



Skill Requirements for Somalia's Oil Sector

By Mohamed Mukhtar Ibrahim

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As Somalia embarks on its journey towards oil and gas production, developing expertise in contract negotiation, resource management, environmental monitoring, and fiscal regulation is crucial to effectively managing and regulating this sector. Between October 2022 and September 2024, companies including Coastline Exploration, Liberty Petroleum, Turkish Petroleum Corporation, and Gulfsom entered agreements to explore Somalia's hydrocarbon potential, highlighting opportunities and the need for robust regulatory oversight.

Coastline was awarded seven blocks, while Liberty, Turkish Petroleum, and Gulfsom each received three blocks, with these areas representing significant potential for boosting Somalia's economic growth and energy security. However, indications that Coastline may not have met its contractual requirements, resulting in the cancellation of some awarded blocks, underscore the importance of enforcing agreements to maintain investor confidence and ensure sector integrity. To sustain this growth responsibly, Somalia must prioritize the development of technical, environmental, and legal expertise across all phases of the oil cycle—from initial surveys to decommissioning and abandonment.

Overview of Skills Development Levels

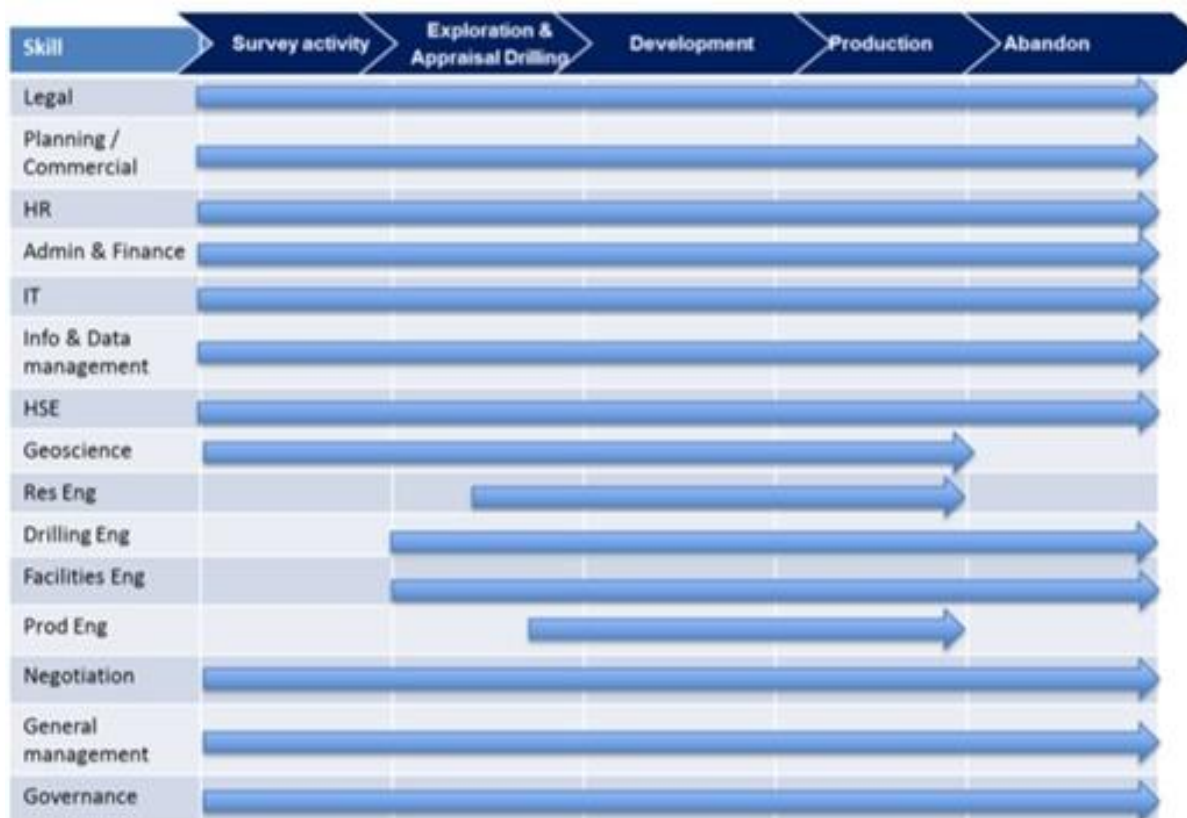
Let us begin with a snapshot of Somalia's human capital level. A two-year collaborative study conducted by the Heritage Institute for Policy Studies and City University of Mogadishu in 2020 assessed human capital development in Somalia, highlighting “education as a crucial factor in individual productivity, future success, and economic development. The study revealed alarming statistics: nearly half of the Somali population is illiterate, placing Somalia among the least literate countries globally. In 2019, primary education had a gross enrollment rate of only 32.7%, leaving about 67% of school-age children out of school, while secondary education enrollment was even lower, at 18.4%. Somalia's education system struggles with poor quality, lacking qualified teachers, sufficient resources, demand-driven curricula, and adequate infrastructure, all severely limiting educational outcomes and economic potential.”

Somalia's oil sector is in its infancy, necessitating the development of specialized skills such as geological surveying, petroleum engineering, environmental management, and legal contract negotiation, alongside institutional capacity for regulation, policymaking, and revenue management. Unlike other sectors like health, education, and telecommunications, which have seen steady activity and growth over the years, the oil industry lacks the foundational infrastructure, skilled workforce, and regulatory frameworks necessary to support its development.

Understanding and building the required skills at each level—Awareness, Basic, Intermediate, Advanced, and Expert—is critical to equipping Somalia's institutions and workforce for tasks

across the oil cycle, from geological surveying and exploration to production, processing, and eventual decommissioning. While much of Somalia’s technical and institutional knowledge dissipated due to civil conflict, there is an opportunity to rebuild capacity through targeted training programs, partnerships with international institutions, and the establishment of robust regulatory frameworks to support oil sector management and regulation. Key foundational skills such as governance, financial management, economics, procurement, and IT will underpin effective administration by enabling transparent contract negotiation, efficient revenue management, and streamlined operational oversight across all phases of the oil cycle. Strong communication and English proficiency will also enhance collaboration with international stakeholders, facilitate knowledge transfer, and ensure alignment with global industry standards.

Phases of the Oil Lifecycle and Required Skills



Production Sharing Agreement Phase

Somalia’s historical oil agreements, such as those signed with Chevron and Conoco in 1986, Amoco in 1987, and Shell/Exxon Mobil in 1988, were concession agreements, a model granting companies ownership of extracted resources in exchange for royalties and taxes to the host nation. In contrast, the country transitioned to a Production Sharing Agreement (PSA) model in 2008, where the host nation retains ownership of the resources, and companies share production output after cost recovery. However, Somalia’s current workforce lacks experience negotiating PSAs, as the officials involved in earlier agreements are either retired or deceased, underscoring the need to build local expertise in this modern contractual framework.

Negotiating a production-sharing agreement (PSA) requires a skilled team of experts to ensure the terms promote sustainable national development, somewhat balance risk and reward, and align with the host country's strategic economic goals. Key experts in this process include legal professionals with expertise in national and international oil and gas laws, who are critical for drafting and reviewing terms that safeguard national interests, promote transparency, and address environmental and social concerns while complying with international standards. Economic and financial analysts are essential for assessing fiscal terms, ensuring equitable revenue sharing, evaluating the project's financial viability, and modeling long-term revenue projections to identify potential economic risks. Additionally, negotiation specialists with strong diplomatic and contractual skills are crucial for facilitating discussions, managing conflicts, building stakeholder consensus, and incorporating cultural awareness into negotiation strategies to ensure stakeholder trust.

Survey Phase

Since the Federal Government of Somalia signed the Seismic Option Agreement with Soma Oil on 6 August 2013, Somalia's oil activities have remained in the survey stage for over a decade, mainly due to political instability, limited technical expertise, and regulatory challenges. On 25 October 2024, the Turkish seismic vessel Oruc Reis arrived at Mogadishu Port to conduct 3D seismic surveys in Somalia's offshore waters, a crucial step in gathering detailed subsurface data to assess hydrocarbon potential. Despite the passage of more than 10 years, these surveys remain the primary focus, collecting critical data on the potential of the country's offshore oil reserves. However, progress to the drilling and production stages has been hindered by a combination of governance issues, security challenges, and inadequate investment in infrastructure. The ongoing survey activities highlight the prolonged nature of Somalia's oil exploration efforts, underscoring the complexities of establishing a sustainable oil industry in a challenging political and economic environment. This stagnation delays potential revenue generation and limits Somalia's ability to compete regionally in attracting investment to its energy sector.

The oil survey phase is a critical early stage in oil exploration. It involves systematically studying and assessing an area to evaluate its potential for hydrocarbon deposits and inform strategic decisions about resource development. This phase typically involves key activities such as seismic surveys, magnetic and gravity measurements, and geochemical analysis to identify the presence of oil or gas below the Earth's surface. Minimizing financial risks and environmental impact during the survey phase is crucial to ensure informed decision-making and regulatory compliance before transitioning to more intensive drilling operations.

Conducting 2D or 3D seismic surveys requires specialized skills to generate reliable subsurface data that guides exploration and minimizes operational risks. Key skills include geophysical and geological analysis proficiency, seismic data acquisition, and advanced seismic interpretation techniques. Expertise in data processing software, spatial mapping, and subsurface structure interpretation is essential for analyzing seismic survey results and identifying potential hydrocarbon reservoirs.

Exploration & Appraisal Phase

Between 1948 and 1989, exploration efforts in Somalia targeted six sedimentary basins—Guban, Nugal, Mudug, Qorioley, Jubba, and Luuq—with over six wells drilled in pursuit of hydrocarbon resources. Major international oil companies, including ConocoPhillips, BP, Shell (Pecten), Chevron, ENI (Agip), and Total, were actively involved during this period.

However, in 1991, due to the outbreak of civil war and subsequent instability, these companies declared “force majeure,” suspending their operations indefinitely. Despite the country’s significant hydrocarbon potential, these firms have yet to resume activities, leaving Somalia’s oil sector largely untapped and needing renewed investment and expertise.

The exploration and appraisal stage demands a skilled workforce across various disciplines. Geologists, geophysicists, and petroleum engineers are essential for identifying potential hydrocarbon reservoirs and designing efficient drilling operations. Environmental scientists and HSE experts are crucial to ensure sustainable and responsible practices. A strong legal and regulatory framework, skilled negotiators, and contract administrators are essential for attracting international investment and managing complex partnerships. Furthermore, capacity-building programs will empower Somali professionals to contribute to the industry's growth and ensure long-term sustainability.

Development Phase

Somalia's oil exploration journey has yet to yield a commercial oil discovery, preventing the country from advancing to the development stage of its petroleum industry. Despite decades of exploration activities, including drilling by major international companies in the late 20th century, no commercially viable reserves have been identified. This stage, the most capital-intensive phase of the oil and gas industry, requires a diverse skill set. Rigorous front-end engineering design (FEED) and installing production facilities require specialized expertise in facilities engineering, which focuses on designing and maintaining operational infrastructure. Strong regulatory skills are essential to oversee project costs, mitigate risks, and ensure compliance with local and international regulations. Financial and accounting expertise is crucial for precisely monitoring project costs and financial reporting. Project management skills are vital for coordinating complex operations, managing resources, and ensuring timely and efficient project delivery. A robust legal team is necessary to navigate complex contractual arrangements, address potential liabilities, and mitigate financial and operational risks.

Production Phase

The production stage of the oil sector is critical and requires a highly skilled workforce to guarantee efficient and sustainable operations. Petroleum engineers are vital in optimizing production rates by designing efficient extraction methods and implementing enhanced recovery techniques. Geologists and geophysicists are crucial for monitoring reservoir performance and forecasting production potential. A skilled technical team is essential for operating and maintaining production facilities, including critical infrastructure such as drilling rigs, pipelines, and processing plants. A dedicated workforce specializing in health, safety, and environment (HSE) is essential to maintaining safe operations and mitigating environmental risks. Additionally, experienced logistics and supply chain professionals are indispensable for managing the transportation and distribution of crude oil, ensuring efficient delivery, and minimizing disruptions.

Abandonment Phase

The abandonment stage of the oil sector is critical, requiring a specialized skill set to ensure decommissioning is conducted safely and with minimal environmental impact. Engineering expertise, particularly in structural and environmental engineering, is crucial for designing and executing dismantling and removal plans for production facilities.

Environmental scientists are vital in evaluating the environmental impact of decommissioning activities and formulating sustainable site restoration strategies that ensure long-term ecological recovery. Legal and administrative professionals are indispensable for navigating intricate regulatory frameworks, ensuring compliance with national and international laws, and upholding contractual obligations. Effective management of the abandonment phase enables the industry to minimize its environmental footprint, support ecosystem restoration, and foster a positive legacy of responsible resource management.

Conclusion

Somalia's potential oil and gas sector presents a transformative opportunity, offering significant economic growth, enhancing energy security, and catalyzing broader development. However, realizing this potential hinges on addressing critical challenges, including lacking a skilled workforce, inadequate infrastructure, and weak regulatory frameworks. Somalia can establish a robust and sustainable industry by building capacity across the oil lifecycle—from contract negotiation and exploration to production and abandonment. Efforts to strengthen governance, ensure environmental compliance, and enforce transparency in agreements will be vital to maintaining investor confidence and securing long-term benefits for the nation.

Moving Forward

Somalia must prioritize a multi-pronged strategy to advance its oil sector's development. Investments in education and vocational training tailored to the oil industry are essential to bridge the skills gap, while partnerships with international institutions can provide knowledge transfer and technical support. Enhancing regulatory and institutional capacity will ensure adherence to best practices, safeguarding environmental and social interests. Additionally, fostering collaboration between government, private sector stakeholders, and local communities will create an inclusive framework for sectoral growth. By adopting a phased, skill-oriented approach and leveraging global expertise, Somalia can effectively navigate the complexities of oil development, ensuring that the sector becomes a pillar of national progress and prosperity.

Mohamed Mukhtar Ibrahim, former Minister of Petroleum and Minerals in Somalia.

Email at: mohamed323@hotmail.com