation of natural resources. Social perspective lies in searching for social equity and justice for an individual with an aim at enhancing quality of his/her life and empowering him or her to have a say. It seeks Universal Social Transformation as its end goal. These dimensions combine to make up a theoretical framework of sustainable development that seeks to attain equilibrium between the economy, environment, and society in concerns to sustainable development and enhancing the standard of living of the present and future generations (Muhamad, 2006). What is more, the principle of innovation and energy technology shows that oil projects can be useful for the change of the energy sector and promote the use of renewable resources in the future. In other words, NM encapsulates the management of an oil project in such a way that it can optimally address economic, environment and society systems for the achievement of sustainable development. Research on the impact of oil project management on sustainable development can explore this influence in three main dimensions: One economist defines costs by three types including the economic cost, environmental cost, and social cost. The research therefore complements analysis of these dimensions and also reviews positive practices that can be employed to more fully realise the latent benefits of oil project management for sustainable development. (Mothafar,2022)

1.1 Research Problem

The problems of traditional management of Oil project exist from technology to environment, politics, legal and even geopolitical factors, and most important the problems of fluctuating price. These issues impact sustainably on development. Further, the absence of concrete global guidelines for sustainable management of oil projects makes it difficult to follow sustainable practices and realigns unsustainable behaviors. On the other hand, it is indicated that those who manage these projects have poor perception of sustainable development hence the organizational ignorance of numerous possible environmental and social effects of the oil projects. Among the social issues associated with these projects are pollution of the environment, climate change, loss of bio-diversity, and natural resource depletion.

1.2 Research Objectives

Management challenges of traditional oil project can be categorized under technological, environmental, political/ legal/ geopolitical and price fluctuations. These challenges therefore have

an adverse impact on sustainable development. This management mainly targets at short-term gains, thus, ignore the long-run cost of these project on the environment and the surrounding communities. Furthermore, there are no effective and specific international guidelines regarding the management of sustainable oil projects restricting the adoption of sustainability standards and controlling unsustainable actions. On the other hand, it is acknowledged that the level of awareness of the management of these projects on sustainable development is low, which leads to organizational ignorance of numerous possible environmental and social effects of oil projects. These are pollution of the environment, climate change, loss of bio-diversity and deplete of natural resources in the project area.

1.3 Significance of the Research

The purpose of this study is to prove that the management of sustainable oil projects can lead and support more sustainable development. achieving sustainable development. The idea of sustainable project utilization demonstrates a great potential towards realizing positive change on the economic, environmental and social wavelengths. Also, knowledge on environmental consequences and recommendations for sample oil project to minimize the consequences from environmental point of view are the goals to contribute to the minimized environmental influence and development of sustainable future in the region.

1.4 Research Hypothesis

The study assumes sustainable impact of oil project management on sustainable development of oil producing countries in the following ways; The study presupposes that through sustaining local worker's employment and the economic development of oil producing countries, the management of oil projects bear significant responsibility in the realization of sustainable development. This vision is an example of the harmonious cooperation of the oil sector and the local population, which has numerous prospects for achieving a mutually beneficial compromise between the desire for profit and the impact on the environment and citizens' quality of life.

2.0 Theoretical Framework & Previous Studies

2.1 Introduction

Opinions regarding the socially responsible activities of the oil & gas industry are quite skeptical because it is hazardous for the environment both by direct emission of green house gases, having harmfully influenced the flora and fauna, destructive influences upon the water resources and more. However, this paper discusses how sustainable project management in the oil sector minimizes such adversative impacts, and how efficiency of resource provision, environmental preservation and prosperity is improved. Further, management of investment projects in the oil sector greatly affects social factor in investment host countries. As the flip side it provided jobs for people and develop local economy but operates social problems. This means that new social change processes may occur in connection with the development of the oil industry, such as migration or cultural and social change among the population of the given area. Some attempts have to be made to attempt to build some capacity, however rudimentary it might sound, to create or build, to equalize or somehow harness these equities of these opportunities so that given local populations could optimize these, while others have to be aimed at meeting such imperative needs so as to facilitate the sort of social change that the industry brings about. (Mothafar, 2022). Besides, because the oil and the gas industry is a vital source and an active tool in achieving national income

and Economic growth. However, counting real economics of oil project management should include many factors like, allocation of the wealth, managerial structure of the revenues, encouragement of investment to infrastructure, training and health care facilities etc. Thus, the management of oil projects can contribute effectively to achieve sustainable economic development if the investment is alighted on the right areas and enhance the productivity whose goal is economic development that is sustainable in term of productivity balance.

2.2 Sustainable Development

Sustainable development that is sustainable, which means that it serves the needs of the present without detract from the resources available to the future generation. Sustainable development is regarded as being made up of a broad concept and is commonly defined in terms of three pillars; the economic, social and the environmental, all, which strive to ensure that current generations get their needs met without compromising the capacity of other future generations to do so as well. These three dimensions make up the core of the sustainable development and discussed in the environmental-social and economical aspects Although KSA is a well-developed country it still has 30% of its young population unemployed (Alnasr, 2017). The environmental element for instance is provided by the need to for example conserve the environment and natural resources.” This dimension aims at avoiding negative effects on the natural environment and promoting the responsible use of resources seeking at protecting the biological, the air and water ecosystem. Within this dimension, it seeks to enhance peoples’ welfare to bring about humane and reasonable employment and fairness. This dimension aims at actuating opportunities while also supporting the community participation with respect to the basic needs of the populace with a main aim of improving the living standards of people. In relation to the economic dimension, it concerns with the notion of economic development. The purpose here is to promote sustainable economic structures in overall protection of the environment while embracing technology to foster economically productive change (Alnasr, 2017).

These three dimensions are interconnected and work hand in hand with the framework of sustainable development in a bid to unleash deeper integrated and sustainable development all over the world that is docketed to reach harmonized and sustainable long-term development. This paper examines a conceptual model that connects sustainable development with effective projects so that sustainable development can be implemented that take into account the economic, social, and physical worlds. In this regard, these components cross-couple to uphold sustainable development and progress in the future (Gilbert Silvius, 2012). In the resource dimension, effective projects ensure the sustainable use of limited resources and work to accurately identify needs and minimize waste. This is achieved through reliance on effective analysis methods and sustainable technology that minimize negative environmental impacts. Effective projects are characterized by strategic planning that considers economic, environmental, and social impacts, seeking to achieve a comprehensive balance between these factors. Additionally, effective projects require measuring environmental impact and taking steps to reduce it, contributing to achieving sustainable development goals. In an economic context, investment in these projects encourages green economy and promotes sustainable economic growth. (Gilbert Silvius, 2012). Therefore, combining sustainable development with effective projects is based on the achieving a state of multifaceted and mutually balanced economic, social and environment ends, to reach the comprehensive and sustainable development pattern (Marhil, 2023). Some examples of effective oil projects contributing to sustainable development:

- i. Saudi Aramco started a program in the kingdom for the reuse of the associated gas that is generated from oil and gas drilling activities. The project seeks to provide new energy product market from the associated gas thereby minimizing on carbon emission and the environment.
- ii. Canada's Suncor Energy initiated a venture to develop a large solar power facility in the Alberta province of Canada. The complex will generate that amount of energy the will intern generates a capacity of about 20000 home and will assist in the reduction of fossil fuel consumption by the country.
- iii. ExxonMobil Corporation in United States commenced on plan to invent new technology used in converting carbon dioxide into fuel. Failure of this technology could slow down the progress made so far in the energy sectors with regard to carbon emission reduction. (Mothafar,2022)

2.3 Project Management Evolution

Project management as a field has gone through several changes within the years in terms of concept and process considering sustainability. Thus, development has played the biggest role in the evolution of this. Traditionally, project management was connected with production management and engineering which uses a variety of methods, but changes have taken place. Looking at the 19th century, the management of projects was almost completely anemic and free from all the today's methodologies. In this stage, project management was more accompanied by planning and carrying out of the project. The methods applied were comparatively straightforward though they were based on experience and practice. During this time it was a relatively ad hoc process, with no defined project management methodologies or body of knowledge as there is today. In practice the project had been manned by personal experience of the leaders and managers instead of invoking standard techniques and methods. Activities were based on an individual's perception and decisions and did not involve tools such as processing of checklists for planning or tracking project implementation. Success of goals was highly dependent with leader skills and their perception of project requirements.

Contacts were largely verbal, and orders were given verbally. Informal communications were the order of the day, but by the end of the 19th century, industries started growing and expanding hence an increase in project sizes and an added complication of project sizes. That need for better and more organized management arose consequent upon this growth. At the turn of the twentieth century, other institutional concepts and more mannered procedures for running a project were established, helping advance the discipline and make the process stronger and smoother. Here some of the key pioneers of this stage are: Henry Towne, scientific management; Henry Gantt, Gantt chart (Westland, 2018). The second decade and a half of the development of project management concepts can be characterized as enhancing the initial ideas of managing projects. During this stage, emphasis was laid more on coordination and control of events that were germane with the projects. Starting at this stage, significant elements in Project Management were becoming clear since ideas are done in an orderly manner.

The most focus was made on planning activities, where the clear vision of the project and timelines are critical. Line drawings were incorporated as initial forms of parametric models in order to articulate simple structures and complexities of project systems, roles and schedules. This engagement stage witnessed enhancements in the approach to assessing the status of projects, and

increasing concern about the effectiveness of delivering projects. Other activities that have developed within this stage include the Work Breakdown Structure where there was a better understanding of how work could be sub-divided. Project scheduling and progress were also described with the help of the Gantt Charts to a greater extent. Milestone scheduling was introduced so as to define certain time reference for each of tasks, and enhance the efficiency of managing projects in this stage. During this period, project management began to move towards better and more advanced directions, with a focus on enhancing project performance through the use of advanced tools and techniques. (Westland, 2018)

In the third stage of project management evolution, which dates back to the early 1950s, this field witnessed the development of project management as a distinct discipline. Innovative methodologies emerged, such as Critical Path Analysis, a planning and monitoring method used to identify critical tasks in the project, and Network Diagram, a planning and monitoring method used to represent the project as a network of interconnected tasks. These methodologies aimed to improve planning processes and schedule control. Prominent features of the third stage included the development of project management as a unique specialization, with a focus on developing project management methods independently. Methodologies such as PERT and CPM emerged in response to a growing need to enhance planning and schedule management. Efforts also concentrated on improving schedules to ensure maximum efficiency and achieve project objectives. Additionally, there were advancements in progress monitoring and control. It adds to the techniques for better project management. (Carayannis, 2003)

The fourth stage that dates as early as the 1980s marked the wide generalization of Total Quality Management (TQM) models and theories to the enhancement of project performance. In this stage, quality control models were applied in the development of a more comprehensive quality of project management. Theories of total quality were applied to project implementation stages and the concepts of Total Quality Management (TQM) were widely embraced by the industry. This stage aimed to improve project quality and realize its objectives through inclusion of quality concepts in work at all levels. The available Total Quality Management models served to improve the process through continuous improvement and comprehensive inspection to conform the quality standards. The total quality management models were adopted which shifted the project management paradigm to continuous improvement and higher efficiency and customer / all stakeholder satisfaction. (Carayannis, 2003). The railroad considers it part of their operations. It made sure that the sustainable development concepts were in all management aspects. Several new methods were developed (Schwalbe, 2018), such as:

- i. Sustainable Project Management: Organization of a number of practices to integrate sustainability into every project stage.
- ii. Social Project Management: Practices directed to increase the social action of the project.

This stage reflected a paradigm shift or a significant change in project management relating to the moving from focus of flexibility, innovation, and sustainability to a modern project management in the 21st century (Schwalbe, 2018). How to Implement Sustainable Project Management Methods in Oil Projects:

- i. Find out sustainable production techniques which don't use much pollution.
- ii. Recycle industrial waste.

- iii. The Trump administration must establish small and medium projects to create jobs for the local community.
- iv. They are providing training and education opportunities for the local community.

2.4 Project Management Principles

Since there are core principles for management in oil and gas projects, they are essential for ensuring the smooth, efficient and successful operations in oil and gas industry. Oil management is defined by the unique challenges it must face in the industry and its unique complexities.

- i. **Industry Specialization and Understanding:** It is a basic principle of effective oil project management. Being an oil and gas project manager in this industry requires the project manager to be an expert in the field and have a deep technical understanding of the particular technical and operational process of this industry. Oil and gas are fields with technological complexities and huge technical challenges. Therefore, project managers need to possess a thorough understanding of oil and gas technology employed in the oil project and a comprehensive understanding of control of the process and dealing with the technical challenges associated with the oil project at an execution level. This approach portrays project managers' willingness to establish a complete perspective of their industry and ensure that projects will be completed successfully at the same time as they take into consideration the new challenges and needs of the oil and gas sector (Pinto, 2015)
- ii. **Risk Analysis:** Yet, it is an essential and vital part of the effective management of oil projects. This principle puts more focus on identification and evaluation of potential risks that can be faced by the projects of the oil industry. The aim is to develop effective methods to handle these risks in order to prevent or to reduce the bad effects which may confront the project's progress as well as its performance. Risk analysis in oil industry is based on the comprehensive analysis of the fact using technical environmental, economic and social factors which may influence on the success or failure of the project. A proper understanding of industry operations and its own obstacles is a must in working on this analysis (Hillson, 2012)
- iii. **Compliance with Regulations and Laws:** This is a very important principle for effective oil project management. Given that project managers are working in this sector, they need to pay close attention to environmental, safety and occupational health regulations and laws associated with the oil industry. And these are these regulations and laws vary in a range of issues from environmental safety to public safety to occupational.
- iv. **health preservation.** These regulations are compliance to ensure safe, scientifically environmentally responsible, methodically planned, well executed and monitored implementation of projects that do not endanger workers or other people or the environment (Schwalbe, 2018)
- v. **Cost Management:** Accurate identification and monitoring of cost in oil projects is an essential of oil project management. The importance of this principle to guarantee project sustainability and obtaining the greatest efficiency and profitability cannot be overemphasized. The oil industry cost management includes estimating all expenses associated with the project from 1st stage of design and planning to operating and maintenance costs throughout project life. So that, the cost estimating methods must also

be effective and the expense control must be exercised at all project stages. (Pinto, 2015)

- vi. Strategic Planning: For project managers working in the oil and gas sector, it is important that these planners use effective planning strategies in order to help achieve established goals as well as address the special challenge projects in this sector may be faced. Strategic planning strategies in the oil and gas industry encompasses the ability to recognize resources, allocate them with the priority, and revise schedules in order to bring maximum efficiency. Moreover, strategic planning relates to thinking proactively about the problems of the future and placing in mind how to address them (Meredith, 1996)

2.5 Integrating sustainable development principles into various stages of oil project management

Mainstreaming sustainable development principles into any oil project, therefore means that the environmental, economic and social aspects are considered to be on one scale. This can be achieved by integrating sustainable development principles into various stages of oil project management (Program, 2017):

- i. Setting sustainable goals: Both quantitative and qualitative targets that cover environmental, economic and social objectives should be formulated as keys to sustainable development. Environmental sustainability seeks to minimize the undesirable environmental effects of oil extraction and production activities through estimation of emissions, water quality analysis or environmental audit. In organizational economic sustainable goals there is the major aim in cost containment and adding value this is normally checked by the project account, assessment of production cost and sustainable profit. The management objective of promoting social responsibility is to enhance good relationship with the local communities and evaluating effective participation and the assessment of social feedback, measuring local population interaction, and community enhancement programs. When enhancing worker safety and health, the goal is to enhance working conditions and guarantee the safety of a worker, throughout the life of the project, this is done through measuring the rates of accidents, worker training and workplace enhancement. Resource efficiency is an action that seeks to deploy resources in a smarter way and to find ways to use or employing less of the resources by measuring water, energy and how the organization uses raw materials. The regulation and standards of compliance seek to meet all environmental or social regulations both within the area of operation and internationally through compliance sustenance and inspection of legislative alterations.
- ii. Integrating sustainable development concepts into project planning: Applying the sustainable development concepts in one or the other phases of the oil project management is crucial for enhancing the prospective lengthy and harmonized economic, social and environmental development. This requires strategic thinking and environmental and social awareness, and can be achieved through the following steps (Program, 2017):
- iii. Environmental Impact Assessment: This type of work is critically important in the oil industry in the context of its interaction with the environment. This assessment entails identification of potential evils AGAINST the local environment, the economy and the society. It should also involve the assessment of external factors that may affect the project, the half-baked effects the project will have on the natural systems as well as the community. Thus, measures to prevent negative impact should be developed: emission reduction

methods, site recovery and others. First aforesaid is emphasizes communication with stakeholders and the company fulfills the rules and regulation of local and international drained to safeguard the environment and the development of sustainability. However, cost-effective considerations have to be balanced properly, coupled with long-term measurement and checking systems to assess the effects of the project on the surroundings and to bring improvements to its eco-efficacy. (Keppert, 2005)

- iv. Leveraging Environmental Technologies: In the oil industry the application of environmental technologies forms part of an efficient and effective manner in enhancing the extraction and production processes. This has involve embracing of modern technologies (Mulu,2023)

2.6 Towards the achievement and improvement and effective management of sustainable development standards in oil project.

Incorporation of sustainable development standards into oil project management is therefore a complex idea that aims to bring out the four facets of sustainable development which include; economic, social and; environmental development. Concepts of sustainable development can be integrated into oil project management by considering these standards at all stages of the project, from planning to execution to closure (Stern, 2020):

- i. Planning Phase: The initiation phase is therefore preceded by certain preparatory activities that the project management team has to carry out: Environment, social and economic assessment for project plan development. Some of the activities that can be done during this phase include conducting an environmental and social impact assessment to define hazards and effects on environment and community, developing measures if addressing the effects of environmental and social risks to minimize risk and impacts and consulting the community and agencies for their needs and concern (Mothafar,2022)
- ii. Execution Phase: Finally, during the execution of the project in the project life cycle, the project management team requires to take some steps whereby the project is sustained. Some activities that may be done as part of this phase include the use of environmentally friendly processes and methods which will act to minimize the effects of the project on the environment; offer employment and training opportunity to the community/locals in order to allow greater maximization of the standard social and economic development; and give support to the local development factors through corporate social responsibilities or philanthropic activities. (Marhil,2023)
- iii. Closure Phase: At the conclusion of every project, the project management team must guarantee the sustainability of the closure of the project. Possible activities in this phase include; expenditures for pollution control and abatement, measures to replace damaged ecosystems and natural resources used in the project, support to community development through rehabilitation and development initiatives (Mulu,2023).

3.0 Data Analysis and Findings

3.1 Survey Analysis

The questionnaire analysis involved distributing (75) surveys as a quantitative research tool. The electronic survey link was delivered to the employees in the Rumaila field, sent to the Human Resources department, and then distributed to the departments' staff. A retrieval rate of (93%) was

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achieved. Subsequently, the researcher re-entered the responses via the electronic survey link, resulting in 70 responses (100%).

Table 1: Survey Analysis

	Number of Distributed Surveys	Number of Surveys Retrieved	Respondents to Electronic Surveys
Number	75	70	70

3.2 Demographic Analysis

Google Forms were utilized to present the study sample from a demographic perspective based on percentages, as follows:

Gender

Figure 1 shows that the proportion of males in the research sample was (45%), while the proportion of females was (54%).

Age

Figure 2 indicates that the percentage of individuals Aged (25-35) was (49%), while the percentage of

those aged (36-45) was (39%). Additionally, the percentage of those aged (46-55) was (13%).

Educational Attainment

Figure 3 illustrates that the percentage of respondents with a diploma was (23%), while the percentage of those with a bachelor's degree was (65%). Moreover, the percentage of respondents holding a master's degree was (5%), and the percentage of those with a doctorate was (5%).

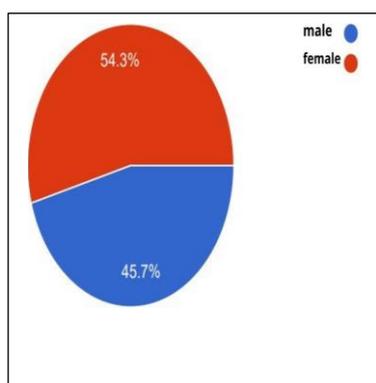


Figure 1: Gender

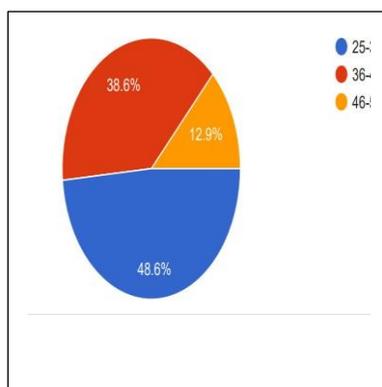


Figure 2: Age

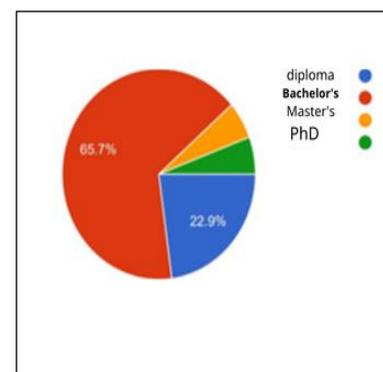


Figure 3: Educational Attainment

3.3 Questions

With all sorts of challenges of environmental, economical, and social natures there is no more major focus on sustainable or further development for the sustenance of life on Earth. The majority of folks have heard of sustainable development and the parts that governments, let alone companies, have to play in ensuring the success of sustainable development involving industries with measurable impacts on the environment, such as the oil industry.

Question 1: What do you understand about sustainable development?

Out of all the respondents 69% gave a “Yes” response hence showing that the majority of the participants have a clue on what sustainable development is. When it comes to the “No” option, it ascertained 32%, which is quite large percent of entire sample, informing us that certain people are not quite familiar with the concept of sustainable development.

Question 2: To what extent do you agree with the stance that governments have a great deal of responsibility in regard with sustainable development?

The result for the “Yes” option is 54% meaning close to half of the participants share the opinion that governments carry a vital role within the advancement of sustainable development. The result obtained in the case of the “No” options is as low 10, which speaks for the fact that a rather limited number of participants do not firmly believe in ownership of governments in this regard. According to 36 per cent of the participants observed above, the role of governments in promoting sustainable development seems to be very restricted.

Question 3: What is your attitude toward development and application of principles of sustainable development in companies and private institutions??

The proportion of affirmative response in this study is 76% a high ratio which implies that the participants have provided a strong agree that companies and private institutions should embrace principle of sustainable development. Very few ‘No’ responses were recorded at only 9% which suggests that few participants do not strongly agree that there is need for companies and private institutions to incorporate principles of sustainable development. There were 16% participants who opined that principles of sustainable development should be adopted by companies and private institutions to some extent; this shows that few participants are hesitant or agree that companies should head in this direction, but may encounter some difficulties.

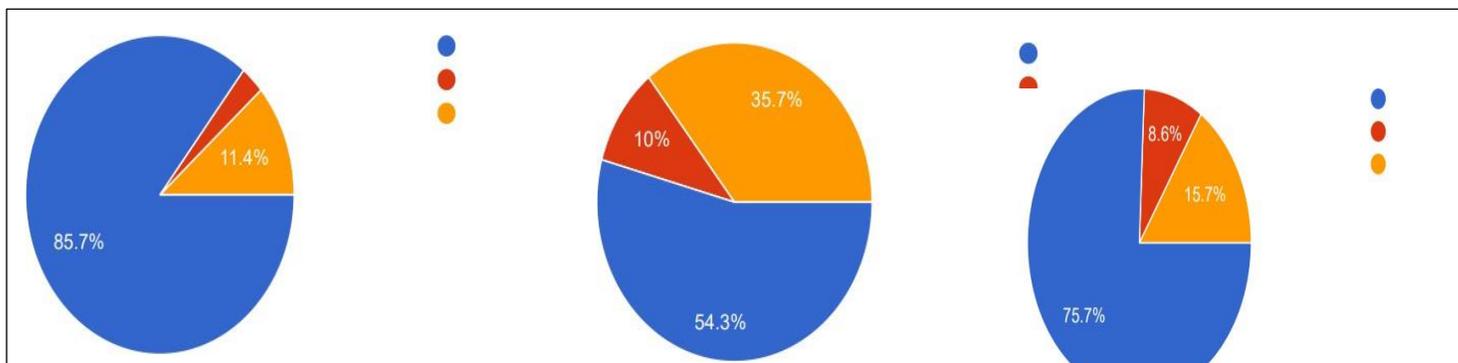


Figure 4: General Questions-Q1

Figure 5: General Q2

Figure 6: Questions.Q3

The impact can be very positive when it comes to raising awareness of sustainable development, as most people admit to having at least a vague understanding of what this concept entails. However, there is a large portion of respondents who do not have sufficient knowledge about the subject or are not aware of it, which means that there should be ongoing campaigns to raise people's awareness of sustainable development and its importance. Moreover, more than half of the participants showed support for the statement that sustainable development is a primary responsibility of governments. For this reason, the presence of participants who have a somewhat limited role for governments in this regard can be attributed to various factors including; financial and political constraints. Thus, the results indicate very high levels of support for the need for companies and private institutions to adopt sustainable development principles. The rationale for this support may be the idea that companies have a great potential to make a difference for the better in terms of the environment and society and therefore applying sustainable development principles may help to enhance this situation

3.4 Environmental Section

With the increasing number of environmental problems affecting the world, especially coupled with the increasing concern in sustainability, more than ever, the oil companies are duty-bound to have the responsibility of balancing between the economic, environment and social factors. From this point of view, these questions give focus on the environmental aspect of the oil industry, and the ability of the oil companies toward fulfilling the goals of sustainable development and its effects to the environment and the society. Offering general answers to these question promote knowledge and appreciation of the need to conserve the environment and the ways of the development of the oil industry that would be beneficial to every participant in the long term.

Question 1. Of course, I think it is correct that oil companies should use economic, social and environmental principles as the decision-making tools. When displaying the percentage of 'Yes' responses which is 86% it turns out that most participants are absolutely confident that oil companies should follow economic, social and environmental principles when making their decisions. Majority of the participants were unsure, or, having some doubts, 9% answered 'somewhat'. The rest of the population is only 2% which respond to the "No."

Question 2. Further, do you think it is possible to achieve sustainable development for the interest of sustaining the environment as well as its resources? From this poll, it is calculated that the 'Yes' response is 87% which is a high reaction indicating that most of the participants firmly believe that sustainable development is required to protect the environment and its resources, in the future. 9% of participants had some doubts or hesitations about this opinion and thus, stated this with some uncertainty.

The rest of the percentage, that is 4%, said "No."

Question 3. The invention of new technologies and practices as a good or a service to minimize the effects that are brought out by the extraction processes of oil: The percentage of "Yes" answers is 91%, which can be regarded as a very high percentage reflecting strong affirmative belief of participants about the need to develop new technologies and practices to minimize negative impact of oil extraction processes on the environment, Only 7% of participants considered that there is some need for developing new technologies reflecting perhaps some ambivalence or uncertainties on this issue. The remaining percentage, 2%, responded with "No."

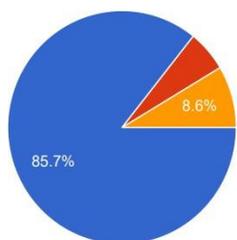


Figure 7: Environmental Section-Q1

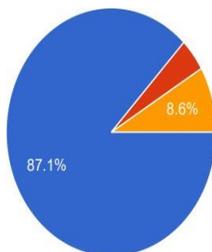


Figure 8: Environmental Section-Q2

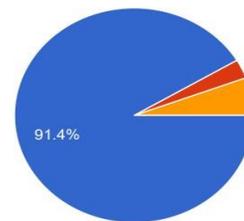


Figure 9: Environmental Section-Q3

Question 4. In your opinion, does the sustainable development contribute in the assessment of the environmental emissions of the companies and industries? The percentage of “Yes” responses is 73 percent which a high percentage signals that majority of participants firmly agreed that sustainable development has an important role in estimating the environmental emissions of companies and industries, while 20 percent of participants stated that sustainable development may play a role to some extent in this context; ambivalent response or may show some doubt about the effectiveness of sustainable development in these aspects. The rest of the percentage, 7%, said, “No.”

Question 5. Do you have a good understanding of the concept of environmental emissions and their impact on climate change and the environment?

The percentage of "Yes" responses is 60%, which is a considerable percentage indicating that many participants have a good understanding of the concept of environmental emissions and their impact on climate change and the environment. 27% of participants indicated that they have a moderate understanding (to some extent) of this concept. This means that they may be aware of the importance of environmental emissions and their impact, but may need more knowledge and details. The remaining percentage, 13%, responded with "No," indicating a lack of understanding or awareness about the concept of environmental emissions and their impact on climate change and the environment.

Question 6. Do you believe that sustainable development can achieve a balance between human needs and environmental protection?

The percentage of "Yes" responses is 97%, which is an extremely high percentage, indicating that the vast majority of participants strongly believe that sustainable development can achieve a balance between human needs and environmental protection. The remaining percentage, only 3%, responded with "No."

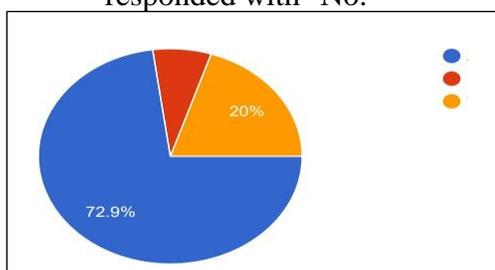


Figure 10: Environmental section Q4

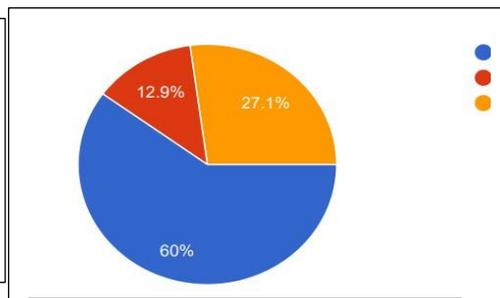


Figure 11: Environmental section Q5

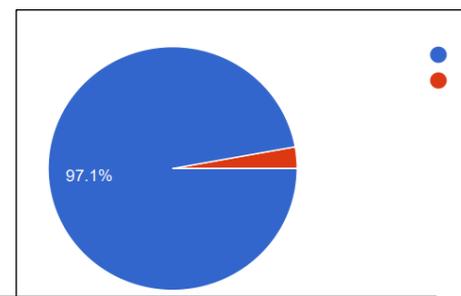


Figure 12: Environmental Section-Q6

3.5 Economic Section

These questions are associated with a set of concepts and issues of sustainable development and sustainable economics. These questions concern economic and environmental aspects of sustainable development as well as the way economical and environmental sustainability can be achieved at business and project levels. The answers to these questions would offer a measure of the success and relevance of operating economic, environmental, and social perspectives in supporting the objective of sustainable development as well as improving profitability and sustainability.

Question 1: Do you understand the concept of sustainable economics?

The percentage of “Yes” response is 76% which in fact are high percentage reveal the fact that majority of the participants has a fair understanding of the subject matters’ sustainable economics. The remaining 24% of the participants have no understanding of the concept known as sustainable economics

Question 2: On your opinion, should companies and institutions apply economic sustainability principles to their activities? 70 % of the participants agreed with ‘Yes’; these are stronger positive responses which suggest that the overwhelming majority of participants strongly support the integration of principles of economic sustainability into companies’ and institutions’ strategies and functioning. Only 26% of participants responded ‘Yes’ with some doubt: these figures reflect respondents’ uncertainty or hesitations regarding the need for companies and institutions to integrate principles of economic sustainability into their model. The remaining percentage, only 4% of participants, responded with "No."

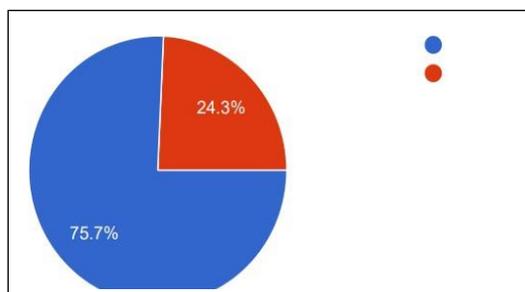


Figure 13: Economic Section.Q1

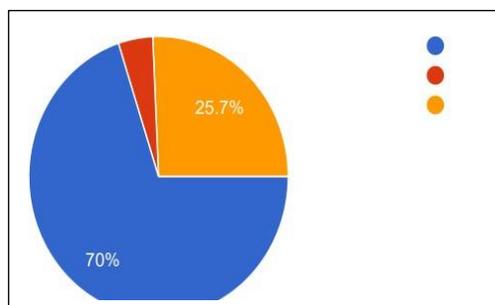


Figure 14: Economic Section -AQ2

Question 3: It is often asked whether or not economic sustainability is financially possible in the distant future.

Together with the results of the three above-mentioned questions, the percentage of the “Yes” response that reflects the participants’ strong confirmation of their belief in the economic sustainability concept being financially profitable in the long term shows that 74% of the participants bear strong confidence on this belief. The rest of the responses which is 6 percent of the participants answered “No.”

Question 4: Are you convinced that the adoption of sustainability strategies can result in higher costs at early stages of development of both businesses and projects?

61% of the respondents selected “Yes” indicating that there is abutment of agreeable opinion that using sustainable practice may lead to high first cost to organization and projects. 27% of the participants agreed to some extent illustrating that there is apprehension or uncertainty about the reality that sustainable practice may exaggerate first costs. The rest of the participants, about 12% of the respondents, clicked on the “No” option.

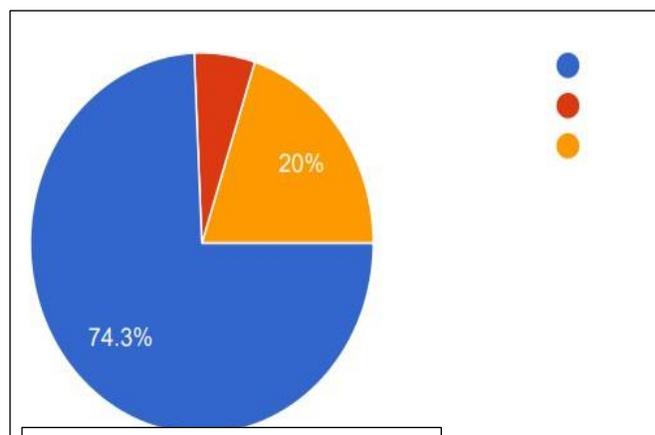


Figure 15: Economic Section.Q3

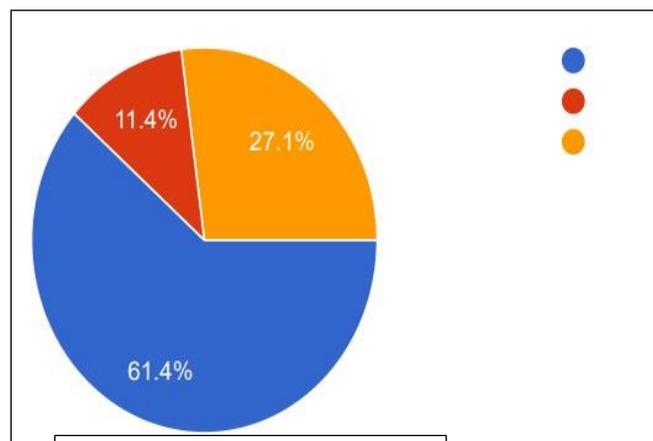


Figure 16: Economic Section -Q4

4.0 Conclusions and Recommendations

4.1 General question results

- i. Awareness of sustainable development: Slightly more than two-thirds, (69%) of the participants possess some level of awareness of sustainable development to meet a rising social need, to enhance their learning.
- ii. Only 32% of respondents are confident in how they define sustainable development, which means that it is still relevant and the people should be explained the necessity of its use in society. A minority of participants 32% are still not very familiar with the idea of sustainable development which reveals the fact that awareness about the concept should still be created.
- iii. The role of governments in promoting sustainable development: Concerning the attitude towards government engagement in supporting sustainable development, this survey stand at 54% an indication that the perception to the governments’ engagement in supporting sustainable development is gradually improving. However, reacting to these optimistic trends are still rather adamant the third of the part of the participants pointing to a very narrow scope of the government’s activities in this sphere, which speaks for the challenges of government activity in this domain and its significance for society.
- iv. The need for companies to adopt sustainable development principles: It shows a respondents’ average of 76 percent with regard to organizations including businesses or institutions for implementing sustainable development in their activities given the increasing recognition of the private sector in sustainable development.
- v. The importance of sustainable development in oil projects: From the self-constructed survey, 86% of the respondent claimed that oil projects ought to be made for sustainable

development objectives, and the trend shows that higher standard in the oil sector in terms of these outcomes is being set.

4.2 Results of Environmental Side Questions

- i. **Role of Oil Companies in Sustainable Development:** Respondents are highly confident that oil companies should embrace the following: Economic 90% Strongly agree, Social 88% Strongly agree, Environmental 86% strongly agree. Take into consideration the environmental principles in their activities. This suggests that there is increasing recognition among the public of the stewardship responsibilities of companies and processes that will lead to sustainability.
- ii. **Importance of Sustainable Development:** The largest number of respondents (87%) can speak about sustainable development as about the need to maintain environment and resources in the future. This is a sign of realization that one has to achieve aims and objectives of economic continuity through a balance between economy, environment and society.
- iii. **Development of Environmental Technologies:** Even more clients (91 percent) strongly agree there is a need to find new technologies and practices to lessen negative impacts from extraction processes involved in the acquisition of oil. This explains policy support for innovation and investment in environmentally sensitive technologies to enhance the environmental efficiency of the oil sector.
- iv. **Balancing Human Needs and Environmental Protection:** A like proportion (97%) of the participants strongly stated that sustainable development is possible to balance the human needs and environmental protection.

4.3 Recommendations

The researcher therefore recommends the following

- i. **Preference for Sustainable Development:** The level of support for sustainable development is also rather high, which concerns that people are getting more aware of the need for this approach and its application in the existing policies.
- ii. **Need for Distribution of Responsibilities:** This opinion of people regarding the need to ensure that governments, corporate organizations and individuals take responsibility in the enhancement of sustainable development indicates the general acceptance of a mutual cooperative effort towards the realization of sustainable development.
- iii. **Enhancing Awareness and Education:** Therefore, a campaign needs to be initiated to increase awareness of the concept, need and advantage of sustainable development. Thus, governments and organizations should encourage people to spread the principles of sustainable developments with the help of different information platforms.
- iv. **Encouraging Investment in Sustainable Practices:** Governments and companies should reinforce investment in sustainability by offering compensations in the form of financial incentives and friendly taxes that will motivate companies to make the changes towards

sustainable development.

- v. Providing Support for Innovation and Scientific Research: Governments should involve monetary support and details for innovativeness and research in sustainable development in an endeavor to come up with newer technologies and quite solutions which can effectively advance the sustainable goals.
- vi. Promoting Research and Development in Sustainable Development: Governments and organizations should also work towards funding and seeking more ways in engaging developmental research in the area so as to sustain the aggressive advance in the sustainability solutions for the future.

4.4 Conclusion

Thus, it can be stated that quantitative and qualitative research of how people engage with concepts that signaled sustainable development and their impact on the nature of business-society relationship is significant. Several major concerns were within the remit of the study, namely people's attitudes to incorporating sustainable development into improvement of business-society relations, the viability of absorbing the costs of sustainable initiatives for business in the long term, the roles and responsibilities in the implementation of sustainable development for governments, business and citizens, the necessity for increasing improvement of living standards and by extension, social justice for people as a part of sustainable development and by educating people to embrace and The study also identified some of the issues and issues which extend the interest to future consciousness and stakeholders' involvement to the sustainable development goals.

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